

4901

United States  
Environmental Protection  
Agency

Office of  
Federal Activities  
Washington, DC 20460

September 1986



100R86103

# **Survey of American Indian Environmental Protection Needs on Reservation Lands: 1986**

Source: [illegible]  
[illegible]  
[illegible]  
[illegible]  
[illegible]

**100R86103**

SURVEY  
OF  
AMERICAN INDIAN ENVIRONMENTAL PROTECTION  
NEEDS ON RESERVATION LANDS  
1986

Submitted to the ENVIRONMENTAL PROTECTION AGENCY

By AMERICANS FOR INDIAN OPPORTUNITY

September 1986

U.S. Environmental Protection Agency  
Region V, Library  
230 South Dearborn Street  
Chicago, Illinois 60604

U.S. Environmental Protection Agency



## TABLE OF CONTENTS

### Environmental Survey

Introduction . . . . .	i.
Executive Summary. . . . .	v.
I. Purpose, Scope and Methods . . . . .	Page 1
A. Purpose	
B. Scope	
C. Methods	
D. Unexpected Outcomes	
II. Reservation Setting. . . . .	Page 3
A. The Sample	
B. Tribal Government	
C. Tribal Environmental Protection Infrastructure	
D. Tribal Natural Resource Use	
III. Findings . . . . .	Page 6
A. Air Quality	
B. Water Quality	
1. General Water Quality	
2. Drinking Water Quality	
3. Community Water Supply	
4. Individual Water Supply	
5. Water Usage	
C. Domestic Waste Disposal (Sewage)	
1. Community Waste Disposal Systems	
2. Individual Waste Disposal Systems	
D. Solid Waste Storage and Disposal	
E. Hazardous Waste Storage and Disposal	
F. Nuclear Waste/Radiation	
IV. Tribal Priorities . . . . .	Page 14
A. Environmental Concerns	
B. Institutional Concerns	

Table of Contents  
Page 2

V.	Figures . . . . .	Page 23
VI.	Survey	
VII.	Narrative Profiles	
VIII.	Additional Surveys and Other Data Received After June, 1986	
IX.	Resource List	

## *ENVIRONMENTAL SURVEY*

### *i. Introduction*

## INTRODUCTION

Americans for Indian Opportunity has been working to implement a comprehensive program for the exploration and identification of strategies and methodologies for the strengthening of American Indian tribal governments. The "Governance Project", while emphasizing internal tribal strategies, such as institutional review processes and structural reform where appropriate, seeks to address the broad spectrum of external factors which influence and impact upon tribal governance. Moreover, the project was designed to allow for expansion and flexibility in order to absorb elements which emerge in an ever changing environment.

Flexibility has long been essential in the realm of Indian Affairs because of the special relationship between the Federal and tribal governments. Shifts in Federal policy, the enactment of new legislation, Federal and Supreme Court rulings all have a major impact upon the ability of tribal governments to govern effectively and efficiently. Add to this, changing economic trends and market demands, and it becomes readily apparent that tribal structures must have the institutional strength and capability to absorb an ever widening scope of responsibility within the framework of tribal governing structures.

At the same time internal and external pressures to develop stronger tribal economies have increased. This necessitates the development of tribal regulatory mechanisms which can enhance commercial and/or industrial development while simultaneously allowing for controlled growth. This requires tribal governmental attention to health and safety codes, zoning ordinances, labor relations, commercial codes, and environmental ordinances. Increased economic activity will also place greater stress on existing infrastructures, requiring expenditures for police and fire protection, waste and sewer systems, housing and more.

Tribal governmental sophistication increased markedly throughout the 1960's and 1970's as the Federal commitment to tribal self-determination grew. Many of the Johnson Administration's "War on Poverty" programs provided tribal governments the first opportunity to administer social service programs at the local level. This trend continued throughout the seventies culminating in the passage of the American Indian Self-Determination and Education Assistance Act of 1975 which allowed tribal governments the option of assuming the administration of all Bureau of Indian Affairs' programs via contract. As other Federal agencies became involved in Indian affairs, they too looked to the Self-Determination model in program design and administration.

President Reagan's 1983 policy of Indian self-government and a Federal/Indian relationship based on the principle of government-to-government relations encourages decision-making at the tribal level and the intensification of tribal economic development activities. Simultaneously, tribal leaders are taking advantage of the opportunity to strengthen their infrastructures in order to assert their powers responsibly and effectively.

In November 1984, Mr. William Ruckelshaus, the Administrator of the Environmental Protection Agency (EPA), signed the Agency's official American Indian policy. Strongly supportive of the President's theme of tribal "self-government", the EPA policy represents a most positive step forward in the movement toward more cooperative and productive working relations between the Federal and tribal governments. It signifies that a Federal/tribal partnership is a realizable goal, and that the Federal/tribal relationship is steadily moving toward greater parity.

In the two years that AIO has been working with tribal leaders throughout the United States via the "Governance Project", it has had opportunity to review and discuss the language of EPA's policy statement on numerous occasions. The response has been overwhelmingly favorable.

EPA's Indian policy reflects principles in accordance with the goals and objectives of Americans for Indian Opportunity, particularly those addressed in the Governance Project, as well as, those of the Administration for Native Americans. It speaks for itself:

1. THE AGENCY STANDS READY TO WORK DIRECTLY WITH INDIAN GOVERNMENTS ON A GOVERNMENT TO GOVERNMENT BASIS, RATHER THAN AS SUB-DIVISIONS OF OTHER GOVERNMENTS.
2. THE AGENCY WILL RECOGNIZE TRIBAL GOVERNMENTS AS THE PRIMARY PARTIES FOR SETTING STANDARDS, MAKING ENVIRONMENTAL POLICY DECISIONS AND MANAGING PROGRAMS FOR RESERVATIONS, CONSISTENT WITH AGENCY STANDARDS AND REGULATIONS.
3. THE AGENCY WILL TAKE AFFIRMATIVE STEPS TO ENCOURAGE AND ASSIST TRIBES IN ASSUMING REGULATORY AND PROGRAM MANAGEMENT RESPONSIBILITIES FOR RESERVATION LANDS.
4. THE AGENCY WILL TAKE APPROPRIATE STEPS TO REMOVE EXISTING LEGAL AND PROCEDURAL IMPEDIMENTS TO WORKING DIRECTLY AND EFFECTIVELY WITH TRIBAL GOVERNMENTS IN RESERVATION PROGRAMS.

Objectives (continued)

5. THE AGENCY, IN RECOGNITION OF ITS FEDERAL TRUST RESPONSIBILITY, WILL ASSURE THAT TRIBAL CONCERNS AND INTERESTS ARE FULLY CONSIDERED WHENEVER EPA'S ACTIONS AND/OR DECISIONS MAY IMPACT RESERVATION ENVIRONMENTS.
6. THE AGENCY WILL ENCOURAGE COOPERATION BETWEEN TRIBAL AND STATE GOVERNMENTS TO RESOLVE ENVIRONMENTAL PROBLEMS OF MUTUAL CONCERN.
7. THE AGENCY WILL WORK WITH OTHER FEDERAL AGENCIES WITH RELATED RESPONSIBILITIES ON INDIAN LANDS TO ENLIST THEIR INTEREST AND SUPPORT IN COOPERATIVE EFFORTS TO HELP TRIBES ASSUME ENVIRONMENTAL PROGRAM RESPONSIBILITIES FOR RESERVATIONS.
8. THE AGENCY WILL STRIVE TO ASSURE COMPLIANCE WITH ENVIRONMENTAL STATUTES AND REGULATIONS ON INDIAN RESERVATIONS.
9. THE AGENCY WILL INCORPORATE THESE INDIAN POLICY GOALS INTO ITS PLANNING AND MANAGEMENT ACTIVITIES, INCLUDING ITS BUDGET, OPERATING GUIDANCE, LEGISLATIVE INITIATIVES, MANAGEMENT ACCOUNTABILITY SYSTEM AND ONGOING POLICY DEVELOPMENT PROCESSES.

In setting forth these goals, the Agency has accepted a most challenging mission. To date, the Agency's interaction with tribal governments has been limited and sporadic. The Agency is, however, quite cognizant of this fact, stating so in the introduction of its policy statement:

"It is important to emphasize that the implementation of regulatory programs which will realize these principles on Indian reservations cannot be accomplished immediately. Effective implementation will take careful and conscientious work by EPA, the tribes, and many others."

The Environmental Protection Agency is to be commended for its concern about and attention to environmental issues relative to reservation areas. The EPA Indian Policy Statement is an excellent model for other Federal Agencies which must interact with American Indian Tribal Governments and holds much promise for mutually satisfactory relations between tribal governments and the Agency.

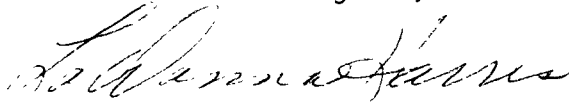
Because of our work in the past on the control of natural resources and the environment, we have come to know that there are no comprehensive informational resources within the government that have sufficient data for any government agency to make good policy decisions regarding these areas.

AIO and EPA began to recognize this as well, and collectively, we felt that more data were necessary for the tribes and the agency to make good policy decisions. That was why, after working with the national and regional EPA staff and tribal governments, we developed a survey instrument which was sent out to 74 different tribes. The tribes completed their surveys, and we analyzed the data. Then we sent the information back to the tribes, as well as to EPA regional offices, for their review and for any additional information/corrections that they may have had. After each tribe had the opportunity to respond to our analysis of their data (18 tribes critically edited our initial analysis), we compiled the data for EPA's national office. This is our final report. We are very proud of the tribes that participated because we feel that they gained much from filling out the survey since it allowed them to see their strengths and needs and to see that those needs could be transmitted to the regional and national offices of EPA and hopefully to Congress as well.

AIO feels environmental regulation and control is the key to tribal growth, particularly in light of growing emphasis on tribal industry and business development. We hope that our efforts in developing the survey instrument and initially collecting the data contribute to tribal growth and development by assisting the tribes, EPA, the Indian Health Service, and other responsible federal agencies in making sound human and financial resource decisions and enlighten Congress in carrying out its responsibility for the protection of the tribal environment.

Thank you all for your patience, and for returning phone calls. Special thanks to the Council of Energy Resource Tribes, to the Indian Health Service, and to the staff of EPA, in both national and regional offices, and mostly to the tribal governments, their chairmen and the tribal staffs who worked so hard to get the information together to make this a meaningful project. I look forward to working with you in the future and to putting this information to use so that we will create stronger governments for our people.

Warmest Personal Regards,



LaDonna Harris

## *ENVIRONMENTAL SURVEY*

*v. Executive Summary*



## EXECUTIVE SUMMARY/CONCLUSIONS

### EXECUTIVE SUMMARY

#### I. Description of Study

- A. In order to gather information on the environmental conditions on reservation lands and the institutional response of tribal governments, EPA requested and partially funded Americans for Indian Opportunity, Inc., to perform a survey of a number of reservations.
- B. Questionnaires were sent to 74 reservations; 51, or 69%, of the questionnaires were returned. This report is based upon the 48 that were returned in time to be included in the analysis. (This information is the first step in the creation of a data base of environmental information on Indian lands to be developed by EPA; all returned questionnaires will be included in this information management system.)
- C. Using the questionnaires, AIO developed narrative profiles for each reservation which were sent to the tribes, EPA and IHS for review (Appendix II). The summary report is based on the narrative profiles. Limited supplemental compliance and funding needs information from EPA and the Indian Health Service (IHS) are included in this summary.
- D. The survey covers a wide range of reservations, from Berry Creek Rancheria with a population of ten on 33 acres to the Navajo Nation with a population of 149,000 on approximately 16 million acres. The total population covered was 369,500, or a little over half of the current population living on reservations. Acreage covered was about 42 million acres, or 79% of total trust acreage.

#### II. Survey Results

##### A. Environmental Priorities

- ° Based on the perceptions of the tribes as reflected in their responses to the questionnaire, the most significant environmental problems identified were water quality, solid waste management and disposal, hazardous waste management and disposal, and sewage treatment. Also identified, but cited less frequently, were land use, air quality management, erosion, and nuclear waste/radiation.

## Executive Summary

### B. Water Quality

- ° Eight reservations have tribal water quality standards, and standards are currently being drafted for two additional reservations. Violations have been reported on four reservations. (None of the standards have been promulgated by EPA and are therefore enforceable only under tribal law, not under the federal Clean Water Act.) Lakes and reservoirs have been reported to be suffering from eutrophication on fifteen reservations and from sedimentation on twenty-two reservations.
- ° The most common source of water pollution reported were from sewage, either individual/no systems or municipal systems, and from agricultural runoff (pesticides, nutrients, animal wastes, soils). Other non-point sources of pollution names were construction, mining, and timber harvesting.
- ° Sixty-five percent (65%) of the reservations reporting depend upon groundwater as their sole source of water supply, with 31% reporting a combination of groundwater and surface water. Only 6% or (3 reservations) depended solely on surface water for their drinking water supplies. Data concerning the number of individual wells and community systems vary among tribes reporting, IHS, and EPA, partially due to inconsistent definitions used by the various agencies, tribal and federal.
- ° Tribes reported violations of drinking water standards on 17 reservations, and outbreaks of water-borne diseases on nine reservations. EPA compliance data indicate that 25% of Indian systems are persistent violators of monitoring report requirements, although those systems that do comply with reporting have a lower than national average percentage of persistent violations (less than 1%). According to IHS, \$291 million is needed to assure adequate water supplies for on-reservation populations.
- ° Needs surveys for sewage treatment and disposal need to be and are being updated; the survey did not directly address this problem. It is clear that individual septic tanks provide the treatment, if available in most rural areas. Many homes are without any facilities. According to IHS, \$170.0 million is needed to meet the sewer/wastewater treatment needs on Indian reservations.

## Executive Summary

### C. Solid, Hazardous and Nuclear Waste Management

- ° Thirty-six, or 75%, of the questionnaires returned listed solid waste storage and disposal as an issue, 44% citing it as a major problem and 40% citing it as a growing problem (some cited it as both). Community dumps were reported for 24 reservations (50%); community landfills on 18 (38%). Ten reservations have their solid waste disposal off-reservation through contracts with municipal or privately owned landfills. According to IHS \$37 million would be needed to meet the solid waste management needs of Indian reservations.
- ° Hazardous wastes were reported as generated on six reservations and stored on nine; abandoned hazardous waste sites were reported on seven. Hazardous waste storage and disposal plans were reported for four reservations, with a plan under development on a fifth. One source of hazardous waste that was cited on many of the agricultural reservations was pesticides - storage, use and abandoned containers.
- ° Six reservations have uranium deposits. Uranium tailings were reported at six sites on three reservations; five of these are currently in some stage of reclamation (data development, planning or actual reclamation). Nuclear materials were reported to be transported across ten reservations, with fifteen reporting "not known."

### D. Institutional Concerns

- ° Also identified as critical issues were funding availability for baseline data gathering and program development, the need for technical assistance in developing standards and monitoring capability, and the jurisdictional conflicts and lack of coordination that occur among federal, state, tribal and local environmental agencies.
- ° IHS has identified a need for about \$17.5 million to address operation and maintenance (O&M) needs for tribal water supply, sewer, and solid waste programs nation-wide.

## Executive Summary

### E. Existing Programs

- ° Environmental programs, broadly defined, are currently being implemented on twenty-eight, or 58%, of the reservations reporting. Others have cooperative agreements with federal, state, or local agencies to implement various aspects of environmental programs. All but four, or 92%, were involved in at least one environmental activity.

### III. CONCLUSIONS

- ° Most tribal governments have recognized the need to address one or more areas of environmental importance on their reservations and have done so either directly or through cooperative agreements with other entities. There are many environmental problems that still need to be addressed.
- ° Direct program funding to tribal governments to develop and implement programs, as well as technical assistance and data gathering/inventory development, have been identified as major needs by the tribes. Services to assist in these areas could be provided by EPA and/or IHS, depending on the need, were there sufficient resources within the agencies to do so.
- ° This study should be followed by a continuing effort to gather existing data and generate relevant additional data, using this data as the basis of an information management system for environmental conditions on reservation lands. This system would be valuable to both tribal leaders and federal program managers in developing program priorities and resource needs in future years.
- ° While absolute resource needs cannot yet be identified, there is sufficient information to support increased technical assistance, monitoring, and financial program support on a number of reservations.
- ° Additional direct federal program implementation and networking to increase the number of programs implemented by cooperative agreements where tribes cannot or choose not to implement environmental programs should also be considered.

## *ENVIRONMENTAL SURVEY*

### *I. Purpose, Scope & Methods*

## I. Purpose, Scope and Methods

### A. Purpose

The purpose of this survey was to ascertain environmental quality on federally recognized reservation land from the perspective of tribal authorities. This was an initial attempt to develop a data base on which more cogent decisions regarding environmental protection could be made by both tribal authorities and authorities in other jurisdictions, local, state and federal.

### B. Scope

The initial selection of reservations to be sampled included all those with the largest land bases. Other reservations were added to include at least one reservation from each EPA region having federally recognized tribes and land, reservations in varying environmental situations, some of the smaller reservations and any other reservation which wanted to participate out of its own interest. The survey questionnaire was sent out to a total of 74 tribes in all (see Figure I).

Much of the information gathered in the survey was done so in response to open-ended questions. These responses in effect began to demarcate appropriate environmental categories for future reservation surveys to update this initial data base.

### C. Methods

AIO and EPA staff jointly developed the survey instrument. The survey instrument was sent out to the tribes with a cover letter explaining the purpose of the survey. When the completed survey was received at AIO, a narrative profile of the reservation was written based on the completed questionnaire. This narrative was then sent back out to the reservations for editorial comment. Such comments were then integrated into the final draft of the narrative. Meanwhile the survey data was being collated and analyzed for the final overview report. The overview was circulated at EPA (national and regional offices), and at CERT. All this input was integrated into this report.

A code book is being generated to assist computer data base development personnel both in EPA and CERT to design an accessible computerized data base.

#### D. Unexpected Outcomes

One major contribution of this survey is the participative editorial process for producing the tribal narrative profiles and the final report which have made it a necessity for environmental staff, both Indian and non-Indian, in many programs at all jurisdictional levels, to communicate with each other, thus, strengthening the environmental network concerned with Indian lands. Eleven reservations (Colville, Fort Berthold, Fort Peck, Menominee, Mississippi Choctaw, Northern Cheyenne, Navajo, Pyramid Lake, Sault Ste. Marie, Southern Ute, Warm Springs, and White Earth) reedited their initial draft of their narrative in time to be included in this overview, and seven reservations (Cabazon Rancheria, Pueblo de Acoma, Seneca, Ely Shoshone Colony, Rocky Boy's, Colusa Rancheria and San Carlos) sent in editorial comments which, although they arrived too late for the overview, were integrated into the narratives presented in Section VI.

## ENVIRONMENTAL SURVEY

### II. Reservation Setting

### III. Findings

### IV. Tribal Priorities



EPA ENVIRONMENTAL SURVEY FINAL REPORT - SURVEYII. Reservation SettingA. The Sample

This report presents tribal perceptions of environmental quality on reservation lands and is based on survey questionnaire responses from 48 tribes in the nine EPA regions which include Indian lands (Regions I, II, IV, V, VI, VIII, IX, X)\*. Fifty-one reservations responded in all, but three surveys were received too late to be included in the analysis which follows. This represents 69% of the total of 74 tribes contacted during the survey. Various environmental situations and various sized reservations with vastly differing resources are represented in the responses. (See Figure I.)

A range of from 1 to 14 tribes or bands live together on each of the reservations sampled, with 35 of the reservations having only one tribe occupying them. The oldest reservation in the sample, Zia Pueblo, was established in the 17th century, 2 reservations were established in the 18th century, 30 in the 19th century, and 12 in the 20th century. Thus, the reservation system is largely a result of the Euro-American conquest of Indian lands in the 19th century.

Reservations are anywhere from immediately adjacent to urban areas of over 25,000 population (Cabazon) to 250 miles distant from such areas (Berry Creek Rancheria). Seven reservations have no highway running through them. The rest have at least one major highway with most having two. One each have 8 and 12 highways running through them. Some reservations, especially along the Canadian border, have international dimensions to their environmental concerns.

The Indian population on the reservation lands surveyed range from 10 (Berry Creek Rancheria) to 149,000 (Navajo). Total population on the reservation lands surveyed amounts to approximately 369,470, although totally accurate figures as to number of enrolled members, other Indians and non-Indians living on each reservation, are still unavailable.

This population lives on a land base of from 33 1/3 acres (Berry Creek) to Navajo's 16,193,358.07 acres. The Ely Shoshone live in what amounts to three neighborhoods in the town of Ely, Nevada, and do not lead the separate existence from dominant society that many Navajo, for instance, lead in the middle of their reservation, which is larger than some states. Total acreage surveyed amounts to approximately 41,892,032 acres, of which 25,534,609 acres are tribally

\* Region III has no federally recognized tribes.

owned (Hopi did not give figures for this question and Rincon did not have data to answer this question). Seventeen reservations in the sample, some of which are small and/or composed of non-contiguous units, are completely tribally owned.

Both Fort Belknap's and Navajo's survey responses give the greatest insight into the jurisdictional intricacies regarding land status with which reservation leadership has to deal when planning, implementing and/or participating in various programs. Many reservations are in the process of buying back land that went out of tribal hands during the allotment era at the turn of the century.

#### B. Tribal Government

Twenty-seven tribal governing bodies are called tribal councils, but such governing bodies are also termed community councils, business councils and committees, executive boards and councils, boards of directors and trustees, and tribal legislatures, and one governing body calls itself a nation. Among the tribal councils, four are general councils which include either all adult males or all members of the tribe. Two of these have separate tribal councils for day to day governance.

These governing bodies consist of anywhere from 3 (St. Regis) to 88 (Navajo) elected members as well as the four non-elected, ascriptive membership general councils mentioned above. Some councils combine elected members with representation by traditional chiefs or clan/band elders (Warm Springs). Twenty governing bodies have between 10 and 20 members.

Thirty-six of 49 tribal chief executives, most commonly called chairmen, are elected by tribal membership, most often at large. Some, however, are appointed by the tribal council or elected from the council ranks, and others are appointed by religious leaders with concurrence by the people. Councils meet as often as three times a week and as rarely as quarterly. Most councils (28) meet monthly.

Tribal officials are chosen in a variety of different ways: appointed for life in the traditional manner, appointed by religious leaders, appointed by council, elected by geographic region/district/village, or elected at large, although Americans for Indian Opportunity's work in tribal governance indicates that geographic representation gives different sections of tribal communities a more effective voice in tribal government.

Tribal government enabling documents range from no document at all (where governance is based on tribal custom) to constitutions and by-laws and includes charters, corporate and non-corporate, resolutions and executive orders. Some tribes have more than one enabling document. Most (29) have constitutions and by-laws.

Present tribal governmental systems date from time immemorial to 1986, with the bulk of the present governmental systems dating from the Indian Reorganization Act era of 1934-38, with the introduction of constitutional government into tribal communities.

Figure II outlines the various regulatory functions performed by tribal governments in terms of the frequency with which the governments in our sample performed their functions. Nineteen tribes have adopted an administrative procedures act which establishes administrative guidelines for all reservation residents whether they are tribal members or not.

### C. Tribal Environmental Protection Infrastructure

Twenty-eight tribes are currently implementing their own environmental protection programs.\* In addition, three programs are not as yet comprehensive or are in the planning stages, and some tribes are participating in environmental protection programs under another agency's auspices rather than as a part of a tribal governmental initiative. Figure III gives the types of environmental programs currently being conducted in Indian country and the number of reservations participating in such programs.

The number of staff employed by the reservations to work on environmental programs ranges from 0 to 40 with 22 reservations employing 1 to 5 staff members for such programs. Reservations reporting 0 staff often have people working on environmental programs employed by other agencies rather than the tribal government and/or employ no regular full-time staff for such programs, although some regular staff may devote part of their time to environmental programs. In addition, 26 tribal governments have committees within the tribal government structure which address environmental issues.

\* In the absence of a tight definition for environmental programs we believe the term here should be considered in its broadest sense to include natural resource management programs, etc.

Even the tribes which do not administer their own environmental program participate in cooperative agreements with other agencies involved in environmental work, so that all but 4 reservations surveyed (all small rancherias) were involved in at least one environmental activity. Figure IV lists different kinds of cooperative environmental protection programs, the jurisdictional level at which cooperation occurs and the names of the agencies/organizational entities so involved with the tribes. Leech Lake listed the most cooperative agreements: 13 at state and federal levels, 3 at the local level and one with regional impact, the Mississippi Headwaters Board.

#### D. Tribal Natural Resource Use

Reservations range from those abundant in natural resources of all kinds to those whose only resource is people, from reservations that are completely arid to those like Leech Lake with 30,000 acres of water (292 lakes plus 68 miles of the Mississippi River). Soil analysis and classification has been completed for 29 reservations and partially completed for 5 more. Figure V shows the general configuration of implemented and planned land and water resource usage on the 48 reservations surveyed. The Bureau of Indian Affairs' Branch of Natural Resources has enabled some of the tribes to make highly detailed resource use plans.

The management of natural resources is also determined by land status. On Navajo, for instance, reservation land is not only tribally owned but is also categorized as Trust Lands, Navajo Tribe Fee Lands, Bureau of Land Management Lands and State Lands, as well as allotments. Fort Belknap has an equally complicated array of land statuses.

### III. Findings

#### A. Air Quality

Only 6 tribes have designated air quality standards as provided by the Clean Air Act. Four additional tribes have plans to do so. Unless otherwise designated all reservation air is categorized as Class II. Only 8 tribes indicated knowing this. Two tribes have air quality designated as Class I; one is Northern Cheyenne and the other is Fort Peck, which in 1982 had its air redesignated as Class I (see Fort Peck Tribe's Air Quality Redesignation Report by Larry

Allen and John Doyle, Fort Peck Tribe's Office of Environmental Protection, June, 1982) because among other things such pristine air is associated with the kind of environment necessary for the maintenance of traditional cultural integrity. Another tribe suggested the establishment of a Class I standard with Class II as a fallback ceiling to control development.

Air quality is monitored on 15 reservations. It is monitored continuously on 7 reservations, on a special study basis on 7 reservations and on a specific occasion, at the time of slash burning, on 1 reservation. Nine of these tribes do their own monitoring; the Minnesota Chippewa have their own research lab. There are various other agencies and organizations which do air quality monitoring on the reservations including: the Peabody Coal Company, the Indian Health Service, the Office of Surface Mining, EPA, the United States Geological Survey's Water Resource Division and state departments of environmental quality and conservation. Rosebud has submitted its air quality proposal to the EPA Region VIII Office, but due to lack of federal funds this proposal cannot be considered until 1988. Figure VI gives the number of surveyed reservations collecting air monitoring data for different parameters.

Six reservations have had measured violations of national ambient air quality standards. Violations have included: fugitive dust and dust storms, total suspended particulates violations (secondary & primary) by arithmetic and annual means, incomplete stack tests for mineral processing plants, excessive fluoride emissions associated with aluminum processing, elevated levels of suspended particles, and seasonal violations caused by uranium mine tailings.

Figure VII shows major air pollution sources on or near reservations and the frequency with which each type of source occurs. Major air pollution sources are 0 to 200 miles away from the reservation.

## B. Water Quality

1. General Water Quality: Only 8 reservations have their own water quality standards for on-reservation streams, rivers and lakes, and in one case this is a very recently adopted water code. Two reservations are in the process of drafting such standards. None of these standards have been promulgated by the federal government as federally enforceable under the Clean Water Act.

There have been violations of these standards on 4 reservations, involving dissolved oxygen, fecal coliform bacteria, pH levels, as well as turbidity (including algae concentrations) and temperature levels. Causes have included a leaking sewage lagoon and malfunctioning on-site waste water disposal system on a lake shore. Degradation of riparian vegetation and stream beds have also been reported as a problem.

On 13 reservations, lakes and reservoirs are suffering from eutrophication, on 2 reservations only some of the lakes and reservoirs are so affected, and on 1 reservation eutrophication is very minor. On 21 reservations lakes and reservoirs suffer from sedimentation, and on 1 reservation only some of the lakes and reservoirs are so affected. In four cases it was unknown whether eutrophication and sedimentation were problems, and in some cases tribes did not respond to this survey question.

Figure VIII gives actual and potential sources of water pollution affecting the reservations. It is interesting to note that both Yakima and the Mississippi Choctaw reported erosion and waterflow from the two reservations as impacting off-reservation communities.

2. Drinking Water Quality: There have been violations of drinking water quality on 17 reservations in the past five years. These violations have included: radionuclides, fluoride, selenium and nitrates, turbidity problems in surface water, elevated bacteria (total coliform in ground water and fecal coliform in streams and lakes), elevated barium, total dissolved solids levels and arsenic in a ground water well. Secondary and some primary standards for sulfate, total suspended particulates and other mineral constituents were also exceeded.

There have been reported outbreaks of water borne diseases on 9 reservations in the last five years. These included 5 cases of giardia (mostly in children), including an outbreak in a system which was subsequently abandoned, an outbreak of gastroenteritis, giardia and amoebic dysentery, an outbreak of "minor illnesses" due to elevated bacteria levels in private wells, an outbreak of shigellosis from surface water contaminated with fecal coliform, an outbreak of giardia also from contaminated surface water, and a case of hepatitis. These events might be severely under reported because most private/ individual wells on the reservations are not monitored at all (see section on Individual Water Supply).

3. Community Water Supply: Having accurate data for community water supply systems is somewhat problematical. Some Indian Health Service documents (e.g. Community Profiles) define a community water supply system as having 25 or more connections. Meanwhile, Indian Health Service Safe Drinking Water Act compliance data on community water supply systems for 1985 define such a system as having 5 or more homes on the system, and still other Indian Health Service surveys collect data on community water supply systems on the basis of 2 or more homes served by a single well (Jager, personal communication). When the tribes responded to the present EPA survey all of the above definitions could have been operational. Thus, 48 tribes report the existence of 410 community water supply systems. The Indian Health Service compliance data reports 359 systems with 32 tribes reporting (Figure IX). However, the data does not match at all well. For instance, the Mississippi Choctaw survey response reports 8 systems, and the Indian Health Service data reports Mississippi Choctaw as having 70. Navajo, on the other hand, reports 215 systems on the survey while the Indian Health Service data reports only 111. Two reservations use city water.

The source of most reservation drinking water is ground water. Thirty-one of the surveyed reservations count on ground water sources for 100% of their drinking water. Surface water sources, however, count for 100% of drinking water on only 3 reservations, although 15 reservations depend on surface water for some of their drinking water (between 1% and 91.5% with an average dependence of approximately 38%). However, on one (Warm Springs) reservation where only 33% of the water sources are surface water sources, nearly the total volume of water consumed on the reservation is surface water.

Figure X shows, according to the survey data, the number of reservations which monitor some to all of their community water supplies for different parameters and at different frequencies.

Figure XI gives the 1985 Indian Health Service SDWA compliance rates for community water supplies for three parameters.

According to the survey data 35 reservations treat some to all of their community water supplies with fluoride, chlorine and/or alum, etc., for water quality including turbidity.

4. Individual Water Supply: Again, with individual water supply data there seem to be a number of reporting discrepancies between tribal self reports on the survey and Indian Health Service summary documents. This is because different tribal and federal agencies

define individual and community systems differently, and when we did the survey we neglected to provide a standard definition. For example, Southern Ute reports 85 individual wells, the Indian Health Service 120. St. Regis reports 1,000 homes with individual wells, the Indian Health Service 400. Acoma reports 30% of its homes with individual wells, the Indian Health Service only 5 homes out of 627 homes served, or only approximately .8%. Navajo, on the other hand, reported that the data on number of homes served by individual wells did not apply to Navajo because water was hauled from windmills and developed springs, but the Indian Health Service reports 8 individual water systems which apparently serve 1801 households (see Figure XII).

According to the survey data 33 reservations have some of their homes served by individual wells, between .5% and 98% with an average of approximately 43% so served. Two reservations have 100% of their homes served by individual wells, and 9 reservations have none of their homes so served or no data is available.

Figure XIII gives, according to the survey data, the number of reservations which monitor some/all of their individual family wells for different parameters at different frequencies.

In the survey data numbers of homes and percentage of population served by individual wells were often equated as identical when in fact they most often probably are not.

What is needed is a complete house-to-house, baseline survey of total homes, average household size, and types of services available (community and individual) with well-defined parameters for what constitutes a community water system and categories developed for particular Indian situations like the developed springs which serve semi-nomadic families on Navajo. A step in meeting this need will be the forthcoming Water Supply Needs Survey conducted by EPA pursuant to the recently re-authorized Safe Drinking Water Act.

5. Water Usage: The effort to survey the reservations for average annual water consumption in acre feet for different purposes was not all that successful. First, most of the reservations were not able to fill in the water usage table. Thirty tribes (40% of the sample) did not respond at all. Four, Isleta, Navajo, Umatilla and Rosebud gave rather complete responses (.07% of the sample), and the rest made attempted or partial responses. Even with these rather complete responses the data given for percent of total annual consumption were invalid since they were often left blank or else the totals for all purposes tended to equal more than 100%. A revised



water usage table (see Appendix I: Survey Questionnaire p. 17 for original water usage table) should also include under Purposes: recreational water usage, lake/reservoir/stock pond evaporation, livestock watering, fisheries (habitat & hatchery), and commercial purposes. Umatilla currently has a list of 17 beneficial uses of water, both consumptive and non-consumptive, and suggests that it might be easier to identify tribal uses of water if all tribes had the duty of assigning water, as appropriate, to all these uses.

There appeared to be three major reasons for the difficulties in filling in the usage table: 1) the lack of the technical expertise to do so, 2) unavailability of the data (in some cases, like Yakima, studies are currently under way), and 3) the tribe was currently negotiating water rights and water consumption information is confidential until negotiations are completed. In another case, water was part of a larger municipal or regional water system and estimates for tribal use were impossible to break out of the larger system.

### C. Domestic Waste Disposal (Sewage)

As with community and individual water supply systems, the baseline data for community and individual domestic waste disposal systems are quite incomplete. Even where such data exist (e.g., the Indian Health Service Community Profiles and Summary Data), they are difficult to obtain, are not current (the IHS data are not part of a computerized system), and/or are, as Colville stated, based on approximate guesses, not exhaustive door to door surveys. The next Indian Health Service survey of sewage systems is scheduled for the summer of 1986 and the data so gathered will be part of the 1987 Reservation Environmental Health Profiles.

Unfortunately, this area of domestic waste disposal was neglected in the original questionnaire.

However, one reservation included domestic waste data in its original survey responses, and twelve tribes added data about domestic waste disposal to the second draft of their narrative profiles in time to be included in this final overview. These data can be summarized as follows.

1. Community Waste Disposal Systems: There are 227 community systems reported for the 13 reservations. Five, however, are not functional. There are from 1 to 168 community systems on each reservation, serving (where the numbers were reported) from 50 to 570 homes or (where reported) as much as 70% of the reservation population.

2. Individual Waste Disposal Systems: On Navajo 9,300 homes have no sanitation facilities. Although at Leech Lake 82% of the housing does have individual systems, 10% does not. Ten percent of the housing on the Mississippi Choctaw reservation also have no sanitation facilities. Most rural housing on twelve reservations have septic tanks and drainfields (anywhere from 47 to 9,500 where specific numbers were reported). One reservation (Forest County Potawatomi) has a septic system pick-up service. At Fort Peck there is a general upgrading underway of the waste disposal systems at all older homesites. On this reservation the unmet needs list for water and sewage amounts to \$596,000 worth of projects for 1986. This list is reprioritized each year by the Fort Peck Tribes' Health, Education and Welfare Committee.

#### D. Solid Waste Storage and Disposal

In the responses to this section there was some tendency to confuse solid waste with sewage. Thus, in the continued development of the environmental data base it will be important to unconfound these two issues.

Although 25 reservations stated they did have a plan for the disposal of solid wastes, two thought their plans were inadequate or ineffective and one said codes and regulations were still being developed. Of the 21 other tribes which stated they had no plan, three were working on plans and proposals (one with the Council of Energy Resource Tribes) and one indicated that although it was not in writing, there was a plan. However, 21 tribes indicated solid wastes as a major problem on the reservation, 19 as a growing problem (some tribes double checked it as a major and growing problem), 12 stated such wastes were not a problem on the reservation, and for one reservation it was presently unknown whether solid wastes were or were not a problem. Of the reservations where solid wastes are not a problem, some have arrangements with surrounding localities or with private contractors. Warm Springs, Southern Ute, Zia Pueblo, Sault St. Marie, Yakima and Colusa indicated they did not have solid waste management problems on their reservations. Colville has also developed a tribal solid waste transfer system to off reservation sites.

Figure XIV shows how solid wastes are currently disposed of on the reservations. As indicated under "Other," illegal, open, surface dumping is still very much a problem. The present sizes of community waste disposal sites on the 36 reservations reporting data for this section range from 0 to 250 acres with 18 reservations having 1 to 10

acres of dump site and an average size of approximately 29 acres. This acreage is often distributed among several sites. Some of it is past capacity. The problem, of course, is how best to organize solid waste management for communities scattered over a large territory. Disposal for rural homesites can amount to \$120 annually (see White Earth narrative). Forty-two reservations have no tribally sponsored recycling programs. Eight tribes, including Leech Lake, Cabazon, Uta Uta Gwaitu and to a limited extent, Hoopa, recycle aluminum. One reservation (Rocky Boy's - Chippewa Cree) recycles eyeglasses. Leech Lake also recycles copper, and Hoopa recycles paper to a limited extent as does Yakima.

#### E. Hazardous Waste Storage and Disposal

Only 4 tribes have plans for the disposal of hazardous wastes and 1 is in the process of developing a plan. Yet hazardous wastes are generated on 6 of the reservations surveyed, stored on 9, and 7 have known abandoned hazardous waste sites. In only 6 cases were the wastes stored in accordance with tribal regulations and federal law, and the wastes have been stored from less than a year to over 50. In one case (St. Regis) the hazardous waste site (GM Central Foundry) is adjacent to the reservation, but toxic wastes are leaching onto reservation lands.

Figure XV outlines the nature of the wastes generated and stored on the reservations and the identification of known abandoned storage sites.

A hazardous waste problem on all reservations with an agricultural resource base is the storage of pesticides, their use, and the disposal of pesticide cannisters. One reservation (Mississippi Choctaw) put aside a small amount of funding for an agricultural extension program for a certified pesticide applicator. The Cheyenne River Sioux Reservation was the only tribe surveyed to report their own regulations for the storage and disposal of pesticides and pesticide containers.

#### F. Nuclear Waste/Radiation

Out of the 48 reservations surveyed there are uranium deposits on 6 reservations, with deposits of other radioactive materials (phosphate mining residue which is used for roads) on 1 reservation. There is no uranium mining presently underway, although there are two stand-by or abandoned uranium mines on the reservations surveyed. One is the Kerr-McGee Mine at Churchrock (Navajo) presently

on stand-by due to the depressed uranium market. The other site was unidentified. Uranium tailings are present at 6 sites on 3 reservations: 1 site at Hilltop (San Carlos Apache), 4 sites associated with Kerr McGee (Hopi and Navajo), and one at Tuba City (Hopi and Navajo). There is a set of reclamation activities underway on the Hopi & Navajo reservations as part of the UMTRA (Uranium Mine Tailings Remediation Act) Project: two reclamation efforts are actually underway, one is in planning, and two are in the data collection stage.

Within a fifty mile radius 7 reservations currently have uranium processing mills (with Hopi potentially having 3 within a 50 mile radius), 4 have nuclear power generation facilities, and 5 have nuclear waste storage sites. Two reservations do not know if such wastes are stored nearby, and one reservation will soon have such wastes stored within a fifty mile radius.

In addition, 5 reservations, including Menominee and an area selected by the Department of Energy within the Leech Lake Watershed, indicated having been selected as potential areas for permanent nuclear waste disposal sites. However, as of August 1986, because of changes in the nuclear repository program only three tribes (Umatilla, Nez Perce, Yakima) remain on the affected tribes list. All of these tribes are in the area of the candidate repository site near Hanford, Washington.

As for nuclear materials being transported through the reservation, 10 reservations responded yes (with one adding that statistically one of the highways passing through the reservation was one of the most dangerous in the state, and the tribe did not have an emergency preparedness plan in case there was an accident involving nuclear materials). Eighteen reservations responded no (with one stating that nuclear materials were transported on the interstate 12 miles south of the reservation), and 15 responded don't know (with one stating that "maybe" such transit occurred, but it was "unauthorized.").

#### IV. Tribal Priorities

The reservations listed two areas of concern, environmental and institutional.

#### A. Environmental Concerns

The survey requested the tribes to identify and prioritize their most pressing environmental problems. What follows is, thus, the tribes' perceived needs. Not all tribes listed the same number of problems (ten was the highest number listed). Sometimes more than one problem was given equal priority. In addition, the list does not reflect the priority order in which problems were cited by individual tribes. It was, thus proposed to rank the areas of concern according to four criteria:

- 1) frequency of mention;
- 2) average ranking (the sum of all rankings divided by the total number of mentions);
- 3) modal ranking (the most frequent ranking for the item); and
- 4) median ranking (the midpoint in the rankings).

Figure XVI prioritizes the tribal environmental problems according to the above rankings, prioritizing them first according to frequency of mention. In effect, frequency of mention established the item's rank. The item's average ranking, modal ranking and median ranking are also shown simply to give a better idea of the distribution of rankings for that item within the frequency. Although this list and the rankings are not statistically significant, it does constitute a first attempt to exhaustively identify and prioritize tribal environmental needs from a tribal perspective, and the list is useful in generally pointing to the most serious perceived problems: water quality, water supply and solid and hazardous waste management. This certainly supports our intuitive sense of tribal priorities.

In addition, each of the priorities was made up of a number of concerns. The following is the prioritized list of problem areas and the sub-issues included under each priority area. These sub-issues were taken directly from the survey questionnaire responses.

1. Water Quality:

- Safe drinking water
- Water quality preservation
- Water quality control
- Surface & ground water protection
- Surface & ground water protection re: non-point pollution
- Surface water pollution by sewage, chemicals, erosion
- Non-point surface pollution into reservation stream, e.g., upstream, urban & local, surface run-off
- Ground water protection of surficial aquifers susceptible to potential contaminants
- Organic water quality of community systems
- High bacteria in ground water
- Hydrogen sulfide from natural gas in ground water
- River water quality & quantity
- River sedimentation from logging
- Stream sedimentation due to roads, logging, other development
- Degradation of riparian zones
- Acid rain

2. Solid Waste Disposal:

- Abandoned cars
- Garbage in yards
- Lack of sufficient sanitary landfill
- Solid waste disposal - alternative methods
- 50-80 open dumps on one reservation

3. Hazardous Waste Management:

- Lack of an emergency response plan for hazardous waste accident
- Impact of surrounding industries on environmental quality
- Chemical and oil contaminants from asphalt companies
- Need for a study of PCB's in fish tissue and the location of the PCB source
- Regulation of chemical use on or near reservation
- Pesticides, herbicides, fungicides, other chemicals
- Pesticide certification and enforcement mechanisms on and near reservations.

Hazardous Waste Management (cont.)

Underground storage tanks as potential problems  
Abandoned hazardous waste and other industrial sites  
Transit of hazardous materials  
Asbestos  
Acid rain  
Chemigation  
Continued monitoring of sites

4. Domestic Waste (Sewage) Treatment and Disposal:

Waste water & sewage treatment  
Control on-site waste disposal systems at rural lakeshore  
& river sites  
Effluent discharge  
Surface and groundwater pollution by upstream urban sewage  
effluent  
Liquid waste lagoons  
Septic tanks  
Septic system failure  
Lack of percolation in soil requiring sewage lines rather  
than septic tanks  
Water and sewer line maintenance

5. Conservation and Land Use:

Public attitude and education - take everything now - not  
concerned with future  
Retention of balance within naturally occurring ecosystems  
Disturbance of traditional use of culturally significant  
resources  
Unsuitable development and loss of sensitive lands  
Improper land use, e.g. converting wildlife habitat  
Disturbing wetlands  
Forest damage  
Over grazing range deterioration  
Submarginal crop use  
Importation of noxious weeds, leafy spurge, club moss  
infestation, etc.  
Lack of reforestation  
Overharvest of resources  
Extensive roads in mountain zones

6. Air Quality:

Preserving air quality  
Impact of surrounding industries on air quality  
Exhaust from cars and other vehicles  
Dust control

7. Animal Control:

Stray dogs  
Rodent and insect control  
Fish and wildlife management

8. Erosion:

Agricultural erosion  
Soil erosion/conservation  
Stream bank erosion  
Slides, slope failure

9. Public Health:

Community injury control  
Injuries/safety  
Environmental hazards contributing to injury and death  
Institutions and food services surveys  
Food regulations  
Reservation public health and sanitary code

10. Nuclear Waste/Radiation:

Radioactive waste  
Nuclear repository  
Possible radioactivity from federal laboratory  
Possibility of nuclear waste siting

11. Mining/Drilling:

Open pit mining  
Coal mining and associated problems  
Oil and gas company depletion of water in oil and gas operations  
Brine water disposal from oil and gas production  
Injection wells



12. Housing:

*Extreme substandard housing*

13. No Resource Recovery (Recycling) Program

B. Institutional Concerns

*In addition, on their returned questionnaires the tribes listed institutional factors like funding, jurisdictional and policy issues and information/assistance needs as often being their chief environmental problems, that is problems with the organizational rather than the physical environment. These institutional factors included the following concerns:*

1. Funding Issues:

*Funding for the adoption, implementation and enforcement of tribal EPA plans*

*Federal regulations and laws, including those governing archeological artifacts, which do not include funding to implement them (Fort Berthold complained, for instance, that development of tribal air quality standards was not provided for in the Clean Air Act.)*

*Federal agencies unwilling to finance tribal programs*

2. Jurisdictional Issues:

*States attempted assertion of jurisdiction re: reservation environmental issues*

*Land use control*

*Conflicts between state and tribal resource management*

*Lack of coordination by federal, state and private sector*

3. Policy Issues:

*Lack of implementable land use, zoning, building and other development control measures and plans*

4. Information and Assistance Needs:

Lack of technical assistance in developing tribal air/water quality systems and monitoring capacity  
Inadequate baseline data  
Lack of a comprehensive plant and soil inventory.

C. Excerpted Tribal Comments

The last part of the survey questionnaire provided space for any open ended comments/questions/criticisms on the tribes' part. And again, funding, jurisdictional and policy issues and information/assistance needs emerged, communicating an overall sense of general frustration. For example, Umatilla wrote:

"The states have poorly administered the Clean Water Act with federal money. Tribes can and should utilize Section 208 of the Act to implement provisions of this section on the Reservation. EPA is apparently unwilling to finance Indian projects even though policy requires it. Federal and state efforts to reduce non-point sources of pollution continue to be fragmented and very poorly coordinated."

Thus, Pine Ridge sees that:

- "1) Indian Policy Amendments should be approved by Congress and added to EPA policy;
- 2) Tribes would then be able to apply for and receive funding for these programs, and
- 3) EPA programs on reservations could then be implemented by tribes for tribal members."

Colville, in its amendments to the first draft of its narrative profile, was particularly adamant about the need for funding for tribal governments to do comprehensive baseline surveys to identify existing conditions and unmet needs:

"I realize there are a lot of DNA's (data not available) appearing throughout the survey and feel that this illustrates the need for funding to be channeled to tribes as they have the greatest interest in resource protection and are the only entity with the jurisdiction to implement and enforce protective legislation. States and federal agencies do not have complete and up to date data regarding environmental protection within reservation boundaries...."

This concern for the establishment of a resource base, both financial and technical, to enable tribal control and implementation of reservation programs was pervasive and expressed in many ways. One tribal environmental officer, as he was collecting the survey data, ran into the following comments which he passed on to us:

- "1) That's all we need, another federal agency running around telling us what to do.
- 2) What EPA services are we not getting?
- 3) How will this benefit us?"

It is a new voice in Indian country, the voice of self-determination. Tribes no longer want to project themselves to the larger community in terms of needs but in terms of the capacities necessary to accomplish tribal community goals.

"The Yankton Sioux Tribe at present has no environmental programs in operation, but the need to implement such programs is essential as regards protecting the environment and the Native American living on the Yankton Sioux Reservation."

Again, the Confederated tribes of Umatilla Reservation say:

"These tribes (the Cayuse, Walla Walla, and Umatilla) have been ready to save our soils and improve the quality of our waters since 1981 but have not been successful in obtaining needed finance for our projects.

Other environmental programs and projects are available to the tribes as well, but there is not enough time or manpower to address other environmental projects."

It cannot be emphasized enough that the tribes making these critical funding, jurisdictional, policy and technical comments are the tribes which are most energized and organized towards accomplishing their communities' goals.

###

## ENVIRONMENTAL SURVEY

### V. *Figures*

Figures

- Figure I: *List of Tribes Included in the AIO Environmental Survey and EPA Regional Indian Work Group Coordinators*
- Figure II: *Regulatory Functions Performed by Tribal Governments*
- Figure III: *Environmental Protection Programs Currently Underway in Indian Country*
- Figure IV: *Cooperative Environmental Protection Agreements*
- Figure V: *Land & Water Resource Usage-Implemented & Planned Programs*
- Figure VI: *Air Quality Monitoring Parameters/Data*
- Figure VII: *Major Air Pollution Sources On/Near Reservation*
- Figure VIII: *Existing & Potential Sources of Water Pollution*
- Figure IX: *IHS Community Water Supply Systems, 1985*
- Figure X: *Number of Reservations Which Monitor Some/All of Their Community Water Supplies: Frequency & Parameters*
- Figure XI: *IHS Safe Drinking Water Act Compliance Data, 1985*
- Figure XII: *IHS Summary Data on Individual & Community Water Supply & Total Homes Served, 1985*
- Figure XIII: *Number of Reservations Which Monitor Some/All of Their Individual Wells: Frequency & Parameters*
- Figure XIV: *Current Solid Waste Disposal On the Reservations*
- Figure XV: *Hazardous Wastes on Reservations: Generated, Stored & Abandoned*
- Figure XVI: *Ranking of Tribal Environmental Priorities As Reflected By Tribal Responses to Questionnaire*

Appendices

Appendix I: EPA/AIO Reservation Environmental Profile  
Questionnaire

Appendix II: Reservation Narrative Profiles (with maps)

Appendix III: Additional Surveys Received After Cut-Off  
Date To Be Included in Data Base.

FIGURE I:

List of Reservations Included in the AIO Environmental  
Survey and of EPA Regional Indian Work Group Coordinators

- \* Indicates a response; 69% of the sample responded  
 \*\* Indicates a response received too late to be included  
 in the analysis

TRIBESTATE

Region II: Charles Tenerella, EPA Indian Work Group Coordinator

- |                      |          |
|----------------------|----------|
| 1. *Seneca           | New York |
| 2. *St. Regis-Mohawk | New York |

Region IV: Arthur Linton, EPA Indian Work Group Coordinator

- |             |             |
|-------------|-------------|
| 1. *Choctaw | Mississippi |
|-------------|-------------|

Region V: Casey Ambutas, EPA Indian Work Group Coordinator

- |                              |           |
|------------------------------|-----------|
| 1. *Leech Lake               | Minnesota |
| 2. Red Lake                  | Minnesota |
| 3. *White Earth              | Minnesota |
| 4. Nett Lake                 | Minnesota |
| 5. *Menominee                | Wisconsin |
| 6. **Oneida                  | Wisconsin |
| 7. *Stockbridge-Munsee       | Wisconsin |
| 8. *Forest County Potawatomi | Wisconsin |
| 9. *Sault Ste Marie          | Michigan  |
| 10. *Isabella & Saganing     | Michigan  |

Region VI: Ernest Woods, EPA Indian Work Group Coordinator

- |                     |            |
|---------------------|------------|
| 1. *Acoma Pueblo    | New Mexico |
| 2. Jicarilla Apache | New Mexico |
| 3. Laguna Pueblo    | New Mexico |
| 4. *Isleta Pueblo   | New Mexico |
| 5. Jemez Pueblo     | New Mexico |
| 6. Mescalero Apache | New Mexico |
| 7. Taos Pueblo      | New Mexico |
| 8. *Zuni Pueblo     | New Mexico |
| 9. *Zia Pueblo      | New Mexico |
| 10. **Cherokee      | Oklahoma   |

Region VII: Edward Vest, EPA Indian Work Group Coordinator

- |               |          |
|---------------|----------|
| 1. *Winnebago | Nebraska |
|---------------|----------|



List of Reservations Included in AIO Environmental Survey

<u>TRIBE</u>	<u>STATE</u>
Region VIII: Chuck Gomez, EPA Indian Work Group Coordinator	
1. *Southern Ute	Colorado
2. Ute Mountain	Utah
3. Blackfeet	Montana
4. *Fort Belknap	Montana
5. *Fort Peck	Montana
6. *Northern Cheyenne	Montana
7. *Rocky Boy's	Montana
8. *Fort Berthold	North Dakota
9. Devils Lake Sioux	North Dakota
10. *Standing Rock Sioux	North Dakota
11. *Cheyenne River Sioux	South Dakota
12. Crow Creek Sioux	South Dakota
13. *Pine Ridge	South Dakota
14. *Yankton Sioux	South Dakota
15. *Lower Brule	South Dakota
16. *Rosebud Sioux	South Dakota
17. *Lake Traverse	South Dakota
18. Uintah & Ouray	Utah
19. Goshute	Utah
Region IX: Mike Monroe, EPA Indian Work Group Coordinator	
1. White Mountain	Arizona
2. Gila River	Arizona
3. *Hopi	Arizona
4. *Navajo	Arizona
5. Papago	Arizona
6. *San Carlos	Arizona
7. **Colorado River	Arizona
8. *Hualapai	Arizona
9. Kaibab-Paiute	Arizona
10. Shoshone-Paiute	Nevada
11. *Pyramid Lake-Paiute	Nevada
12. Walker River	Nevada
13. *Ely Colony Shosone	Nevada
14. Tule River	California
15. *Hoopa Valley	California
16. *Benton Paiute	California
17. *Cabazon Rancheria	California
18. *Colusa Rancheria	California
19. *Rincon Rancheria	California
20. *Santa Rosa Rancheria	California
21. *Berry Creek Rancheria	California
22. *Susanville Rancheria	California

List of Reservations Included in AIO Environmental Survey

<u>TRIBE</u>	<u>STATE</u>
Region X: Rick Seaborne, EPA Indian Work Group Coordinator	
1. *Fort Hall	Idaho
2. Nez Perce	Idaho
3. *Umatilla	Oregon
4. *Warm Springs	Oregon
5. *Colville	Washington
6. *Quinault	Washington
7. Spokane	Washington
8. *Yakima	Washington
9. Tulalip	Washington

Figure II: Regulatory Functions Performed by Tribal Governments

	<u>Tribal Custom</u>	<u>Codes, Etc., Under Development</u>	<u>Codes Ordinances Regulations</u>	<u>Resolutions</u>	<u>P.L. 280*</u>
A. Land Use Planning	1	1	18	17	
B. Water Resource Planning		1	10	12	
C. Water Quality Control		1	14	6	
D. Air Quality Control		1	4	5	
E. Soil Conservation		1	7	6	
F. Tax Collection & Licensing Fees			13	3	
- Severance Tax on Minerals			5	1	
- Income Tax			2		
- Licensing Fees on Business			19	4	
- Liquor Business Only			1		
- Sales Tax			9	5	
- Business Activity Tax			12	3	
- Other					
* Cigarette Taxes					
* Possessory Interest Tax					
* Land Use					
* Fishing/Hunting Fees/Licenses/Permits/Taxes					
* Contractors Excise Tax					
* Tribal Employment Rights Office Taxes					
* Permit Fees					
* Excise Tax					
* Natural Resources Tax					
* Utilities Tax/Fee					
* Grazing Fees					
* Off-the-Road Vehicles Licenses					
* Peddlers Permit					
G. Business/Commercial Development		1	15	20	
H. Zoning		1	18	4	
I. Hunting/Fishing/Game Management		1	38	7	
J. Animal Control	1		21	7	
K. Occupational Health & Safety		1	8	6	
L. Sanitation		1	22	8	

Figure II: Regulatory Functions Performed by Tribal Governments

	<u>Tribal Custom</u>	<u>Codes, Etc., Under Development</u>	<u>Codes Ordinances Regulations</u>	<u>Resolutions</u>	<u>P.L. 280*</u>
M. Natural Resource Development					
- Timber		1	5	7	
- Fish		1	13	11	
- Minerals		1	21	6	
* Energy			6	10	
* Non-Energy			4	5	
			4	5	
N. Civil Law	1		35	1	2
O. Criminal Law	1		32		2
P. Fish & Game Laws			2		

\* Regulatory functions promulgated under under U.S. Public Law 280.

FIGURE III: Environmental Protection Programs Currently Underway  
In Indian Country

<u>Type of Program</u>	<u>Number of Reservations</u>
A. Air Quality Monitoring	19
B. Water Quality Monitoring	27
C. Soil Analysis	18
D. Developing Tribal Environmental Standards	21
E. Enforcing Tribal Environmental Standards	18
F. Animal Control	19
G. Protection of Endangered Species	19
H. Sanitation & Waste Disposal	21
I. Environmental Rehabilitation/ Reclamation	13
J. Emergency Preparedness/Evacuation	14
K. Other	
* Pesticide/Insecticide Regulation/ Certification/Enforcement	6
* Fungicide Monitoring	1
* Radiation Monitoring	1
* Hazardous Waste Inventory	1
* Noise Control	1
* Mining Regulation	2
* Developing Codes to Control Future Development	1
* Injury Control	1
* Archaeological Protection	2
* Mississippi Headwaters Conservation Plan	1

Figure IV: Cooperative Environmental Protection AgreementsNumber of Agreements At Each Jurisdictional Level

	<u>Local (Including Tribal)</u>	<u>County</u>	<u>State</u>	<u>Region</u>	<u>Federal</u>
	6	4	10	2	54

<u>Type of Program</u>	<u>Number of Programs</u>	<u>Organizational Entities Involved</u>
A. Air Quality Monitoring	11	BIA EPA USGS USPHS State Departments of Energy, Health, & Air
B. Air Quality Standards Enforcement	7	BIA EPA USGS State Departments of Energy, Health, & Air
C. Water Quality Monitoring	28	BIA EPA Region IX USGS IHS USPHS State Departments of Health, Natural Resources  County Departments City Department Local Soil & Water Conservation Districts for Ground Water

Figure IV - Cooperative Agreements

<u>Type of Program</u>	<u>Number of Programs</u>	<u>Organizational Entities Involved</u>
D. Water Quality Standards Enforcement	18	BIA EPA IHS USPHS State Departments of Health City Departments Local Sanitary Districts
E. Sanitation & Waste Disposal	20	BIA EPA IHS USPHS State Agencies County Agencies Local Agencies
F. Environmental Rehabilitation/Reclamation	9	BIA EPA DOE Office of Surface Mining Bureau of Reclamation Bureau of Land Management Corps of Engineers State Health Services
G. Soil Analysis	17	BIA IHS USPHS USDA Soil Conservation Services State Department of Energy

Figure IV - Cooperative Agreements

<u>Type of Program</u>	<u>Number of Programs</u>	<u>Organizational Entities Involved</u>
H. Animal Control	10	IHS USPHS County Authorities City Authorities Game Fish & Parks Departments Tribal Veterinary Services
I. Protection of Endangered Species	9	BIA U.S. Forest and Fish & Wildlife Services
J. Emergency Preparedness/ Evacuation	11	BIA DOE IHS USPHS FEMA State Agencies County Agencies Local Fire & Police Departments
K. Other	9	BIA EPA USPHS USDA U.S. Forest Service U.S. Department of Interior/State Historic Preservation Officer State Departments of Natural Resources & Agriculture
Restaurant Inspections		
Injury Control		
Natural Resource Management		
Mining Regulations		
Pesticide Certification/ Enforcement		
Regulation of Non-Point Source Pollution		
Culturally Significant Issues		



Figure V: Land & Water Resource Usage - Implemented and Planned ProgramsLand Resource Usage

	<u>Implemented</u>	<u>Planned</u>
A. Agriculture (commercial/ agribusiness)	30	14
B. Forestry/Timber	19	12
C. Mining	10	4
D. Industry/Manufacturing	14	19
E. Recreation	23	19
F. Commerce	21	22
G. Grazing	28	2
H. Other	16	12
Housing/Homesites/Apartments		
Small Farming		
Traditional Foods/Agricultural		
Urban/Incorporated		
Rural		
Semi-rural		
Suburban		
Solid Waste Disposal		
Wood Hauling for Local Stoves		
Conservation/Habitat		
Hunting		
Historical/Archeological Resources		
Oil & Gas		
Public Use		

Figure V: Land & Water Resource Usage - Implemented & Planned ProgramsWater Resource Usage

	<u>Implemented</u>	<u>Planned</u>
A. Power Generation	6	12
B. Irrigation	29	5
C. Fisheries	20	14
D. Tourism/Recreation	24	17
E. Transportation	9	8
F. Other	20	4
Rural Water Systems		
Residential Wells		
Ground Water		
Water Supplies		
Geothermal		
Industrial		
Domestic		
Waterfowl Hunting		
Fishing		
Livestock Watering		
Road Projects		
Flood Control for Off-Reservation		
Downstream Area		
Wild Rice Production		

Figure VI: Air Quality Monitoring Parameters/Data

<u>Data Collected</u>	<u>Number of Reservations Collecting</u>
A. Total Suspended Particulates	13
B. Sulphur Dioxide	11
C. Nitrogen Dioxide	7
D. Carbon Monoxide	6
E. Ozone	3
F. Lead	5
G. Air Toxics	4
H. Visibility	8
I. Hydrogen Sulfide	1
J. Acid Rain	1

Figure VII: Significant Air Pollution Sources On/Near the Reservations\*

<u>Source of Air Pollution</u>	<u>Number of Times Cited As A Source</u>
Cities/Nearby Urban Areas	3
Coal-Fired Generator	1
Fossil Fuel Fired Power Plants	10
Nuclear Power Plants	5
Thermoelectric Power Plant	1
Mining	6
Surface Mining	1
Coal Mines	2
Copper Mine	1
Uranium Mine	1
Uranium Mill Tailings Project	1
Gas & Oil Companies	3
Petroleum Refinery	3
Northwest Pipeline Processing Plant	1
Oil Wells Flaring Sour Gas	1
Synthetic Gas Plant	1
CO <sub>2</sub> Processing Plant	1
Landfills/Dumps	6
Open Burning/Incinerators	5
Wild Fires	1
Waste Wood Incinerators	1
Wood Fired Industrial Heating	1
Residential Heating	8
Wood Stoves	1
Coal Stoves	2
Prescribed Burning	2
Timber	
Slash	
Grass	
Agriculture Field Burning	1
Wild Burning	1
Agricultural Spraying	1
Dust From Agricultural Cropland	3
Road & Other Construction Projects	2
Unpaved Roads	2
Highways	4
Vehicle Emissions	2

Figure VII: Major Air Pollution Sources On/Near the Reservations\*

<u>Source of Air Pollution</u>	<u>Numer of Times Cited As A Source</u>
Chemical Companies	1
PCB Plant	1
Chemical Waste Dumps	1
Steel Mill	1
Aluminium Plant	1
Minerals Processing	5
Foundry	1
Sand & Gravel Mines	3
Rock Crusher	1
Cement Plant	1
Laguna Jackpile	1
Lumber/Saw Mills	6
Paper Mill	2
Pulp Mill	1
Small Industry	1

\* There are no significant sources of air pollution on/near  
Rosebud and Zuni

Figure VIII: Existing & Potential Sources of Water Pollution

<u>Source of Water Pollution</u>	<u>Number of Times Cited As A Source</u>	
	<u>Actual</u>	<u>Potential</u>
A. Sewage Treatment Plants	10	20
B. Water Treatment Plants	1	14
C. Oxidation Ponds	6	17
D. Municipal Discharges	10	13
E. Industrial Discharges	4	14
F. Domestic Wastes (Sewage)	12	22
G. Oil Spills	3	12
H. Hazardous Materials Spills	3	20
I. Landfill Leachate	6	24
J. Urban Run-off (overland & storm sewer)	8	14
K. Agricultural Run-off (cropland run-off, animal waste, streambank erosion)	18	11
L. Sediment Run-off (construction)	8	12
M. Sediment Run-off (mining)	8	10
N. Sediment Run-off (timber production & harvesting)	8	8
O. Pesticide/Herbicide/Nutrient Run-off	13	15
P. Toxicant Build-up (pesticide usage)	5	16

Figure VIII: Existing & Potential Sources of Water Pollution

<u>Source of Water Pollution</u>	<u>Number of Times Cited Cited As A Source</u>	
	<u>Actual</u>	<u>Potential</u>
Q. On-Lot Disposal	1	8
R. Other		
Salt H <sub>2</sub> O Disposal		1
Drilling Fluids		1
Gas	1	
Hazardous Waste Disposal	1	
Open Solid Waste Dumps	1	
Nuclear Waste		1
Acid Rain	1	

Figure IX: IHS Community Water Supply Systems, 1985

<u>Reservation</u>	<u># CWS Systems With &gt;5 Homes**</u>	<u>Surface Water Source</u>	<u>Ground Water Source</u>
+* Seneca			
* St. Regis	1	1	0
* Choctaw	70	64	6
* Cherokee	28	2	26
Red Lake	4	0	4
* White Earth	6	0	6
+ Nett Lake			
* Menominee	6	0	6
* Oneida	6	0	6
* Acoma Pueblo	2	0	2
Jicarilla Apache & Mescalero Apache	5	1	4
Laguna Pueblo	2	1	1
* Isleta Pueblo	3	0	3
Jemez Pueblo	1	0	1
Taos Pueblo	1	0	1
* Zuni Pueblo	2	0	2
* Zia Pueblo	1	0	1
* Winnebago	5	0	5
* Southern Ute	1	1	0
+ Ute Mountain			
Blackfeet	9	1	8
* Fort Belknap	6	1	5
* Fort Peck	5	0	5
* Northern Cheyenne	6	0	6
+* Chippewa-Cree			
* Fort Berthold	6	1	5
Devils Lake Sioux	57	57	0
* Standing Rock	8	0	8
* Cheyenne River Sioux	15	0	15
Crow Creek Sioux	12	7	5
+* Oglala Sioux			
* Yankton Sioux	5	0	5
* Lower Brule	1	0	1
* Rosebud Sioux	25	0	25
* Sisseton-Wah	13	6	7
Uintah & Ouray	4	0	4
Goshute	1	0	1
White Mountain	2	0	2
Gila River	11	0	11
* Hopi	9	0	9
* Navajo	111	20	91
Papago	49	0	49
* San Carlos	11	0	11



Figure IX: IHS Community Water Supply Systems, 1985

<u>Reservation</u>	<u># CWS Systems With &gt;5 Homes**</u>	<u>Surface Water Source</u>	<u>Ground Water Source</u>
* Colorado River	3	0	3
* Hualapai	1	0	1
Kaibab-Pauite	1	0	1
+ Shoshone-Pauite			
* Pyramid Lake	3	0	3
Walker River	1	0	1
* Fort Hall	2	0	2
Nez Perce	8	1	7
* Umatilla	1	0	1
* Warm Springs	3	1	2
* Colville	15	0	15
* Quinalt	6	3	3
Spokane	3	0	3
* Yakima	2	0	2
Tulalip	1	0	1

\* Indicates reservation replied to survey

\*\* There is no indication of the total number of homes that possibly could be served

+ No IHS data available.

Figure X: Number of Reservations Which Monitor Some/All of Their Community Water Supplies: Frequency & Parameters\*

<u>Parameters</u>	<u>Never</u>	<u>When First Installed</u>	<u>Special Study</u>	<u>Every 4 Years</u>	<u>Every 3 Years</u>	<u>Annually</u>	<u>Biannually</u>	<u>Quarterly</u>	<u>Monthly</u>	<u>4 Times Monthly (City Water)</u>
Bacteriological Quality	2					5	1	7	29	1
Inorganics	4	1		1	7	18	1	2	7	
Pesticides	11		1	2	5	12		1	2	
Radionuclides	8	1		7	3	9		2	2	

\* These data were compiled from the responses on the survey questionnaires

Figure XI: IHS SDWA Compliance Data, 1985

		Bacterial Quality			Inorganics			Radionuclides		
<u>Reservation</u>										
+	* Seneca									
*	St. Regis	100%	-	-	100%	-	-	100%	-	-
*	Choctaw	98%	-	2%	95%	-	5%	92%	-	8%
*	Cherokee	42%	25%	32%	100%	-	-	3%	-	97%
	Red Lake	100%	-	-	100%	-	-	75%	-	25%
*	White Earth	100%	-	-	100%	-	-	67%	-	33%
+	Nett Lake									
*	Menominee	100%	-	-	100%	-	-	-	-	100%
*	Oneida	100%	-	-	83%	17%	-	-	-	100%
*	Acoma Pueblo	50%	-	50%	50%	-	50%	1	0	1
	Jicarilla Apache & Mescalero Apache	100%	-	-	100%	-	-	100%	-	-
	Laguna Pueblo	50%	50%	-	100%	-	-	100%	-	-
*	Isleta Pueblo	100%	-	-	100%	-	-	33%	-	67%
	Jemez Pueblo	100%	-	-	100%	-	-	100%	-	-
	Taos Pueblo	100%	-	-	100%	-	-	-	-	100%
*	Zuni Pueblo	100%	-	-	100%	-	-	100%	-	-
*	Zia Pueblo	100%	-	-	100%	-	-	-	-	100%
*	Winnebago	100%	-	-	100%	-	-	-	-	100%
*	Southern Ute	100%	-	-	100%	-	-	-	-	100%
+	Ute Mountain									
	Blackfeet	55%	-	45%	88%	-	12%	45%	-	55%
*	Fort Belknap	100%	-	-	100%	-	-	33%	-	66%
*	Fort Peck	100%	-	-	100%	-	-	80%	-	20%
*	Northern Cheyenne	16%	-	84%	100%	-	-	100%	-	-
*	Chippewa-Cree	85%	-	15%	100%	-	-	100%	-	-
*	Fort Berthold	66%	-	33%	60%	-	33%	66%	-	33%
	Devils Lake Sioux	100%	-	-	98%	-	2%	100%	-	-
*	Standing Rock	88%	-	12%	88%	-	12%	88%	-	12%
*	Cheyenne River Sioux	-	-	100%	-	-	100%	-	-	100%
	Crow Creek Sioux	100%	-	-	91%	-	9%	91%	-	9%
+	Oglala Sioux									
*	Yankton Sioux	20%	-	80%	20%	-	80%	-	-	100%
*	Lower Brule	100%	-	-	100%	-	-	100%	-	-
*	Rosebud Sioux	76%	4%	20%	72%	-	28%	80%	-	20%
*	Sisseton-Wah	46%	-	54%	46%	-	54%	46%	-	54%
	Uintah & Ouray									
	Goshute	100%	-	-	-	-	100%	-	-	100%

Figure XI: IHS SDWA Compliance Data, 1985

	Bacterial Quality			Inorganics			Radionuclides		
<u>Reservation</u>									
White Mountain	100%	-	-	100%	-	-	50%	-	50%
Gila River	100%	-	-	100%	-	-	100%	-	-
* Hopi	100%	-	-	100%	-	-	91%	-	9%
* Navajo	89%	.9%	9.9%	89%	3.6%	7.2%	86%	2.7%	10.8%
Papago	44.5%	55%	-	73.4%	26.5%	-	100%	-	-
* San Carlos	90.9%	-	.9%	90.9%	-	.9%	90.9%	-	.9%
* Colorado River	100%	-	-						-
* Hualapai	100%	-	-	100%	-	-	100%	-	-
Kaibab-Pauite	-	-	100%	100%	-	-	-	-	100%
+ Shoshone-Pauite									
* Pyramid Lake	100%	-	-	100%	-	-	100%	-	-
Walker River	100%	-	-	100%	-	-	100%	-	-
* Fort Hall	100%	-	-	100%	-	-	100%	-	-
Nez Perce	75%	-	25%	75%	-	25%	50%	-	50%
* Umatilla	100%	-	-	100%	-	-	100%	-	-
* Warm Springs	100%	-	-	100%	-	-	100%	-	-
* Colville	66%	6%	26%	53%	-	47%	60%	-	40%
* Quinalt	83%	-	17%	29%	-	71%	73%	-	17%
Spokane	66%	-	34%	66%	-	34%	34%	-	66%
* Yakima	100%	-	-	100%	-	-	50%	-	50%
Tulalip	100%	-	-	100%	-	-	100%	-	-

\* Indicates reservation replied to survey

+ No IHS data available.

Figure XII: IHS Summary Data on Individual & Community Water Supply  
& Total Homes Served, 1985

<u>Reservation</u>	<u># Individual Systems</u>	<u># Homes on Community System With &gt;5 Homes</u>	<u>Total Homes Served</u>
+* Seneca			
* St. Regis	400	250	650
* Choctaw	1172	2896	4153
* Cherokee	0	695	785
Red Lake	261	364	625
* White Earth	233	242	479
+ Nett Lake			
* Menominee	130	734	864
* Oneida	80	198	278
* Acoma Pueblo	5	622	627
Jicarilla Apache & Mescalero Apache	30	1256	1292
Laguna Pueblo	5	803	808
* Isleta Pueblo	0	840	840
Jemez Pueblo	0	390	390
Taos Pueblo	60	200	360
* Zuni Pueblo	0	1537	1557
* Zia Pueblo	0	130	130
* Winnebago	400	165	565
* Southern Ute	120	115	237
+ Ute Mountain			
Blackfeet	1320	1546	2871
* Fort Belknap	674	364	1058
* Fort Peck	248	1261	1519
* Northern Cheyenne	314	605	919
* Chippewa-Cree	265	146	415
* Fort Berthold	391	487	878
Devils Lake Sioux	689	2031	2743
* Standing Rock	135	839	974
* Cheyenne River Sioux	352	781	1133
Crow Creek Sioux	233	563	880
+* Oglala Sioux			
* Yankton Sioux	42	241	283
* Lower Brule	48	259	307
* Rosebud Sioux	436	1390	1856
* Sisseton-Wah	0	426	454
Uintah & Ouray	14	594	608
Goshute	17	15	36
White Mountain	0	138	138
Gila River	0	1747	1747
* Hopi	11	1036	1496
* Navajo	8	14713	16514
Papago	12	2196	2221
* San Carlos	0	1353	1358

Figure XII: IHS Summary Data on Individual & Community Water Supply  
& Total Homes Served, 1985

<u>Reservation</u>	<u># Individual Systems</u>	<u># Homes on Community System With &gt;5 Homes</u>	<u>Total Homes Served</u>
* Colorado River	154	611	765
* Hualapai	0	250	250
Kaibab-Pauite	0	62	62
+ Shoshone-Pauite			
* Pyramid Lake	15	357	372
Walker River	5	225	230
* Fort Hall	807	151	965
Nez Perce	60	398	463
* Umatilla	196	161	357
* Warm Springs	105	720	825
* Colville	500	837	1356
* Quinalt	0	322	332
Spokane	280	190	470
* Yakima	2347	134	2481
Tulalip	0	135	135

\* Indicates reservation replied to survey

+ No IHS data available.

Figure XIII: Number of Reservations Which Monitor\* Some/All of Their Individual Wells: Frequency & Parameters\*\*

<u>Parameters</u>	<u>Never</u>	<u>When First Installed</u>	<u>Every 2 Years</u>	<u>Annually</u>	<u>Quarterly</u>	<u>Monthly</u>	<u>Upon Request</u>
Bacteriological Quality	19	4	F O S T E R	9	2	1	5
Inorganics	22	2		3	1		1
Pesticides	24		H O M E S	1			
Radionuclides	23			1			

\* The USGS does some monitoring under contract to Warm Springs.

\*\* These data were compiled from the responses on the survey questionnaires.

Figure XIV: Current Solid Waste Disposal On the Reservation

<u>Type of Disposal</u>	<u>Number of Reservations</u>
A. Community Dump Site	24
B. Community Landfill	18
C. Incineration	
- Community (e.g. PHS hospital, schools)	10
- Individual	17
D. Other	
- People make own dump sites within their own land use areas (Navajo)	1
- Illegal/unauthorized open dumps/ roadside dumps/isolated vacant lots/ surface dumping	8
- County contract	1
- Off-reservation landfill in neighboring community	7
- Tribal transfer system to off-reservation disposal	1
- Privately owned landfill and contractor	1



Figure XV: Hazardous Wastes on Reservations: Generated, Stored & Abandoned\*

Generated

Toxic wastes leaking onto reservation from foundry  
Pesticides  
Penta from post & pole plant  
Oil, natural gas  
Hydrogen sulfide (from natural gas wells)  
Reactive sulfides from oil refining operation  
Trivalent chromium from aluminium forming operation  
Waste from electronics plant  
Styrene  
PCP & CAA used in wood treatment plant  
Domestic light industry & small businesses (not yet significant generators)

Stored

Trichromium waste water sludge from metal plating  
<10 gallons from electronics plant  
Old pesticides/insecticides/fungicides  
Aldrite 4  
Sodium arsenate  
Old transformers  
Asbestos panels  
Industrial solvents  
Chemicals  
PCP & CAA from wood treatment plant  
Contaminated sludges & soils from wood treatment plant  
& small volume of waste oils and solvents  
PCB's & other organo chloride compounds leaching onto reservation from foundry  
Gas stations  
Uranium/uranium mine/mill tailings

Abandoned

Asbestos  
Uranium/uranium mines/tailings  
Pesticide containers  
Industrial wastes in sewage lagoon  
Barrels of old pesticides, industrial wastes, asbestos panels  
Celtor Chemical Works  
Copper Bluffs Mine  
Masonite Mill  
GM Central Foundry  
Reynolds Aluminium  
Seaway Dredging Deposits  
Old dump

\* Individual listings as presented in responses to questionnaire.

FIGURE XVI: Ranking\* of Tribal Environmental Priorities As Reflected By Tribal Responses to Questionnaire

<u>Priority</u>	<u>Frequency</u>	<u>Average Ranking</u>	<u>Modal Ranking</u>	<u>Median Ranking</u>
1. Water Quality	32	2.5	1	2
2. Solid Waste Disposal	28	2.3	1	2
3. Hazardous Waste Management	26	4.7	4	4
4. Domestic Waste Treatment And Disposal	22	3.2	2.3	3
5. Conservation and Land Use	18	5.6	6	6
6. Air Quality	14	3.6	2	2.5
7. Animal Control	11	4.5	5	5
8. Erosion	10	2.9	1.3	3
9. Public Health	7	4.6	1	5
10. Nuclear Waste/Radiation	5	2.6	1.4	3
11. Mining/Drilling	4	3	-	2.5
12. Housing	3	2.3	1	1
13. No Resource Recovery (Recycling)	2	6.5	-	6.5

\* Although not statistically significant the priorities were ranked by frequency of mention. The priorities average rankings, modal rankings and median rankings are also shown to give a better idea of the distribution of rankings within the frequency.

## ENVIRONMENTAL SURVEY

### VI. Survey

## RESERVATION ENVIRONMENTAL PROFILES

### I. TRIBAL CHARACTERISTICS

1. Name of reservation \_\_\_\_\_

2. Number of Tribes occupying reservation \_\_\_\_\_

3. Name(s) of Tribe(s) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. Name & address of  
Tribal governing body: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5. Reservation was established by: A. Treaty \_\_\_\_\_

B. Executive Order \_\_\_\_\_

C. Statute \_\_\_\_\_

D. Land Grant \_\_\_\_\_

E. Other (please specify) \_\_\_\_\_

\_\_\_\_\_

6. Date reservation was established: \_\_\_\_\_

7. State(s) bordering reservation: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

8. County/counties bordering reservation: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

9. City/Cities bordering the reservation:  
(Population over 25,000)

---

---

---

10. Name of city nearest the reservation:  
(Population over 25,000)

---

11. Distance in miles:

---

12. Population of reservation:

---

13. Land base(in square acres):

---

14. Land status(in square acres): A. Tribally owned

---

B. Allotted

---

15. Please list all interstate and state highways through reservation:

---

---

---

II. TRIBAL GOVERNMENT CHARACTERISTICS

1. Name of Tribal governing body:

\_\_\_\_\_

2. Number of council members: \_\_\_\_\_

3. Title of Chief Executive: A. Chairman \_\_\_\_\_  
B. President \_\_\_\_\_  
C. Governor \_\_\_\_\_  
D. Principal Chief \_\_\_\_\_  
E. Other (please specify) \_\_\_\_\_

\_\_\_\_\_

4. The Chief Executive is: A. Elected by tribal membership \_\_\_\_\_  
B. Appointed by Council \_\_\_\_\_  
C. Other (please specify) \_\_\_\_\_

\_\_\_\_\_

5. Term of Office: A. 1 year \_\_\_\_\_  
B. 2 years \_\_\_\_\_  
C. 3 years \_\_\_\_\_  
D. 4 years \_\_\_\_\_  
E. Other (please specify) \_\_\_\_\_

\_\_\_\_\_

6. Regular Council meetings are held: A. Weekly \_\_\_\_\_  
B. Bi-weekly \_\_\_\_\_  
C. Monthly \_\_\_\_\_  
D. Other (please specify) \_\_\_\_\_

\_\_\_\_\_

7. Tribal officials are elected:

- A. At-large \_\_\_\_\_  
B. By district/geographic region \_\_\_\_\_  
C. Other (please specify) \_\_\_\_\_  
\_\_\_\_\_

8. Tribal Government enabling document: A. Executive \_\_\_\_\_  
B. Resolution \_\_\_\_\_  
C. Charter \_\_\_\_\_  
D. Other (please specify) \_\_\_\_\_  
\_\_\_\_\_

9. Date of adoption: \_\_\_\_\_

10. What functions are authorized by this document? A. Executive \_\_\_\_\_  
(Please check all that apply) B. Legislative \_\_\_\_\_  
C. Judicial \_\_\_\_\_  
D. Business \_\_\_\_\_  
Enterprise \_\_\_\_\_  
E. Other (please specify) \_\_\_\_\_  
\_\_\_\_\_

11. Is/are the Tribe(s) operating a Tribal court system:

- A. Yes \_\_\_\_\_ B. No \_\_\_\_\_

12. If yes, are tribal court officials: A. Appointed by Chief Executive \_\_\_\_\_  
B. Appointed by Council \_\_\_\_\_  
C. Elected by Tribal membership \_\_\_\_\_  
D. Other (please specify) \_\_\_\_\_  
\_\_\_\_\_

- Function is controlled by:  
Code Ordinance Regulation Resolution

[illegible]



14. Has the tribe adopted an administrative procedures act?

A. Yes \_\_\_\_\_ B. No \_\_\_\_\_

15. Is Tribe currently implementing an environmental protection program?

A. Yes \_\_\_\_\_ B. No \_\_\_\_\_

16. If yes, the Tribal environmental program  
is responsible for:

A. Air quality monitoring \_\_\_\_\_

B. Water quality monitoring \_\_\_\_\_

C. Soils analysis \_\_\_\_\_

D. Developing Tribal  
environmental standards \_\_\_\_\_

E. Enforcing Tribal  
environmental standards \_\_\_\_\_

F. Animal control \_\_\_\_\_

G. Protection of endangered  
species \_\_\_\_\_

H. Sanitation & waste disposal \_\_\_\_\_

I. Environmental rehabilitation/  
reclamation \_\_\_\_\_

J. Emergency preparedness/  
evacuation \_\_\_\_\_

K. Other (please specify) \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

17. Name(s) of Tribal office(s) which conduct environmental programs:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

18. Number of staff employed by Tribe to work on environmental programs:

---

19. Is there a committee within the Tribal government which addresses environmental issues?

A. Yes \_\_\_\_\_

B. No \_\_\_\_\_

If yes, name \_\_\_\_\_

20. Does the Tribal Government have cooperative agreements with other governmental entities (ie: state, local, Federal govt.) for the purpose of:

	Yes	No	Name of entity
A. Air quality monitoring			
B. Air quality standards enforcement			
C. Water quality monitoring			
D. Water quality standards enforcement			
E. Sanitation & waste disposal			
F. Environmental rehabilitation/reclamation			
G. Soil analysis			
H. Animal control			
I. Protection of endangered species			
J. Emergency preparedness/evacuation			
K. Other (please specify)			
_____			
_____			

### III. RESERVATION ENVIRONMENTAL CHARACTERISTICS

## 1. Climate:

A. Average annual precipitation  
(in inches)

-Snowfall

-Rainfall

### B. Average Annual Temperature

### C. Temperature extremes

- High

- Low

D. Average freeze free period  
(in days)

### E. Average annual wind speed

#### F. Prevailing wind direction pattern

G. Elevation(in feet)

low to high

2. Reservation may be affected by:  
(Check appropriate box)

	<i>Frequently</i>	<i>Occasionally</i>	<i>Rarely</i>	<i>Never</i>
A. Tornadoes				
B. Hurricanes				
C. Duststorms				
D. Extremely high winds				
E. Blizzards				
F. Fog				
G. Earthquakes				
H. Flooding				
-Flashfloods				
-Snowmelt				
I. Other				

3. Reservation climate is characterized as:

- A. Arid/Hot \_\_\_\_\_
- B. Arid/Cool \_\_\_\_\_
- C. Temperate/Mild \_\_\_\_\_
- D. Humid/Hot \_\_\_\_\_
- E. Humid/Cool \_\_\_\_\_
- F. Wet \_\_\_\_\_
- G. Sub-Tropical \_\_\_\_\_

4. Summers are generally:

- A. Hot/Dry \_\_\_\_\_
- B. Hot/Rainy \_\_\_\_\_
- C. Hot/Humid \_\_\_\_\_
- D. Mild/Dry \_\_\_\_\_
- E. Mild/Rainy \_\_\_\_\_
- F. Mild/Humid \_\_\_\_\_
- G. Cool/Dry \_\_\_\_\_
- H. Cool/Rainy \_\_\_\_\_
- I. Cool/Humid \_\_\_\_\_

5. Winters are generally:

- A. Cold/Dry \_\_\_\_\_
- B. Cold/Rainy \_\_\_\_\_
- C. Cold/Humid \_\_\_\_\_
- D. Mild/Dry \_\_\_\_\_
- E. Mild/Rainy \_\_\_\_\_
- F. Mild/Humid \_\_\_\_\_
- G. Cool/Dry \_\_\_\_\_
- H. Cool/Rainy \_\_\_\_\_
- I. Cool/Humid \_\_\_\_\_

6. Highest percentage of annual precipitation falls in the:  
(Check all that apply)

- A. Spring \_\_\_\_\_ B. Summer \_\_\_\_\_ C. Fall \_\_\_\_\_ D. Winter \_\_\_\_\_

7. Land (please check all that apply):

- A. Mountains \_\_\_\_\_
- B. Plateaus \_\_\_\_\_
- C. Prairies \_\_\_\_\_
- D. Desert \_\_\_\_\_
- E. Wooded \_\_\_\_\_
- F. Forested \_\_\_\_\_
  - Coniferous \_\_\_\_\_
  - Deciduous \_\_\_\_\_
- G. Coastal \_\_\_\_\_
- H. Inland \_\_\_\_\_

8. Please identify mountain range(s) and elevations on reservation:

\_\_\_\_\_

\_\_\_\_\_

9. Water (please check all that apply):

- A. Lakes \_\_\_\_\_
  - Natural \_\_\_\_\_
  - Reservoir \_\_\_\_\_
- B. Rivers \_\_\_\_\_
- C. Creeks/Streams \_\_\_\_\_
- D. Ocean \_\_\_\_\_
  - Open Coast \_\_\_\_\_
  - Enclosed Bays \_\_\_\_\_
  - Lagoons \_\_\_\_\_
  - Estuaries \_\_\_\_\_
- E. Wetlands \_\_\_\_\_
  - Marshes \_\_\_\_\_
  - Swamps \_\_\_\_\_
  - Bogs \_\_\_\_\_

10. Please list all significant river(s) flowing through reservation:

---

---

---

11. Please list all significant lake(s)/reservoir(s) on reservation:

---

---

---

12. Soil analysis and classification has been completed for reservation:

A. Yes \_\_\_\_\_ B. No \_\_\_\_\_

13. Land Resource Usage:

- A. Agricultural Development
- B. Forestry/Timber
- C. Mining
- D. Industry/Manufacturing
- E. Recreation
- F. Commercial Development
- G. Grazing
- H. Other (please specify)

---

---

---

---

Use of Resource is being:	
Implemented	Planned

14. Water Resource Usage:

A. Power Generation

B. Irrigation

C. Fisheries

D. Tourism/Recreation

E. Transportation

F. Other (please specify)

---



---



---

Use of Resource is being:	
Implemented	Planned

IV. AIR QUALITY:

1. Has Tribe designated air quality standards as provided in the Clean Air Act?

A. Yes \_\_\_\_\_ B. No \_\_\_\_\_

2. If yes, is air quality designated under:

A. Class I \_\_\_\_\_

B. Class II \_\_\_\_\_

C. Class III \_\_\_\_\_

3. Air quality is monitored:

A. Continuously \_\_\_\_\_ B. Special Study Basis \_\_\_\_\_ C. Not Monitored \_\_\_\_\_

4. Air Quality Monitoring is conducted by:

A. Tribe \_\_\_\_\_ B. State \_\_\_\_\_ C. Federal Government \_\_\_\_\_ D. Privately \_\_\_\_\_

5. If monitored by Federal Government or privately, please cite agency, company or organization:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

Contact person: \_\_\_\_\_

6. Air quality monitoring includes data for:

	Yes	No
A. Total suspended particulates	_____	_____
B. Sulphur Dioxide	_____	_____
C. Nitrogen Dioxide	_____	_____
D. Carbon Monoxide	_____	_____
E. Ozone	_____	_____
F. Lead	_____	_____
G. Air Toxics	_____	_____
H. Visibility	_____	_____



7. Have there been any measured violations of national ambient air quality standards?

A. Yes \_\_\_\_\_

B. No \_\_\_\_\_

8. If yes, please describe below, including what violation(s) occurred, when and where:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

9. Major Air Pollution Sources On/Near Reservation (Within a fifty mile radius):

Please include mining and milling operations, wood burning and incineration, industrial development, fossil-fuel fired power generation facilities, petroleum refineries, urban areas, etc.

Type

Proximity to reservation (where applicable) in miles

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

V. WATER QUALITY

Community Water Supply

1. How many community drinking water supply systems are on the reservation?  
\_\_\_\_\_

2. What is the source of these community drinking water supply systems?  
(Please indicate percentage of total drinking watersources)

A. Surface \_\_\_\_\_%

B. Groundwater \_\_\_\_\_%

3. What percentage of the community water supply system is monitored for the following parameters and how frequently does this monitoring occur?

	Never	Annual	Quarterly	Monthly
A. Bacteriological Quality	_____%	_____%	_____%	_____%
B. Inorganics	_____%	_____%	_____%	_____%
C. Pesticides	_____%	_____%	_____%	_____%
D. Radionuclides	_____%	_____%	_____%	_____%

4. What percentage of the community water supply systems are treated for water quality?

\_\_\_\_\_%

Individual Water Supply

5. How many homes on the reservation are served by individual wells?

\_\_\_\_\_%

6. What is the percentage of the total population on the reservation that uses individual wells for drinking water?

\_\_\_\_\_%

7. What percentage of individual family wells is monitored for the following parameters and how frequently does this monitoring occur?

	Never	Annual	Quarterly	Monthly
A. Bacteriological Quality	_____ %	_____ %	_____ %	_____ %
B. Inorganics	_____ %	_____ %	_____ %	_____ %
C. Pesticides	_____ %	_____ %	_____ %	_____ %
D. Radionuclides	_____ %	_____ %	_____ %	_____ %

General Water Quality

8. Have there been any water quality violations of the reservation's drinking water in the past five years?

A. Yes \_\_\_\_\_ B. No \_\_\_\_\_

9. If yes, please describe below including what the violation was, when it occurred and whether it occurred in surface or ground water.

\_\_\_\_\_  
\_\_\_\_\_

10. Have there been any water borne diseases or outbreaks?

A. Yes \_\_\_\_\_ B. No \_\_\_\_\_

11. If yes, please describe: \_\_\_\_\_

\_\_\_\_\_

12. Are there tribal water quality standards for on-reservation streams, rivers and lakes?

A. Yes \_\_\_\_\_ B. No \_\_\_\_\_

13. Have there been any violations of these standards?

A. Yes \_\_\_\_\_ B. No \_\_\_\_\_

14. If yes, for what parameter(s) (temperature, dissolved oxygen, pH, etc.)?

\_\_\_\_\_  
\_\_\_\_\_

15.

Water Usage Table

Purpose	Average annual consumption (in acre feet)		Percent of total Annual Consumption	
	Surface Water	Ground Water	Surface Water	Ground Water
A. Domestic				%
B. Municipal				%
C. Irrigation				%
D. Industrial				%
E. Minerals development				%
F. Recreation				
G. Other (please specify)				%
				%
				%
				%

16. Total Annual Water Consumption

A. Surface \_\_\_\_\_ per acre feet

B. Ground \_\_\_\_\_ per acre feet

17. Are lakes/reservoirs suffering from:

	Yes	No
A. Eutrophication	_____	_____
B. Sedimentation	_____	_____

18. Actual and potential sources of water pollution affecting the reservation include:

	Actual	Potential
A. Sewage treatment plants	_____	_____
B. Water treatment plants	_____	_____
C. Oxidation ponds	_____	_____
D. Municipal discharges	_____	_____
E. Industrial discharges	_____	_____
F. Domestic wastes (sewage)	_____	_____
G. Oil spills	_____	_____
H. Hazardous materials spills	_____	_____
I. Landfill leachate	_____	_____
J. Urban run-off (overland & storm sewer)	_____	_____
K. Agricultural run-off (cropland run-off, animal waste, streambank erosion)	_____	_____
L. Sediment run-off (construction)	_____	_____
M. Sediment run-off (mining)	_____	_____
N. Sediment run-off (timber production & harvesting)	_____	_____
O. Pesticides/herbicides/nutrient run-off	_____	_____
P. Toxicant build-up (pesticide usage)	_____	_____
Q. On-lot disposal	_____	_____
R. Other (please specify)	_____	_____
_____	_____	_____
_____	_____	_____

VI. Solid Waste Storage & Disposal

1. Does the Tribal Government have a plan for disposal of solid waste(s)?

A. Yes \_\_\_\_\_ B. No \_\_\_\_\_

2. Solid waste disposal (please check one):

A. Is a major problem on the reservation \_\_\_\_\_

B. Is not a problem on the reservation \_\_\_\_\_

C. Is a growing problem on the reservation \_\_\_\_\_

3. How are solid wastes disposed of on the reservation?

A. Community dumpsite \_\_\_\_\_

B. Community Landfill \_\_\_\_\_

C. Incineration

- Community \_\_\_\_\_

- Individual \_\_\_\_\_

D. Other (please specify) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. Present size (in acres) of community waste disposal site(s)? \_\_\_\_\_

\_\_\_\_\_

5. Does the Tribal Government sponsor or participate in recycling activities for:

	Yes	No
A. Metals		
- Aluminum	_____	_____
- Steel	_____	_____
- Copper	_____	_____
- Other (please specify)	_____	_____
_____		
_____		
B. Paper	_____	_____
C. Glass	_____	_____

VII. Hazardous Waste Storage & Disposal

1. Does the Tribal Government have a plan for disposal of hazardous waste(s)?

A. Yes \_\_\_\_\_ B. No \_\_\_\_\_

2. Are hazardous wastes generated on the reservation?

A. Yes \_\_\_\_\_ B. No \_\_\_\_\_

3. If yes, please specify the nature of the waste(s):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. Are hazardous wastes stored on the reservation?

A. Yes \_\_\_\_\_ B. No \_\_\_\_\_

5. If yes, please specify the nature of the waste(s):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. How long (in years) has the hazardous waste(s) been stored on the reservation? \_\_\_\_\_

7. Was the hazardous wastes stored in accordance with applicable tribal and federal law?

A. Yes \_\_\_\_\_ B. No \_\_\_\_\_

8. Are there any abandoned hazardous waste sites on the reservation?

A. Yes \_\_\_\_\_ B. No \_\_\_\_\_

9. If yes, please identify the site(s):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Please include information on the storage of pesticides and the disposal of pesticide canisters and attach any additional relevant information.

VIII. Nuclear Waste/Radiation:

1. Are there uranium deposits on reservation?

A. Yes \_\_\_\_\_ B. No \_\_\_\_\_

2. If yes, is uranium mining presently underway?

A. Yes \_\_\_\_\_ B. No \_\_\_\_\_

3. Are there any abandoned or stand-by uranium mines on reservation?

A. Yes \_\_\_\_\_ B. No \_\_\_\_\_

4. If yes, please identify site(s):

\_\_\_\_\_  
\_\_\_\_\_

5. Are there uranium tailings present on reservation?

A. Yes \_\_\_\_\_ B. No \_\_\_\_\_

If yes, please identify site(s):

\_\_\_\_\_  
\_\_\_\_\_

6. Are reclamation activities presently underway?

A. Yes \_\_\_\_\_ B. No \_\_\_\_\_

7. If yes, please elaborate \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

8. Is there a uranium processing mill within 50 miles of the reservation?

A. Yes \_\_\_\_\_ B. No \_\_\_\_\_

9. If yes, please identify sites(s):

\_\_\_\_\_  
\_\_\_\_\_



10. Are there any other radioactive materials mined on the reservation other than uranium?

A. Yes \_\_\_\_\_ B. No \_\_\_\_\_

11. If yes, please identify the materials:

\_\_\_\_\_  
\_\_\_\_\_

12. Is there a nuclear power generation facility within 50 miles of the reservation?

A. Yes \_\_\_\_\_ B. No \_\_\_\_\_

13. If yes, please identify site and its proximity to reservation in miles:

\_\_\_\_\_

14. Is nuclear waste stored within 50 miles of reservation?

A. Yes \_\_\_\_\_ B. No \_\_\_\_\_

15. If yes, please identify site and its proximity to reservation in miles:

\_\_\_\_\_

16. Has reservation been selected as a potential area for a permanent nuclear waste disposal site?

A. Yes \_\_\_\_\_ B. No \_\_\_\_\_

17. Are nuclear materials transported through reservation?

A. Yes \_\_\_\_\_ B. No \_\_\_\_\_

IX. Please identify in order of priority the most pressing environmental problems on your reservation:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_

Please attach any additional relevant information.

X. Please identify all species found on your reservation which have been designated as threatened or endangered:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

If space provided is not sufficient, please attach additional information on separate sheet.

ENVIRONMENTAL SURVEY

VII. Narrative Profiles

## REGION II

Indian Work Group Coordinator: Charles Teneralla

Seneca Nation of Indians

St. Regis Mohawk

Seneca Nation of Indians, New York  
(Cattaraugus, Allegany and Oil Springs Reservations)

Environmental Contact:

Ronald W. Patterson  
EDA Planning Director  
Tribal Planning Office  
Seneca Nation of Indians  
1490 Route 438  
Irving, New York, 14081  
(716) 532-4900 ext. 135

EPA Region II: Charles Teneralla, Indian Work Group  
Coordinator

Introduction

The Seneca Nation of Indians occupy three reservations, the Cattaraugus Reservation consisting of 21,680 acres, the Allegany Reservation of 21,264 acres and the Oil Springs Reservation consisting of 642 acres, totaling 43,586 acres in all. The land is wholly tribally owned. The population of all three reservations combined (although Oil Springs has no population) is 5740, consisting of 3163 enrolled Senecas and 2577 Tuscarona, Oneida, Cayuga, Mohawk, Onondaga, other Indians and non-Indians.

### Tribal Government

The sixteen member Council of the Seneca Nation of Indians, established by their Constitution in 1898, is the legislative governing body for all three of the reservations. Council members, as well as the Council Executives (President, Treasurer, Clerk) and the Judicial Branch, are elected at large by tribal members. The Council is elected biannually in staggered terms (8 members per election). The Council meets monthly. The Executives and Judicial Branch are elected biannually. The Judicial Branch consists of a Peacemakers Court (6 judges) and Surrogates Court (2 judges) and 2 Chief Marshalls.

---

The following regulatory functions are performed by the Council: hunting/fishing/game management, timber and non-energy mineral resource development, and civil law.

The tribes have not adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The tribe is currently implementing an environmental protection program which is responsible for air and water quality monitoring, soil analysis, enforcing

tribal environmental standards and animal control. The office which conducts this program is The Seneca Nation Environmental Health Office which employs 4 technicians. There is no committee in The Council of The Seneca Nation which addresses environmental issues. Neither does the tribe have cooperative agreements for environmental protection with other local, state or federal governmental entities.

#### Tribal Natural Resource Use

Soil analysis and classification has been completed for the reservations. The development of agricultural, forestry/timber, recreational and commercial resources is currently being planned. Water resources are currently being used for irrigation and for tourism/recreation.

#### Air Quality

The tribes have not designated air quality standards as provided in the Clean Air Act, nor is reservation air quality monitored by any other authority.

#### Water Quality

##### Community Water Supply:

There is one EPA standard community water supply (11 acres) which serves a development site for HUD houses. The tribes also monitor the water supply at the Irving Industrial Park site and the old Thomas Indian

School site which is currently the site of seven administrative and community buildings. These are not, however, considered community systems.

The community systems use 100 percent ground water, and they are monitored monthly for bacteriological quality and annually for inorganics, pesticides and radionuclides. All are treated for water quality.

Individual Water Supply:

Eighty percent of the population of the reservation is served by individual wells. Wells are monitored only upon request.

General Water Quality:

There are no water quality standards for reservation streams, rivers and lakes, and it is unknown whether reservation lakes/reservoirs are suffering from eutrophication and/or sedimentation.

Actual sources of water pollution include oxidation ponds, domestic wastes (sewage), oil spills, pesticide/herbicide/nutrient run-off, on-lot disposal and gas. Potential sources of pollution include sewage and water treatment plants, municipal and industrial discharges, hazardous materials spills, landfill leachate, urban and agricultural run-off, sediment run-off from construction, mining and timber production and toxicant build-up from pesticide usage.



#### Drinking Water Quality:

There have been some drinking water quality violations in the past five years. Barium and bacteria appeared in the ground water. There were also outbreaks of water borne diseases like gastro-enteritis, giardia, and amoebic dysentery.

#### Water Usage

There is no information available about the average annual consumption in acre feet of surface and ground water for different purposes.

#### Domestic Waste Disposal (Sewage)

[This area was neglected in the original survey. No additional information was received in time to include in the final draft of the narrative.]

#### Solid Waste Storage and Disposal

The Council has not adopted a plan for the disposal of solid wastes although solid wastes are a growing problem on the reservations. There is a project proposal to purchase and operate a nation-owned truck for curb pick-up. Solid wastes are currently disposed of via private businesses whose services are contracted and by individual incineration. There is also much illegal dumping on the Cattaraugus Reservation. The Council sponsors no recycling program for solid wastes.

### Hazardous Waste Storage and Disposal

The Council has no plan for the disposal of hazardous wastes. None are presently generated or stored on the reservations. There are, however, some abandoned hazardous waste sites on the reservations which have been identified by the Seneca Nation Health Department (Contact John Hanley [(716)] 945-1790). Some wastes were removed using an outside disposal service.

### Nuclear Waste/Radiation

There are no deposits of uranium or other radioactive materials on the reservation. There are no uranium processing mills or nuclear power generation facilities within fifty miles of the reservations, but nuclear waste is stored 25 miles southeast of the reservation area at the West Valley Demonstration Project, and there may be unauthorized transportation of nuclear materials through the reservations. None of the reservations have, however, been selected as a potential permanent nuclear waste disposal site.

### Tribal Priorities

The following in order of priority are the most pressing environmental problems on the three reservations of The Seneca Nation: water quality, solid waste disposal, domestic sewage, community injury control, housing, animal control (especially of rabid animals) and rodent control.

## NARRATIVE PROFILE

St. Regis Mohawk Reservation, New York  
Environmental Contact:

Randy Hart, Environmental Health Technician  
St. Regis Mohawk Tribe  
Tribal Community Building  
Hogansburg, New York 13655  
(518) 358-2272 and (315) 769-9242

EPA Region II: Charles Teneralla, Indian Work Group Coordinator

### Introduction

The St. Regis Mohawk Reservation consists of 14,000 acres, all of which is tribally owned. The population of the reservation is 8,200.

### Tribal Government

The three member St. Regis Mohawk Tribal Council is the tribal governing body. Council members, the head chief and other tribal government officers are elected at large by tribal membership for three year staggered terms. The Council meets monthly.

There was no information available on the regulatory functions performed by the tribal government. However, the Environmental Health staff has developed codes for Food Service Establishments, Water Quality Control, and Oil Spill Prevention and Control. The tribe has not yet passed these codes, but the Environmental Health staff is using these codes as guidelines. The tribe has not adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The tribe, however, is currently implementing an environmental protection program which is responsible for air and water quality monitoring, soil analysis, developing and enforcing tribal environmental standards, animal control, sanitation and waste disposal, environmental rehabilitation/reclamation, and emergency preparedness/evacuation. This program is conducted through the St. Regis Mohawk Environmental Health Office. Two staff are employed by the tribe to work on environmental programs. There is no committee within the tribal government which specifically addresses environmental issues, but the tribal government does have cooperative agreements with the New York State Department of Environmental Conservation for air quality monitoring and standards enforcement and for soil analysis, with the New York State Department of Health for water quality monitoring and standards enforcement, with the Indian Health Service for sanitation and waste disposal, and with the Franklin County Office of Emergency Preparedness for emergency preparedness and evacuation.

## Tribal Natural Resource Use

Soil analysis and classification has been completed for the reservation. The development of agricultural resources is currently being implemented, and the development of recreational resources is currently being planned. Water resources are currently being used for power generation (by non-tribal authorities), fisheries, tourism/recreation and transportation.

## Air Quality

The tribe has not designated air quality standards as provided in the Clean Air Act, but air quality is monitored on a special study basis by the New York State Department of Environmental Conservation (contact person: David Prosser [305] 785-2238). This air quality monitoring includes data for total suspended particulates, sulphur and nitrogen dioxide, carbon monoxide, lead, air toxics and visibility.

There have been measured violations of national ambient air quality standards. Reynolds Aluminum of Massena, New York, had excessive fluoride emissions in 1980 and Minerals Processing, also of Massena, New York, had incomplete stack tests in 1985. These two sources of air pollution are 1/2 and 1/4 mile from the reservation respectively.

Other major sources of air pollution are the GM Central Foundry and Alcoa both also of Massena, New York, and the Howard Smith Paper Mill in Ontario, Canada. These sources are 1/2 to 6 miles from the reservation boundary.

## Water Quality

### General Water Quality:

There are no tribal water quality standards for on-reservation streams, rivers and lakes. No information was available on eutrophication and sedimentation in reservation lakes/reservoirs. Actual sources of water pollution include municipal and individual discharges, domestic wastes (sewage), hazardous materials spills, landfill leachate, urban and agricultural run-off, sediment run-off due to construction and pesticide/herbicide/nutrient and toxicant build-up due to pesticide usage. Potential sources of pollution include sewage treatment plants and oil spills.

### Drinking Water Quality:

There have been water quality violations of the reservation's drinking water quality in the last five years. PCB's were detected in 2 groundwater wells in 1982, and 7 wells tested positive for petroleum products in 1986. There have also been some outbreaks of minor illness as a consequence of elevated bacteria levels in private wells.

### Community Water Supply:

There are two community drinking water supply systems on the reservation. One hundred percent of the water for these systems comes from surface water sources. Surface water sources are monitored monthly for bacteriological quality, annually for inorganics and every three years for pesticides and radionuclides. No other monitoring is done. Water sources are also treated for water quality.

### Individual Water Supply:

Four hundred fifty homes on the reservation are served by individual wells, or about 75% of the population. Six percent of the wells are monitored for inorganics. No monitoring is done for pesticides or radionuclides.

### Water Usage

Data for average annual surface and ground water consumption in acre feet for different purposes was unavailable. However, 100% of the water used for domestic purposes is ground water, and 100% of the water used for municipal purposes is surface water.

### Domestic Waste Disposal (Sewage)

[This area was neglected in the original survey. Additional information was not received in time to be included in the final draft of the narrative.]

### Solid Waste Storage and Disposal

Although the tribal government has a plan for the disposal of solid wastes which are a major problem on the reservation, currently most tribal members must utilize a landfill in the neighboring community of Bombay, New York. There is no tribal recycling program.

### Hazardous Waste Storage and Disposal

The tribal government has no plan for the disposal of hazardous wastes. Although no hazardous wastes are generated on the reservation, toxic wastes are leaching onto it from GM Central Foundry's toxic landfill located directly adjacent to the reservation, and although hazardous wastes are not stored on the reservation, they have been improperly stored, some at abandoned sites, adjacent to the reservation for the last 25 years. These wastes include PCB's and other organochlorine compounds from the GM Central Foundry, Reynolds Aluminum and Seaway Dredging Deposit sites.

### Nuclear Waste/Radiation

There are no deposits and, therefore, no mining of uranium or other radioactive materials on the reservation. There are no uranium processing mills or nuclear power generation facilities within 50 miles of the reservation, and nuclear waste is not stored within 50 miles of the reservation. However, the reservation has been selected as a potential area for a permanent nuclear waste disposal site, but nuclear materials are not transported through the reservation.

### Tribal Priorities

The most pressing environmental problems in order of priority on the St. Regis Reservation are extremely substandard housing, the contamination of individual ground water wells, and the impact of surrounding industries on environmental and air quality. In addition, the Environmental Health staff has limited resources available to investigate the effects of industrial pollution on the Reservation. They are looking for technical and financial assistance to help them in their investigation.

REGION IV

Indian Work Group Coordinator: Arthur Linton

Choctaw Reservation

## NARRATIVE PROFILE

Choctaw Reservation, Mississippi  
Environmental Contact:

Bernadette Villacorta  
c/o Tribal Council  
Mississippi Band of Choctaw Indians  
Route 7, Box 21  
Philadelphia, Mississippi 39350

EPA Region IV: Arthur Linton, Indian Work Group Coordinator

### Introduction

The Choctaw Reservation consists of 18,000 acres, all of it tribally owned. The population of the reservation is about 4,600 people.

### Tribal Government

The sixteen member Tribal Council, established by the adoption of a constitution and bylaws in 1945 (revised in 1975), is the tribal governing body. Council members are elected by district by tribal members for four year terms, as is the Chief. A Vice-Chief and Secretary-Treasurer are elected from the Council members by the Council members for two year terms each July of odd-numbered years. The Council meets quarterly.

The tribal government exercises regulatory functions in the following areas: land use planning, business/commercial development, zoning, hunting/fishing/game management, occupational health and safety, timber development, civil and criminal law. The tribe has not adopted an administrative procedures act.

### The Environmental Protection Infrastructure

The tribe is not currently implementing its own environmental protection program, but the Environmental Health Services of the Choctaw Health Department do water quality monitoring (in cooperation with the IHS) and there is a committee within the Tribal Council, the Community Development Committee, which addresses environmental issues. There are five staff employed by the tribe in the above efforts.

### Tribal Natural Resource Use

Soil analysis and classification has been completed. Agricultural, forestry/timber, industry/manufacturing, commercial and grazing resources are currently being used, and the development of recreational resources is being planned. The tribe is planning to use water resources for power generation and tourism/recreation. It is also engaging in flood control activities on behalf of downstream areas, although the reservation itself does not flood.



### Air Quality

The tribe has not designed its own air quality standards as designated in the Clear Air Act, nor is the reservation air monitored by any other authority. There are no major air pollution sources within fifty miles of the reservation.

### Water Quality

#### General Water Quality:

There are no water quality standards for reservation streams, rivers and lakes. There are no actual water pollution sources affecting the reservation, although there is a potential source of pollution in sewage treatment lagoons and plants.

#### Drinking Water Quality:

There have been no water quality violations of the reservation's drinking water in the last five years, but in 1985 there were four cases of Giardia Lamblia, mostly in children.

#### Community Water Supply:

There are eight community drinking water supply systems on the reservation which use 100% ground water. All systems are monitored for bacteriological quality and for inorganics (CL<sup>-</sup> and F1<sup>-</sup>) monthly. There is no monitoring for pesticides and radionuclides. Ninety percent of the community water systems are treated for water quality.

#### Individual Water Supply:

Five percent of the homes and 3% of the population on the reservation are served by individual wells. No monitoring of the wells is done.

### Water Usage

There are no statistics available on water usage in acre feet.

### Domestic Waste Disposal (Sewage)

The reservation has 13 community waste disposal systems, 47 individual systems and 25 sanitation facilities installed since the enactment of Public Law 86-121. There are 3 sewage treatment plants and 11 oxidation ponds or lagoons on the reservation. All of their systems discharge their effluent to nearby creeks after proper secondary treatment. The effluent is monitored for bacteriological quality monthly.

### Solid Waste Storage and Disposal

The tribal government does have a plan for the disposal of solid wastes, but it is a growing problem on the reservation. There is a community land fill off the reservation, and hospitals and schools incinerate their solid wastes, but isolated vacant lots are also used for trash disposal. The tribal government has no recycling program for the reservation.

### Hazardous Waste Storage and Disposal

Hazardous wastes are not a problem, and a small amount of money was set aside in the agricultural extension program for a certified pesticide applicator.

### Nuclear Waste/Radiation

There are no deposits of uranium or any other radioactive materials on the reservation. Nor is there a uranium processing mill, a nuclear power generation facility, or a nuclear waste storage site within fifty miles of the reservation. The reservation has not been selected as a potential permanent nuclear waste storage site. It is unknown if nuclear materials are transported through the reservation.

### Tribal Priorities

The Mississippi Choctaw Tribal Council has identified the following environmental problems in order of priority: solid waste disposal from residences, lack of percolation in the soil which requires sewage lines rather than septic tanks, soil erosion, stray dogs and water quality.

## Region V

Indian Work Group Coordinator: Casey Ambutas

Forest County Potawatomi Reservation

Isabella and Saginaw Reservation

Leech Lake Reservation

Menominee Reservation

Oneida Reservation

Sault Sainte Marie Tribe of Chippewa  
Indians Reservation

Stockbridge-Munsee Indian Reservation

White Earth Reservation

## NARRATIVE PROFILE

Forest County Potawatomi Reservation, Wisconsin  
Environmental Contact:

Ken George  
Forest County Potawatomi Executive Council  
P.O. Box 346  
Crandon, Wisconsin 59520  
(715) 478-2903

EPA Region V: Casey Ambutas, Indian Work Group Coordinator

### Introduction

The Forest County Potawatomi Reservation consists of 11,766 acres, all tribally owned but 400 acres which are in allotment. The population of the reservation is 499, Forest County Potawatomis, Menominees, Prairie Band Potawatomis, Sokagoan Chippewa, Cherokee, Winnebago.

### Tribal Government

The six member Forest County Potawatomi Executive Council is the governing body of the reservation. The Chairman and Council members are elected by tribal membership at large for two year terms. The Council meets monthly. This government was established by charter and constitution and by-laws in 1934 (revised 1982).

The tribal government performs regulatory functions in the following areas: land use and water resource planning, water and air quality control, sales tax, business/commercial development, zoning, hunting/fishing/game management, animal control, occupational health and safety, sanitation, and the development of timber, fish and non-energy mineral resources. The tribes have adopted an administrative procedures act.

### Tribal Environment Protection Infrastructure

The tribe is currently implementing an environmental protection program which is responsible for air and water quality monitoring, soil analysis, developing and enforcing tribal environmental standards, animal control, the protection of endangered species, sanitation and waste disposal, environmental rehabilitation/reclamation, emergency preparedness/evacuation, noise control and mining. This program is conducted by the tribal Mining Impact Office. There is also a committee within the tribal government, The Mining Impact Committee, which addresses environmental issues. The tribe employs a staff of two to work on environmental programs. The tribe has cooperative agreements with the United States Geological Survey for air quality monitoring and standards enforcement and for water quality monitoring and with the Bureau of Indian Affairs, Department of Natural Resources for mining.

## Tribal Natural Resource Use

Soil analysis and classification have not been completed. Forestry/timber resources are currently being developed with further development in this sector being planned as well as recreational and commercial development. Water is used for tourism/recreation and transportation.

## Air Quality

The tribe has designated air quality standards as provided in The Clean Air Act. Reservation air is designated Class II. Air quality is monitored continuously by the federal government through the United States Geological Survey's Water Resources Division. Air quality monitoring includes data for total suspended particulates and sulphur dioxide. There have been no measured violations of national ambient air quality standards. However, from 1972 to 1978 Exxon entered tribal air space without securing consent from the tribe for exploration of tribal lands. Major air pollution sources are a paper mill, the new city dump and a lumber mill.

## Water Quality

### General Water Quality:

There are tribal water quality standards for reservation streams, rivers and lakes. There have been no violations of these standards, but reservation lakes/streams are suffering from sedimentation. Actual sources of water pollution include oil spills and acid rain. Potential sources of water pollution include oxidation ponds, domestic wastes (sewage), landfill leachate, sediment run-off from mining and on-lot disposal.

### Drinking Water Quality

There have been no water quality violations or outbreaks of water borne diseases in the last five years.

### Community Water Supply:

There are 72 community drinking water supply systems on the reservation. They use 100% ground water. All systems are tested quarterly for bacteriological quality, and 60% of the systems are treated for water quality

### Individual Water Supply:

Seventy-five per cent of the homes and 85% of the population on the reservation are served by individual wells. All wells are monitored quarterly for bacteriological quality.

### Water Usage

No information is available on average annual consumption of water for different purposes in acre feet.

### Domestic Waste Disposal (Sewage)

The reservation has a system of septic pick-ups to service individual systems.

### Solid Waste Storage Disposal

Solid wastes are a major problem on the reservation, and the tribal government does have a plan for their disposal. Presently, solid wastes are disposed of at community dump sites and landfills of about 1/2 acre each. The tribal government sponsors an aluminum recycling project.

### Hazardous Waste Storage and Disposal

The tribal government has no plan for the disposal of hazardous wastes, but such wastes are neither generated nor stored on the reservation. It is unknown if there are any abandoned hazardous waste sites on the reservation.

### Nuclear Waste/Radiation

Although there are uranium deposits on the reservation, there is no uranium mining presently underway. Nor are there uranium tailings on the reservation. There are no other radioactive materials mined on the reservation. Within fifty miles of the reservation there are neither uranium processing mills or nuclear power generation facilities. There is, however, low level nuclear waste stored seven miles away. The reservation has not been selected as a potential area for a permanent nuclear waste disposal site, but low level waste is transported through the reservation.

### Tribal Priorities

The most pressing environmental problems in order of priority on the Forest County Potawatomi Reservation are: surface water, air quality, acid rain, sewage, and the damage of plants and especially the forest.

## NARRATIVE PROFILE

Isabella and Saginaw Reservation, Michigan  
Environmental Contact:

Arnold Sowmick, Chairman  
Saginaw Chippewa Tribal Council  
7070 East Broadway  
Mount Pleasant, Michigan 48858  
(517) 772-5700

EPA Region V: Casey Ambutas, Indian Work Group Coordinator

### Introduction

The Isabella and Saginaw Chippewa Reservation consists of 1,372 acres 570 of which are tribally owned and 82 of which are in allotment. The population of the reservation is approximately 550 (500 in Isabella and 50 in Saginaw).

### Tribal Government

The ten member Saginaw Chippewa Tribal Council, established by an IRA Constitution and By-Laws in 1937, is the governing body for the reservation. The Council members are elected at large for two year term. The Chairman is appointed by the Council. The Council meets monthly.

The tribal government performs regulatory functions in the areas of land use planning, licensing fees business, business/commercial development, zoning, hunting/fishing/game management animal control, occupational health and safety, sanitation, the development of fish and mineral (energy and non-energy resources) and civil and criminal law. The tribe has not adopted an administrative procedures act.

### Tribal Environment Protection Infrastructure

The tribe is not currently implementing an environmental protection program per se, but the tribal offices of Planning and Economic Development, Building Grounds and Maintenance and Housing Authority do deal with environmental issues. In addition, the tribe has cooperative agreements with the Indian Health Service for water quality monitoring and standards enforcement, sanitation and waste disposal, soil analysis and animal control, with the Bureau of Indian Affairs for soil analysis and with Isabella County for animal control, and emergency preparedness/evacuation.

### Tribal Natural Resource Use

Soil analysis and classification has not been completed for the reservation. Agricultural, forestry/timber and recreational resources are currently being developed. The development of industrial/manufacturing and commercial resources is in the planning stages. Water is used for tourism/recreation.

## Air Quality

The tribe has not designated air quality standards as provided in the Clean Air Act, and air quality is not monitored. Major air pollution sources on or near the reservation are the petroleum refineries in Alma 20 miles away, small industry in Mount Pleasant, Clare and Alma 3.19 and 20 miles away respectively, and Dow Chemical and Dow Corning in Midland 25 miles away.

## Water Quality

### General Water Quality:

There are no tribal water quality standards for the reservation's streams, rivers and lakes, and it is unknown if reservation lakes/reservoirs are suffering from eutrophication and/or sedimentation. There are no actual sources of water pollution. Potential sources include sewage treatment plants, oxidation ponds, industrial discharges, domestic wastes (sewage), oil spills, urban and agricultural run-off, sediment run-off due to construction and pesticides/herbicides/nutrient run-off.

### Drinking Water Quality:

It is unknown if there have been any water quality violations of the reservation's drinking water in the last five years, but there have been no outbreaks of water borne diseases.

### Community Water Supply:

There is one community drinking water supply system on the reservation which uses 100% ground water. Half of the system is monitored annually for bacteriological quality and treated for water quality.

### Individual Water Supply:

Ten percent of the homes and 10% of the population of the reservation use individual wells for drinking water. These wells are monitored by the Indian Health Service annually.

## Water Usage

No data was available or at the tribe's disposal for average annual water consumption rates in acre feet for different purposes.



### Domestic Waste Disposal (Sewage)

[This area was neglected in the original survey. Additional information was not received in time to be included in the final draft of the narrative.]

### Hazardous Waste Storage and Disposal

The tribe does not have a plan for the disposal of solid wastes, and it is unknown if solid wastes are a problem within the community. Most such wastes are disposed of off the reservation. There is no tribal recycling program.

### Hazardous Waste Storage and Disposal

The tribal government has no plan for the disposal of hazardous wastes, nor are such wastes generated or stored on the reservation. It is unknown, however, if there are any abandoned hazardous waste sites on the reservation. No information is available on the storage and disposal of pesticides and pesticide containers.

### Nuclear Waste/Radiation

There are no uranium deposits on the reservation, but it is unknown if there are deposits of other radioactive materials on the reservation. There are no uranium processing mills or nuclear power generation facilities within 50 miles of the reservation. However, it is not known if nuclear waste is stored anywhere in the area. The reservation has not been selected as a potential area for a permanent nuclear waste disposal site, and it is unknown if nuclear materials are transported through the reservation.

### Tribal Priorities

The Saginaw Chippewas have identified in order of priority water and sewage as their most pressing environmental problems.

Leech Lake Reservation\*, Minnesota

Environmental Contact:

Mr. Hartley White, Chairman  
Mr. Myron Ellis, Executive Director  
Mr. Richard Turner, Sanitarian  
Mr. Joe Shepherd, Resource Management  
Mr. John Persell, Minnesota Chippewa Tribe  
Research Lab

Leech Lake Reservation Business Committee  
Rt. 3 Box 100  
Cass Lake, Minnesota 56633  
(218) 335-2207

EPA Region V: Casey Ambutas, Indian Work Group Coordinator

Introduction

Leech Lake Reservation consists of 589,000 acres, approximately 35,000 acres of which is tribally owned. The population of the reservation is 5100 (5384 in the Indian Health Service Environmental Health Profile).

Tribal Government

The five member Leech Lake Reservation Business Committee is the tribal governing body. Three members are elected, one from each of the reservation districts, for four year terms. The Chairman and the Secretary/Treasurer are elected at large by tribal membership, also for four year terms. An Executive Director and an Administrative Assistant provide direct consultation to the Reservation Business Committee, guide reservation programs and handle

\*Have already included their IHS profile data

day-to-day business dealings affecting the reservation. The Reservation Business Committee meets weekly. This government was established by charter in 1934.

The Reservation Business Committee performs regulatory functions as regards land use and water resource planning, water quality control, licensing fees on liquor businesses, hunting/fishing/ricing permits, off road vehicle licenses, business and commercial development, zoning, hunting/fishing/game management, animal control, occupational health and safety, sanitation, timber, fish and non-energy mineral development, civil law (Public Law 280) and criminal law (especially as regards hunting, fishing and ricing). The Business Committee also has agreements with the State of Minnesota on severance tax on minerals and on sales taxes. The tribe has adopted an administrative procedures act.

#### Tribal Environmental Protection Infrastructure

The tribe is currently implementing an environmental protection program which is responsible for water quality monitoring, soil analysis, developing and enforcing tribal environmental standards, animal control, protection of endangered species, sanitation and waste disposal, environmental rehabilitation/reclamation, emergency preparedness, community injury control, and

issues associated with the Mississippi Headwaters Conservation Plan. The tribal offices which conduct the environmental programs are the Office of Environmental Health and the Division of Resource Management (especially as regards regulatory issues). The tribe employs a staff of four to work on environmental programs, and the Reservation Business Committee as a whole also addresses environmental issues. The Reservation Business Committee also has cooperative agreements with the United States Geological Survey, the Minnesota Department of National Resources, and local sanitation and waste commission districts (SWCD's) for water quality monitoring (the latter especially as regards ground water), with the Indian Health Service and the MPCS for water quality standards enforcement, with the Bureau of Indian Affairs and the Mississippi Headwaters Board for environmental rehabilitation/reclamation, with the United States Forestry and Wildlife Service for the protection of endangered species and with the Indian Health Service, the State of Minnesota and with local governments for emergency preparedness/evacuation. This amounts to one of the highest participation rates in cooperative environmental programs for a tribal government, particularly at the local level (for groundwater, sanitation and waste disposal, and emergency preparedness)

and including regional (Mississippi Headwaters Board) and state cooperation.

#### Tribal Natural Resource Use

Soil analysis and classification have been completed for the reservation. Of the 589,000 acres of reservation land 23,000 acres are classified as forest land and the rest as agricultural and other land. Presently, agricultural, forestry/timber, recreational, and commercial resources are being developed. Land is also being used for new housing and for solid waste disposal. In the future plans are in place for industrial/manufacturing resource development and for further development of agricultural and commercial resources as well as further development of housing. There are also plans to set aside land for conservation purposes and habitat preservation and for the preservation of archaeological and historical resources.

Water is a major reservation resource and includes not only 68 miles of the Mississippi River but 232 lakes (approximately 300,000 acres), 195 with names, the largest of which are Winnibigoshish, Leech and Cass. Presently, water resources are used for irrigation, fisheries, tourism/recreation, water fowl management, wild rice production, and water supplies. Plans are in place for further development of fisheries, tourism/recreation, wild rice production and water supplies.

### Air Quality

The tribe has not designated air quality standards as provided in the Clean Air Act. However, air quality is monitored on a special study basis by both the tribe (Minnesota Chippewa Tribe Research Lab) and the state. It was not known what parameters are monitored. There have been no known measured violations of national ambient air quality standards. Major air pollution sources within a 50 mile radius of the reservation include a coal fired generator (about 8 miles away), a wood fired industrial heating system (2 miles away) and residential wood heat (throughout the reservation).

### Water Quality

#### General Water Quality:

There are tribal water quality standards for reservation streams, rivers and lakes, and there have been violations of these standards in the form of fecal coliform due to the malfunctioning of inadequate on-site waste water disposal systems (on lakeshores only). Some of the lakes are suffering from eutrophication, and all are suffering from sedimentation.

Actual sources of water pollution include sewage treatment plants, municipal and industrial discharges, domestic wastes (sewage), hazardous waste disposal sites and open solid waste dumps. Potential sources of water

pollution include oil and hazardous materials spills, landfill leachate, sediment run-off due to construction and timber production and harvesting and pollution due to the further proliferation of open solid waste dumps.

Community Water Supply:

There are 12 community drinking water supply systems on the reservation (13 in the Indian Health Service Environmental Health Profile -- also the IHS definition of "community water supply" is one serving 25 or more connections). All of the systems use ground water. All systems are monitored quarterly for bacteriological quality, 25 percent are monitored monthly and 50 percent annually for inorganics, and there is no monitoring for radionuclides. There is also no periodic monitoring for pesticides, but all systems are V.O.C.'d once by The Environmental Protection Agency for pesticides. Twenty-five percent of the systems are treated for water quality (both chlorine and flouride).

Individual Water Supply:

Approximately 10 percent of the homes on the reservation have no water supply at all. Approximately 69 percent of the homes on the reservation are served by individual wells which also amounts to about 69 percent of the population. Approximately 20 percent of the wells are monitored annually for bacteriological quality and 10

percent annually for inorganics. There is no monitoring for pesticides and radionuclides. However, an accurate survey of the number of reservation wells serving individual homes has not been done since 1977. Such a survey will be done in the summer of 1986 and will be included in the 1987 Environmental Health Profile for the Indian Health Service.

#### Non-Community Water Systems:

There are also four non-community water systems which serve a school, a community center and two Headstart programs. Five deep wells are involved. Two are monitored quarterly by the Environmental Protection Agency and three are monitored annually all for bacteriological quality.

#### Drinking Water Quality:

There was one false positive on a community water supply system in the last five years. Two rechecks proved the reading to be negative. There have been no outbreaks of any water borne diseases.

#### Water Usage

No information was given on average annual water consumption for different purposes in acre feet per year. The tribal environmental officers did not feel that the water usage question applied to Leech Lake except to state that the consumption of surface water for domestic purposes was negligible.



## Domestic Waste Disposal (Sewage)

### Community Waste Disposal System:

There is one community system with 85 service connections which has a lift station to the Cass Lake lagoons.

### Individual Waste Disposal Systems:

Approximately 10 percent of the homes on the reservation are without an individual waste system. Approximately 82 percent of the homes and 82 percent of the population on the reservation are served by individual liquid waste systems. However, an accurate survey of individual liquid waste systems has not been carried out since 1977. Such a survey will be conducted during the summer of 1986 and included in the reservation's Environmental Health Profile for 1987.

### 121 Projects:

Sanitation facilities have been installed throughout the Leech Lake Reservation at various communities and scattered locations under Public Law 86-121. There have been 30 such projects in 12 communities and 16 scattered locations installing 825 units (including second service and renovations). These facilities will be included in the summer 1986 survey.

## Solid Waste Storage and Disposal

The tribal government has a plan developed by the Tribal Department of Natural Resources, the General

Business Administration, Environmental Health, and the Reservation Business Committee Executive Director for the disposal of solid wastes, but they remain a major problem on the reservation. Solid wastes are currently disposed of in an 18 acre community landfill (with 20 acres in reserve) and in illegal open dumps. The majority of the communities, programs and businesses on the reservation are supplied with cannisters for the temporary storage of solid wastes. Pick-up is at least weekly by the tribally owned two-truck sanitation company. The tribal government participates in recycling activities for aluminum and copper.

#### Hazardous Waste Storage and Disposal

The tribal government has no plan for the disposal of hazardous wastes. There are domestic, light industry and small business generators of hazardous wastes but no significant generators. For the past two years contaminated sludges and soils from wood treating plants and small volumes of waste oils and solvents have been stored on the reservation but not in accordance with tribal and federal law. There are no abandoned hazardous waste storage sites on the reservation.

#### Nuclear Waste/Radiation

There are no deposits of uranium or other radioactive materials on the reservation. There are no

uranium processing mills, nuclear power generation facilities, or nuclear waste storage facilities within 50 miles of the reservation. An area, however, within the Leech Lake Reservation watershed has been selected as a potential permanent nuclear waste disposal site, and nuclear materials are transported through the reservation.

#### Tribal Priorities

Leech Lake Reservation's most pressing environmental problems in order of priority are to develop a comprehensive solid waste management plan for the reservation, to implement the underground storage tank program, to control on-site waste disposal systems at rural lakeshore and river sites, to ascertain groundwater protection of surficial aquifers susceptible to potential contamination, to identify environmental hazards contributing to injury and deaths, to continue monitoring progress on Champion Corporation's Wheeler Wood-Treatment Superfund site, to develop a total public health and sanitation code for the reservation, to implement a fish tissue study for PCB's and the location of the PCB source affecting fish in Cass Lake, and to investigate the organic water quality of the community water supply systems. In brief, groundwater protection and alternative methods of solid waste disposal are major concerns and top priorities.

Menominee Reservation, Wisconsin

Environmental Contact:

Brian Cooke

Menominee Indian Tribe

P.O. Box 397

Keshena, Wisconsin 54135

715-799-3101

EPA Region V: Casey Ambutas, Indian Work Group Coordinator

Introduction

The Menominee Reservation consists of 234,934 acres, all tribally owned trustland. The population of the reservation is 3943 (Menominee and other Indian) and 400 non-Indian for a total population of 4343.

Tribal Government

The 9 member Menominee Tribal Legislature is the tribal governing body. Legislators are elected at large for staggered three year terms. The Chairman is appointed by the Legislature for a one year term. The Legislature meets twice monthly. This government was established by Constitution in 1976 after termination was revoked. The Legislature performs regulatory functions in land use planning, licensing fees on business, hunting/fishing/game management, animal control, sanitation, timber development and civil and criminal law. The tribe has not adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The tribe is currently implementing an environmental protection program which is responsible for animal control and sanitation and waste disposal. The tribal Environmental Health Office conducts this program with a staff of five. There is also a committee within the tribal government, the Health Committee, which addresses environmental issues. The tribal government also has cooperative agreements with the United States Geological Survey for water quality monitoring and with Menominee County for emergency preparedness/evacuation.

### Tribal Natural Resource Use

Soil analysis has not yet been completed for the reservation. Agricultural, forestry/timber, industrial/manufacturing, recreational, and commercial resources are currently being developed with more development planned for both industrial/manufacturing and commercial resources. Water resources are currently being used for tourism/recreation and will be used in the future for additional tourism/recreation development and for power generation.

### Air Quality

The tribe has no air quality standards as designated in The Clean Air Act, and air quality is not monitored. Major air pollution sources are the paper

mills and the coal-fired power plant at Green Bay 40 miles away.

### Water Quality

#### General Water Quality:

There are no tribal water quality standards for reservation streams, rivers and lakes, but neither are the lakes/reservoirs suffering from eutrophication and sedimentation. There are no actual sources of water pollution. Potential sources include landfill leachate and sediment run-off from timber production and harvesting.

#### Drinking Water Quality:

There have been no water quality violations of reservation drinking water for the past five years nor any outbreaks of water borne diseases.

#### Community Water Supply:

There are six community drinking water supply systems on the reservation using 100 percent ground water. These systems are monitored quarterly for bacteriological quality, every three years for inorganics and pesticides and every four years for radionuclides. Four of the systems are treated for water quality (both chlorination and fluoridation).

#### Individual Water Supply:

Individual wells on the reservation are monitored on request for the parameters indicated in the survey.

There are an estimated 360 individual wells on the reservation, and an estimated 490 individual wells around Legend and Moshawquit Lakes, many of which are on non-trust land.

#### Water Usage

No information is available on average annual consumption in acre feet except that 100 percent of all domestic and municipal water usage is ground water.

#### Domestic Waste Disposal (Sewage)

##### Community Systems:

Community sewage systems serve the villages of Neopit and Keshena. The Keshena system serves 269 houses with 5 lift stations and 7 lagoon treatment ponds. The sewage system for Neopit serves 215 housing units, and has 2 lift stations and 5 stabilization ponds. The sewage systems in both villages are operating near maximum capacity.

##### Individual Systems:

There are an estimated 360 individual sewage disposal systems (septic tanks) on the reservation. There are also an estimated 490 individual systems around Legend and Moshawquit Lakes, many of which are on non-trust land.

121-Projects:

<u>Project</u>	<u># Homes Served</u>	<u>Cost</u>
1. BE-60-12E	--	\$ 5,000
2. BE-61-122	51	\$ 116,311
3. BE-63-139	375	\$ 438,000
4. BE-67-167	275	\$ 450,000
5. BE-75-633	25	\$ 90,000
6. BE-76-648	476	\$ 223,000
7. BE-77-674	Lagoon	\$ 329,000
8. BE-77-203	Lagoon	\$ 350,000
9. BE-77-677	31	\$ 132,000
10. BE-77-688	20	\$ 48,000
11. BE-79-718	21	\$ 114,000
12. BE-80-748	Watertank	\$ 428,000
13. BE-80-514	3	\$ 2,250
14. BE-81-785	25	\$ 133,000
15. BE-81-794	Pine Ridge	\$ 41,000
16. BE-82-834	Not Complete	\$ 177,000
17. BE-82-812	34	\$ 177,000
18. BE-83-519	Community Well-Neopit	\$ 36,000
19. BE-83-226	Not Complete	
20. BE-84-871	Red Wing	Not Complete



### Solid Waste Storage and Disposal

The tribal government is currently in the process of developing management regulations for the disposal of solid wastes; it is a major problem on the reservation. Presently, solid wastes are disposed of in three community dump sites consisting of five acres in aggregate. The tribe has no recycling program.

### Hazardous Waste Storage and Disposal

The tribal government is also in the process of developing a regulatory package for hazardous waste management. On-reservation disposal of hazardous wastes will be prohibited and stringent regulations will apply to off-reservation hazardous waste transporters entering the reservation.

Styrene is generated on the reservation, has been stored there less than a year and is stored in accordance with federal law. There are no abandoned hazardous waste storage sites on the reservation.

### Nuclear Waste/Radiation

There are no deposits of uranium or other radioactive materials on the reservation. Nor are there uranium processing mills, nuclear power generation facilities or nuclear waste storage sites within fifty miles of the reservation. The reservation has, however, been selected as a potential area for a permanent nuclear

waste disposal site. No nuclear materials, however, are presently being transported through the reservation.

#### Tribal Priorities

The most pressing environmental problems on the Menominee Reservation in order of priority are solid waste, ground water quality, nuclear waste, sewage, hazardous waste, animal control, surface water quality, rodent/insect control, community injury control, air quality and asbestos disposal.

## NARRATIVE PROFILE

Oneida Reservation, Wisconsin  
Environmental Contact:

Purcell Powless  
Oneida Executive Committee  
Oneida Business Committee  
P.O. Box 365  
Oneida, Wisconsin 54155  
(414) 869-2771

EPA Region V: Casey Ambutas, Indian Work Group Coordinator

### Introduction

The Oneida Reservation consists of 65,000 acres, 3022.5 of which are tribally owned. The population of the reservation is 7264, of which 1765 are tribal members.

### Tribal Government

The 9 member Oneida Business Committee, established by charter in 1934, is the tribal governing body. The chairman and Committee members are elected by tribal membership at large for three year terms. The committee meets two times per week.

The regulatory functions performed by the Committee consists of land use planning. The tribe has adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The tribe is currently implementing an environmental protection program which is responsible for air and water quality monitoring, developing and enforcing tribal environmental standards, animal control, sanitation and waste disposal, environmental rehabilitation/reclamation, emergency preparedness/evacuation and hunting and fishing regulations. The tribal offices which conduct their programs are the Conversation Department, the Well and Septic Program and the Utility Program. Four staff are employed by the tribe to work on environmental programs, and there are two committees within the tribal government, the Land Committee and the Conservation Committee, which address environmental issues. The tribal government also has cooperative agreements with the Council of Energy Resource Tribes to do air quality monitoring and with the State of Wisconsin Department of Natural Resources, the United States Geological Survey and the Bureau of Indian Affairs for water quality monitoring.

## Tribal Natural Resource Use

Soil analysis and classification has been completed for the reservation. Land resource use is being planned in agricultural development, industry/manufacturing and recreation. Water resources are currently used for transportation. Planning is being done for water resource use in fisheries and tourism/recreation.

## Air Quality

The tribe has no designated air quality standards as provided in the Clean Air Act. Air quality is, however, monitored on a special study basis by the state for total suspended particulates, sulphur dioxide and air toxics. It is uncertain whether there have been any violations of national ambient air quality standards on the reservation, but there have been sulphur dioxide violations in Green Bay. Major air pollution sources are: W.P.S. power generation facility (5 miles away), several paper pulp mills (5-10 miles away), Green Bay (5 miles away), and the Fox Valley communities (10-15 miles away).

## Water Quality

### General Water Quality:

There are no tribal water quality standards for on-reservation streams, rivers and lakes. Actual sources of water pollution include sewage treatment plants, industrial discharges, domestic wastes (sewage), landfill leachate, urban and agricultural run-off, sediment run-off due to construction, pesticide/herbicide/nutrient run-off, toxicant build-up due to pesticide use and on-lot disposal. Potential sources of water pollution include oil and hazardous materials spills and sediment run-off due to timber production and harvesting.

### Drinking Water Quality:

There was excess coliform bacteria in one community water system in November 1984, but no outbreaks of water borne diseases.

### Community Water Supply:

There are 7 community drinking water supply systems on the reservation. They use 100% ground water. All of them are monitored quarterly for bacteriological quality, every three years for inorganics and every five years for radionuclides. There is no monitoring for pesticides. Forty-five percent of the systems are monitored for water quality.

### Individual Water Supply:

Approximately 50% of the homes and 50% of the population of the reservation are served by individual wells. Twenty-five percent of the wells are monitored for bacteriological quality and inorganics annually. No monitoring is done for pesticides and radionuclides.

### Water Usage

Eighteen thousand gallons or 49.7 acre feet of ground water are used on an average annually for domestic purposes.

### Domestic Waste Disposal (Sewage)

[This area was neglected in the original survey; no additional information was received in time to be included in the final draft of the narrative.]

### Solid Waste Storage and Disposal

The tribal government has no plan for the disposal of solid wastes, and they are a major problem on the reservation. They are presently disposed of in community landfills and through individual incineration. The tribe has no recycling program.

### Hazardous Waste Storage and Disposal

The tribe has no plan for the disposal of hazardous wastes. Such wastes generated on the reservation include wastes from a print shop, from automobile repair, from a school, a health center and from individual households. It is unknown whether hazardous wastes are stored on the reservation. None are stored by the tribe, but other industrial and commercial enterprises probably store some hazardous materials. There are three abandoned hazardous waste sites currently under investigation: the old Oneida landfill, Appsloms garage and the Old Inn of Ashnabena's landfill.

### Nuclear Waste/Radiation

Nuclear waste/radiation is not a problem on Oneida except for the presence of a nuclear power generation facility and a nuclear waste storage site at Two Rivers (Manitowoc, Wisconsin) about 40 miles away.

### Tribal Priorities

Oneida's most pressing environmental problems in order of priority are: Fort Howard Paper Company sludge ponds, the old Oneida landfill, agricultural run-off and erosion into Duck and Trout Creeks, individual well water quality and failing septic systems.

## NARRATIVE PROFILE

Sault Sainte Marie Tribe of Chippewa Indians Reservation, Michigan  
Environmental Contact:

Bob Nygard  
Sault Sainte Marie Tribe of Chippewa Indians  
Environmental Review Branch of Planning  
and Management Division  
206 Greenough  
Sault Sainte Marie, Michigan 48783  
(906) 635-6050

EPA Region V: Casey Ambutas, Indian Work Group Coordinator

### Introduction

The Sault Sainte Marie Reservation consists of 425 acres wholly tribally owned, scattered over a seven-county service area in the eastern counties of the upper peninsula of Michigan. Reservation lands exclusively house HUD rental developments. These developments are located in Sault St. Marie (101 units), Hessel (25 units), St. Ignace (25 units), Manistique (38 units) and Wetmore (14 units). A total of 7,213 enrolled members of the tribe reside "on or near" these reservation lands within the seven-county area.

### Tribal Government

The thirteen member Board of Directors, established by charter in 1972, is the governing body for the reservation. The Board members are elected by tribal membership according to district/geographic region for two year staggered terms. The Chairman is elected for a four year term by tribal membership at large.

The tribal government performs regulatory functions in the following areas: land use planning, water and air quality control, sales tax, fishing fees and licenses, business/commercial development, zoning, hunting/fishing/game management, animal control, sanitation, the development of fish resources and civil and criminal law. The tribe has adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The tribe is currently implementing an environmental program which is responsible for water quality monitoring and is conducted through the Sault Sainte Marie Tribal Housing Authority. A staff of two is employed by the tribe to work on this program. The tribe has cooperative agreements with the City of Sault Sainte Marie for water quality monitoring and standards enforcement and for animal control, with private contractors for sanitation and waste disposal and with the Indian Health Service for soil analysis.

### Tribal Natural Resource Use

Soil analysis and classification has been completed for the reservation. Industrial/manufacturing, recreational, commercial and housing resources are currently being developed. Water resources are used for fisheries, tourism/recreation and transportation.

### Air Quality

The tribe has not designated air quality standards as provided in The Clean Air Act, and air quality is not monitored. Major air pollution sources include The Algoma Steel Plant and a papermill, both in Sault, Ontario, 10 miles north of the reservation in Canada.

### Water Supply

#### General Water Quality:

There are no tribal water quality standards for reservation streams, rivers and lakes. Reservation lakes/reservoirs do not suffer from eutrophication or sedimentation. There are no actual sources of water pollution, and potential sources are restricted to domestic wastes (sewage).

#### Drinking Water Quality

There have been no water quality violations of the tribe's drinking water nor any outbreaks of water borne diseases in the last five years.

#### Community Water Supply:

There are four drinking water supply systems on the reservation which use 100% ground water. All the systems are tested monthly for bacteriological quality and inorganics, and all are treated for water quality and treated with fluoride and chlorine.

#### Individual Water Supply:

There are no individual wells on the reservation.

### Water Usage

No data are currently available for annual average water consumption for different purposes in acre feet. However, four of the reservation communities are each served by community wells "8 in size. The fifth community, the Skunk Road community in Sault St. Marie, is served by a water system run by the City of Sault St. Marie, Michigan.

### Domestic Waste Disposal(Sewage)

One community is provided city sewer service. The four remaining communities have individual septic systems for each of the 98 houses, plus the 10 additional units currently being built. There are no P.L. 86-121 projects currently being implemented on the reservation.

### Solid Waste Storage and Disposal

The tribe has a plan for the disposal of solid wastes, and Sault Sainte Marie is one of the few reservations where solid wastes are not a problem. Solid wastes are disposed of by private contractors in off-reservation private and county operated landfills. There is no tribal recycling program.

### Hazardous Waste Storage and Disposal

The tribal government does not have a plan for the disposal of hazardous wastes, but hazardous wastes are neither generated or stored on the reservation.

### Nuclear Waste/Radiation

There are no deposits of uranium or other radioactive materials on the reservation. Nor are there uranium processing mills, nuclear power generation facilities or nuclear waste stored within 50 miles of the reservation. The reservation has not been selected as a potential area for a permanent nuclear waste disposal site, and nuclear materials are not transported through the reservation.

### Tribal Priorities

Sault Sainte Marie's most pressing environmental problems in order of priority include the preservation of ground water quality and the preservation of air quality.



## NARRATIVE PROFILE

Stockbridge-Munsee Indian Reservation, Wisconsin  
Environmental Contact:

Molly Shawano, EPA Planner  
Stockbridge-Munsee Community, Inc.  
Route One  
Bowler, Wisconsin 54416  
(715) 793-4111

EPA Region IV: Casey Ambutas, Indian Work Group Coordinator

### Introduction

The Stockbridge-Munsee Indian Reservation consists of 15,326 acres all tribally owned. The Stockbridge-Munsee Band of Mohicans live on the reservation, and the population of the reservation is 948.

### Tribal Government

The 7 member Stockbridge Munsee Tribal Council, established by the Constitution of 1937, is the tribal governing body. The Chairman and Council members are elected at large by tribal members for two year terms. The Council meets bi-weekly.

The regulatory functions performed by the tribe consists of business/commercial development, hunting/fishing/game management, animal control, sanitation, timber and fish resource development and civil and criminal law under Public Law 280 of the State of Wisconsin. The tribe has adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The tribe is not currently implementing an environmental protection program, but such programs are run through the Emergency Government and the Conservation Department. There is a committee within the tribal government which addresses environmental issues, the ad hoc Environmental Protection Committee. The tribal government does have cooperative agreements with the Indian Health Service for water quality monitoring and standards enforcement.

### Tribal Natural Resource Use

Soil analysis and classification have not been completed for the reservation. Land resources are currently being used for agricultural development and for forestry/timber. Planning is underway to use them also for industry/manufacturing, recreation and commercial development. Water resources are currently used for transportation by the local elderly. It is planned to use them also for power generation, fisheries and tourism/recreation.

## Air Quality

The tribe has not designated air quality standards as provided in the Clean Air Act. Air quality is not monitored by any authority. No information was available on major sources of air pollution.

## Water Quality

### General Water Quality:

There are no tribal water quality standards for on-reservation streams, rivers and lakes. No information was available on eutrophication and sedimentation in reservation lakes/reservoirs. Potential sources of water pollution include municipal discharges, domestic wastes (sewage) and hazardous materials spills (especially those involving nuclear wastes) and sediment run-off from timber production and harvesting.

### Drinking Water Quality:

There have been no violations of the reservation's drinking water in the past five years nor any outbreaks of water borne diseases.

### Community Water Supply:

There are 3 community drinking water supply systems on the reservation which use 100% ground water. Sixty-six percent of the systems are checked annually for bacteriological quality. No information was available for water quality treatment.

### Individual Water Supply:

Seventy-five percent of the homes and 75% of the population on the reservation are served by individual wells. No information was available on the monitoring of these individual wells.

## Water Usage

No information was available on average annual consumption in acre feet of ground and surface water for different purposes.

### Domestic Waste Disposal (Sewage)

[This area was neglected in the original survey. No additional information was received in time to be included in the final draft of the narrative.]

### Solid Waste Storage and Disposal

Although the tribal government has a plan for the disposal of solid wastes, they are a growing problem on the reservation. Solid wastes are currently disposed of in a one acre community landfill and through community and individual incineration. The tribal government doesn't sponsor a recycling program.

### Hazardous Waste Storage and Disposal

Hazardous wastes are not a problem on the reservation.

### Nuclear Waste/Radiation

Nuclear waste/radiation is not a problem on the reservation except that the reservation has been selected as a possible second repository for the permanent disposal of nuclear wastes.

### Tribal Priorities

The Stockbridge-Munsee Band of Mohicans has identified in order of priority the possibility of being a nuclear repository and acid rain as the most pressing environmental problems for the reservation. They also identified, along with eagles, wood violets and trees, the human Stockbridge-Munsee Indians as an endangered species.

White Earth Reservation, Minnesota

Environmental Contact:

Dwight Wilcox Tribal Biologist

Conservation Department

White Earth Tribal Council

Box 418

White Earth, Minnesota 56591

(218) 983-3285

EPA Region V: Casey Ambutas, Indian Work Group Coordinator

Introduction

The White Earth Reservation consists of 704,000 acres, 57,000 of which is tribally owned and 300,000 acres of which is in allotment. Thirteen percent of the land is state owned, 10% federally owned, 13% county owned and 64% privately owned. The population of the reservation is 10,000: 4,000 tribal and 6,000 non-tribal. The White Earth Band of Chippewa is also related to The Chippewa people at Cass Lake, Minnesota.

Tribal Government

The five member White Earth Tribal Council (called The Reservation Business Committee in some of the original documents), established in 1934 with the creation of an IRA constitution, is the tribal governing body. Three Council members are elected by district/geographic region, and the Chairman and the Secretary/Treasurer are

elected by the tribal membership at large, both for four year terms. The Council is required to meet quarterly, but generally meets more often, usually on an irregular bi-weekly schedule.

The Council exercises regulatory functions in the following areas: licensing fees on business and taxes on natural resources and in criminal law, especially as regards fish and game laws. Staff policy, with approval of The Council, governs regulatory functions assumed by the tribal Conservation Department in the following areas: land use planning, water quality control, air quality control, zoning, hunting/fishing/game management, occupational health and safety, sanitation, and natural resource development (especially of timber and fish). The tribe has not adopted an administrative procedures act.

#### Tribal Environmental Protection Infrastructure

The tribe is currently implementing an environmental protection program which is responsible for air and water quality monitoring, soil analysis, protection of endangered species, sanitation and waste disposal and emergency preparedness/evacuation. This program is conducted by the tribal Conservation Office, Air Quality Program and Environmental Health Program. Fifteen staff are employed by the tribe to work on the environmental program, but there is no committee within

the tribal government which addresses environmental issues, and the tribal government does not have any cooperative agreements with other governmental entities (local, state and Federal) for environmental protection.

#### Tribal Natural Resource Use

Soil classification is completed for tribal lands, and Becker County will be conducting a complete survey in 1989. All lands will be completed within five years.

Agricultural, forestry/timber and industrial/manufacturing resources are currently being developed, with more development being planned for industrial/manufacturing resources.

White Earth is extremely rich in water resources, with 55 major lakes (40-200 acres) and 65 minor lakes (10-100 acres). The water resource currently being developed is fisheries, with even more development being planned for this resource.

#### Air Quality

Although the tribe has not designated air quality standards as provided by the Clean Air Act, air quality is monitored continuously by the tribe for total suspended particulates, sulphur dioxide, nitrogen dioxide, carbon monoxide, ozone, lead and air toxics. There have been no measured violations of national ambient air quality

standards, and currently, there are no major sources of air pollution. However, two incinerator facilities are being considered both adjacent to and within 40 miles of the reservation.

#### Water Quality

##### General Water Quality:

The tribe does not have tribal water quality standards for reservation streams, rivers and lakes. Lakes/reservoirs are suffering from eutrophication and sedimentation.

There appears to be some contamination by heavy metals in waters. We assume this is air borne. About 1/4 of the reservation area may be susceptible to acid precipitation.

Actual sources of water pollution affecting the reservation include sewage treatment plants, landfill leachate and agricultural and pesticide/herbicide/nutrient build run-off.

##### Drinking Water Quality:

There have been no drinking water quality violations in the past five years, nor have there been any outbreaks of water borne diseases.

##### Community Water Supply:

There are five community drinking water supply systems on the reservation, all of which use ground

water. They are monitored quarterly for bacteriological quality and annually for inorganics and pesticides. No monitoring for radionuclides is done, and none of the systems are treated for water quality.

#### Individual Water Supply:

Approximately 40 percent of the homes and 40 percent of the population of the reservation is served by individual wells. Wells are monitored only upon request or because of special circumstances.

#### Water Usage

Water is not yet a limiting resource on this reservation so data showing average annual water consumption in acre feet have not been collected.

#### Domestic Waste Disposal (Sewage)

##### Community Systems:

There are 8 villages with lagoon disposal.

##### Individual Systems:

There are about 2000 private septic drain fields.

#### Solid Waste Storage and Disposal

The tribal government does not have a plan for the disposal of solid wastes, even though this is a major problem on this reservation which has between 50 and 80 small, open dumpsites. The cost of disposal in rural areas will approach \$120/home annually. The reservation has no recycling program.



### Hazardous Waste Storage and Disposal

Hazardous wastes are not a problem on this reservation either currently or historically.

### Nuclear Waste/Radiation

There are no deposits of uranium or other radioactive materials on the reservation. Neither are there uranium processing mills, nuclear power generation facilities or nuclear waste storage sites within 50 miles of the reservation. Nuclear materials are not transported through the reservation, but the reservation has been selected as a potential area for a permanent nuclear waste disposal site.

### Tribal Priorities

White Earth's most pressing environmental problems in order of priority are: changing public attitudes through education so people do not take everything now leaving nothing for the future, solid waste disposal, the question of the reservation's selection as a nuclear repository, the over harvesting of resources and conflicts between state and tribal resource management authorities.

REGION VI

Indian Work Group Coordinator: Ernest Woods

Cherokee Nation of Oklahoma

Isleta Pueblo

Pueblo de Acoma

Zia Pueblo

Pueblo of Zuni

## NARRATIVE PROFILE

Cherokee Nation of Oklahoma  
Environmental Contact:

Oklahoma State Health Department's Division of Solid Waste  
Management and the Industrial Waste Division and other  
State Agencies and  
The Cherokee Nation of Oklahoma  
P.O. Box 948  
Tahlequah, OK 74465

EPA Region VI Ernest Woods Indian Work Group Coordinator

### Introduction

The Cherokee Nation of Oklahoma consists of 110,124 acres, 59,656 of which is tribally owned and 50,468 of which is in allotment. The population of the reservation is 885,029, 71,128 of which or 8% is Indian (approximately 60,000+ Cherokee and 11,000 other Indian).

"It must be noted that with the Tribe of the Cherokee Nation in Oklahoma, there is not a reservation type land base as one would think of a reservation, i.e., Navajo's. The Cherokee Nation has what we refer to as our historic jurisdictional boundaries. This encompasses an area of 14 counties (all of 9, parts of 5) in Eastern and Northeastern Oklahoma. These counties include: Adair, Cherokee, Craig, Delaware, Mayes, Nowata, Rogers, Sequoyah, Washington, and parts of McIntosh, Muskogee, Tulsa, Wagoner and Ottawa. The Cherokee Nation serves tribal members of the Cherokee Nation as well as other Indian tribes who reside within these jurisdictional boundaries. Responses were based upon this entire area since the Tribe has a vested interest in the 60,000+ Cherokee tribal members alone that live in this area. There are over 40 towns/cities with many more small communities in this area, therefore, the responses were made with this in mind."

### Tribal Government

The 15 member Cherokee Nation of Oklahoma, established by the 1976 Constitution of the Cherokee Nation, is the tribal governing body. The Principal Chief and members of the tribal governing body are elected at large by tribal members for 4 years. The governing body meets monthly. No information was available on the tribal government's regulatory functions. The tribe has not adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The tribe is not currently implementing an environmental protection program, and there is no committee within the tribal government which addresses environmental issues. The tribe does have a cooperative agreement with the City of Stilwell, Oklahoma, for sanitation and waste disposal.

### Tribal Natural Resource Use

No information was available on the status of soil analysis and classification. Land resources are currently being used for agricultural development, forestry/timber, industry/manufacturing, recreation, and grazing. Water resources are currently being used for irrigation, fisheries, and tourism/recreation with plans to develop power generation.

### Air Quality

The tribe has not designated air quality standards as provided in the Clean Air Act. Air quality is, however, monitored continuously by the state (Environmental Health Service, OSDH, Oklahoma City, [405] 271-5220). Air quality monitoring includes data for total suspended particulates, sulphur and nitrogen dioxide, carbon monoxide, ozone, lead, air toxics, and visibility. There have been no measured violations of national ambient air quality. Major sources of air pollution include particulates, SO<sub>2</sub>, NO<sub>2</sub>, HC and CO within the historic boundaries of the reservation, aluminum alloy from an asphalt company at Checotah, Oklahoma, incinerators in all counties and coal mines, rock crushes and a fertilizer company in Rogers County.

### Water Quality

#### General Water Quality:

There are no tribal water quality standards for on-reservation streams, rivers and lakes. Reservation lakes/reservoirs suffer from eutrophication and sedimentation.

Actual sources of water pollution consist of oil and hazardous materials spills, landfill leachate, urban run-off, and sediment run-off due to construction and mining. Potential sources of water pollution consists of sewage and waste treatment plants, oxidation ponds, municipal and industrial discharges, domestic wastes (sewage), agricultural run-off, sediment run-off due to timber production, pesticide/herbicide/nutrient run-off, toxicant build-up due to pesticide usage and on-lot disposal.

#### Drinking Water Quality:

There have been no drinking water quality violations in the last five years nor any outbreaks of water borne diseases.

#### Community Water Supply:

There are 462 community drinking water supply systems on the reservation. Sixty percent use surface water and 40% use ground water. All are monitored annually for inorganics. Ninety percent are monitored every four years for radionuclides. All are treated for water quality.

#### Individual Water Supply:

Nine percent of the homes and 18% of the population of the reservation are served by individual wells. These wells are not monitored unless monitoring is specifically requested by the owner.

#### Water Usage

Municipal and industrial purposes consume 50,747 acre feet of surface water and 5,912 acre feet of ground water annually. This amounts to 78% of all surface water and 58% of all ground water consumption annually. Irrigation uses 13,042 acre feet of surface water (20% of all surface water consumption) and 4,341 acre feet of ground water (42% of all ground water consumption) annually and recreation uses 908 acre feet of surface water (1% of all surface water consumption) annually. Thus, total annual water consumption amounts to 64,697 acre feet of surface water and 10,253 acre feet of ground water.

#### Domestic Waste Disposal (Sewage)

Sludge is treated so it can be applied as a fertilizer. Untreated sludge is buried in landfills. The tribe is currently working on making a contract with the Indian Health Service's Office of Environmental Health. It is possible this contract will begin in October 1986. The Community Development Department is in the beginning stages of adopting a water and sewer code for this purpose.

#### Solid Waste Storage and Disposal

The tribe has no plan for the disposal of solid wastes, and illegal dumping is a major problem. Solid wastes are currently disposed of in community landfills and dump sites throughout the 14 county area as well as through individual and community incineration. The size of the disposal site varies depending on the population of the city or town (any of 40) it serves. The Cherokee Nation's own landfill near Stilwell, Oklahoma, in Adair County consists of three pits on 160 acres. There is no tribal recycling program.

### Hazardous Waste Storage and Disposal

The tribal government has no plan for the disposal of hazardous wastes. The following hazardous wastes are generated and stored on the reservation: Wastes from vehicle maintenance, the metal industry, print shops, photography, dry cleaners, construction, laboratories, small paint manufacturers and from a boron plant. In addition, waste oil is stored on the reservation. These wastes have been stored over approximately 15 years, and generally they have been stored in accordance with federal and tribal regulations. There are no known abandoned hazardous waste sites.

### Nuclear Waste/Radiation

Nuclear waste/radiation concerns focus on the Blackfox Nuclear Power Plant at Inold, Oklahoma, and the Sequoyah Fuels Facility which produces radioactive waste at Gore, Oklahoma, both within reservation boundaries. Nuclear materials are also transported through the reservation.

### Tribal Priorities

"Referring to land that is actual tribal land or trust land, the Cherokee Nation does own a stretch of the Arkansas Riverbed. Part of this river flows through the counties of Sequoyah and Muskogee. It is in this portion that the Cherokee Nation has ownership. A concern of our tribal members who live in this area is an environmental one. At the tip of these counties where the river flows is a uranium conversion facility which currently disposes of some of its waste into the Arkansas River. Currently, the Tribe does not have the authority to give permits that allow the facility to dispose of the waste there. The current authorizing agency is the Oklahoma Water Resources Board. Hopefully, this will clarify the responses to the Nuclear Waste and Radiation section of the survey. Another concern is from the harmful effects of other methods employed to dispose of waste. An example of this is where the facility treats raffinate and uses it as fertilizer on its own land. There is concern for the wind blowing and the possibility of wildlife picking up this waste which would ultimately end up in the food chain. Tribal members eat many wild foods grown in the area without being aware of possible harmful effects. Many herbs are also found in the woods, alongside roads, etc., which are cures for different ailments. It is sad to think of the possibility of risks upon the sick who look for treatment this way if the herbs were contaminated."

## NARRATIVE PROFILE

Isleta Pueblo Reservation, New Mexico  
Environmental Contact:

Alvino Lucero  
Governor  
Pueblo of Isleta  
P.O. Box 317  
Isleta, New Mexico 87022  
(505) 869-3111 or 6333

EPA Region VI: Ernest Woods, Indian Work Group Coordinator

### Introduction

The Isleta Pueblo Reservation consists of 211,026.316 acres, all of it tribally owned. (The original 1858 land grant consisted of 108,464.490 acres.). The population of the reservation is 3405.

### Tribal Government

The government of the pueblo consists of two branches, Executive and Legislative. The Executive Branch consists of the Governor, first and second lieutenant Governors, a Sheriff and Undersheriff. The Legislative Branch consists of a President, Vice-President, Secretary and twelve Council members. Both the officers and Council members are elected at large by tribal membership for two year terms. The Council usually meets weekly, but sometimes bi-weekly. This form of government was established by resolution in 1947.

The tribal government performs regulatory functions in the areas of land use planning, soil conservation, licensing fees on business, cigarette taxes, business/commercial development, hunting/fishing/game management, animal control, timber, fish and energy mineral resource development and civil and criminal law. The pueblo has not adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The pueblo is currently implementing an environmental protection program which is responsible for water quality monitoring and sanitation and waste disposal. This program is conducted through the Governor's Office where a staff of two is employed to work exclusively on environmental programs. The pueblo has cooperative agreements with The Indian Health Service on water quality monitoring and standards enforcement and on sanitation and waste disposal.

### Tribal Natural Resource Use

Soil analysis and classification has not been completed for the reservation. The use of agricultural, recreational and grazing resources is currently being implemented, and the use of forestry/timber and commercial resources are in the planning stages. Water resources are used for irrigation, fisheries and tourism/recreation.

### Air Quality

The pueblo has not designated air quality standards as provided in The Clean Air Act. Nor is air quality monitored. The major source of air pollution within a fifty mile radius is the city of Albuquerque.

### Water Supply

#### General Water Quality:

There are no tribal water quality standards for reservation streams, rivers and lakes. The man-made lake suffers from eutrophication and sedimentation.

Actual sources of water pollution include oxidation ponds, domestic wastes (sewage), landfill leachate and on-lot disposal. Potential sources of water pollution include sewage and water treatment plants, municipal and industrial discharges, oil and hazardous materials spills, urban run-off and further on-lot disposal.

#### Drinking Water Quality:

There was one drinking water quality violation in November, 1985. Ground water was contaminated by a private well connected to one of the community systems. An announcement was made, signs posted and the deficiencies were corrected. There have been no outbreaks of water borne diseases.

#### Community Water Supply:

There are five community drinking water supply systems on the reservation, all of which use 100% ground water. All the systems are monitored monthly for bacteriological quality and inorganics, and all are treated for water quality.

#### Individual Water Supply:

One half of one per cent of the homes and .1% of the total population on the reservation are served by individual wells. None of the wells are monitored.



### Water Usage

Three hundred nine and five tenths acre feet of ground water (95.2% of total ground water used) are used for domestic purposes, 8.4 (2.6%) for municipal purposes, 5.5 (1.7%) for industrial purposes and 1.6 (0.5%) for recreational purposes. One hundred eighty-eight and three tenths acre feet of surface water is used annually (1985 data) for irrigation. This amounts to 100% of surface water consumption. Total consumption annually equals 188.3 acre feet of surface water and 325 acre feet of ground water.

### Domestic Waste Disposal(Sewage)

[This area was neglected in the original survey. Additional information was not received in time to be included in the final draft of the narrative.]

### Solid Waste Storage and Disposal

Solid waste disposal is a major problem on the reservation, and although the pueblo has a plan for the disposal of solid wastes, it is considered to be inadequate, and improvements are proposed. Presently solid wastes are disposed of in a community dump site and landfill (6 acres in all) and through community and individual incineration. There is no tribal government sponsored recycling program on the reservation, although individuals do recycle aluminum.

### Hazardous Waste Storage and Disposal

The pueblo has no plan for the disposal of hazardous wastes, but such wastes are neither generated nor stored on the reservation. Nor are there any abandoned hazardous waste sites on the reservation.

### Nuclear Waste/Radiation

There are no deposits of uranium or other radioactive materials on the reservation. There was, however, a uranium processing mill 50 miles due west of the reservation at Laguna Pueblo, and although there are no nuclear power generation facilities within 50 miles of the reservation, there is a nuclear waste storage site within 50 miles of the reservation at Sandia National Laboratories. The reservation has not been selected as a potential area for a permanent nuclear waste disposal site, but it is unknown whether or not nuclear materials are transported through the reservation.

### Tribal Priorities

The Pueblo of Isleta's most pressing environmental problems in order of priority are sewage waste, solid waste, effluent occasionally discharged from the City of Albuquerque into the Rio Grande River north of the reservation boundary, possible radio activity from Sandia National Laboratories also north of the reservation and chemical or oil contaminants from asphalt companies.

## NARRATIVE PROFILE

Pueblo de Acoma, New Mexico  
Environmental Contact:

Dennis Felipe, Tribal Secretary  
Pueblo de Acoma Tribal Council  
Pueblo de Acoma  
P.O. Box 309  
Acomita, New Mexico 87034  
(505) 552-6604

EPA Region VI: Ernest Woods, Indian Work Group Coordinator

### Introduction

According to Acoma legend, the original home of their ancestors was not old Acoma, but a village some two miles to the east, atop the much higher Enchanted Mesa. But one day, eons ago, when most of the Indians were at work in the field below, a violent earthquake destroyed the only access to, and escape from, the top. Those who were trapped in the village were doomed, while the survivors, it is said moved to the present traditional - and ceremonial - home. Though unsupported by archeological research and, even more so, by the obvious absence of a water supply at Enchanted Mesa, the presence of which at Old Acoma was a vital element in the defense of that location, the story has been handed down as a basic part of the charming lore of the Acoma people. Acomas first contact with people other than their historic and frequently hostile neighbors was in 1540 when the Spanish expedition headed by Captain Hernando de Alvarado, visited Acoma Valley and were eventually welcomed by the confident, but friendly and trusting inhabitants.

The next half century saw other peaceful visits, but in 1598, Don Juan de Onate, first Spanish Colonizer of New Mexico, fearful of the Acomas' well-deserved reputation as brave fighters and of the threat their independence might hold for the Spanish domination of most other Pueblo tribes, planned a take-over of Acoma. Initial efforts to accomplish this through diplomacy failed and resulted in the deaths of 12 Conquistadores when the small delegation made outrageous demands upon chief Zutucapan, great leader of the Acomas.

But Onate retaliated swiftly, for in January, 1599, despite a valiant and fierce three-day defense of their beloved village, the Acomas were all but decimated by the modern weaponry of Onate's men. Old Acoma was destroyed with a great loss of life and with many prisoners taken.

Thirty years later, however, the surviving Acomas were won over by one man, Father Ramirez, who through an incident in which he saved the life of a small Acoma child, started the Tribe into a new era characterized by generally peaceful co-existence between Catholicism and their native religion. During the next decade, the village was restored and with it, the beautiful and impressive church of St. Stephen, with accompanying convent and cemetery, were built. The Acoma Reservation itself consists of 263,760 acres, all of it (Tribal Trust and Fee lands) owned by the Pueblo. It is primarily semi-arid country accentuated by several high mesas, in the north-west corner of Valencia County, New Mexico. The eastern boundary of Acoma land is about 60 miles directly west of Albuquerque and lies in a generally rectangular shape to the south of U.S. Interstate 40.

Principal communities are Acomita and McCarthys, midway between which are the new Acoma Community Center (the seat of the tribal government), the new school, a commercial complex now under construction and a large concentration of older and newly built residences, with more homes yet to be built.

The population of the Pueblo is 3,800 (all Pueblo people).

#### Tribal Government

The Acoma Tribal Council, headed by the Governor and other top executive officials, constitutes the governing body of the Pueblo of Acoma. There is no formal or officially approved constitution. Council membership and appointment to the top executive positions is determined by the traditional, religious leaders of the Tribe, called caciques. Leadership in the past has largely been vested in the older men of the Pueblo, although younger and more educated and experienced tribal members have recently moved into key roles. Women participate actively in many tribal decisions but only rarely have they become tribal officials or tribal spokesmen. The Council meets weekly.

All tribal officers in the past have served without pay, but in very recent years a few of the key personnel have been paid modest salaries, part of which have been provided by Federal sources such as the Emergency Employment Act, the Law Enforcement Assistance Administration, etc. The Tribal Government, however, faced now with the growing task of managing substantial tribal funds which have resulted from land claim judgment awards, recognizes the necessity of assuring the continuance of capable, responsible officials who can direct and manage tribal affairs for the benefit of all the Acoma people.

In addition to the governing body of the Tribe, there are several administrative branches, traditionally established to protect tribal land and water resources, and the historic and cultural shrine of the Acomas, "Sky City."

The tribal government exercises regulatory functions in the following areas: land use planning, tax collection and licensing (especially licensing fees on businesses), business and commercial development, zoning, hunting/fishing/game management, animal control and civil law. The tribe has not adopted an administrative procedures act.

#### Tribal Environmental Protection Infrastructure

The tribal government is not currently implementing its own environmental protection program, and there is no committee within the tribal government which addresses environmental issues. However, the tribe does engage in cooperative programs on water quality monitoring with the Indian Health Service, on water quality standards enforcement with the state and federal governments, on natural resource management with the BIA/Southern Pueblos Agency and on emergency preparedness with local Acoma-Canonico-Laguna (ACL) health facility.

#### Tribal Natural Resource Use

Soil analysis and classification has been partially completed. Grazing, small farming and wood hauling for local stoves are currently being developed. The further development of agricultural and forestry/timber resources is being planned as well as of industrial/manufacturing, recreational and commercial possibilities. The Pueblo uses its water resources for irrigation, livestock watering and tourism/recreation. The Pueblo also recognizes that it has an immense amount of solar radiation available as part of its environmental characteristics and potential resources.

#### Air Quality

The tribe has not designated its own air quality standards as provided in The Clean Air Act, nor is the air monitored by any other authority. However, there are six major air pollution sources within 20-30 miles of the reservation: The Plains Electric Power Generating Plant, The Anaconda, Homestake and Kerr-Megee Mills (all uranium processing plants), The Gulf Oil Company and Laguna Jackpile.

#### Water Supply

##### General Water Quality:

The Pueblo uses New Mexico water quality standards for reservation streams, rivers and lakes, and there have been some violations of these standards as regards dissolved oxygen, pH, temperature, turbidity, fecal coliform, bacteria and algae concentrations. Lakes and reservoirs in the Pueblo suffer from both eutrophication and sedimentation.

Actual sources of water pollution include sewage treatment plants, oxidation ponds, municipal discharges, domestic wastes (sewage), landfill leachate, urban and agricultural run-off, sediment run-off from construction, mining and timber production and harvesting and on-lot disposal. Potential sources of water pollution include water treatment plants, industrial discharges, oil and other hazardous materials spills, pesticide/herbicide/nutrient run-off and toxicant build-up due to pesticide usage.

#### Drinking Water Quality

There have been no drinking water quality violations or outbreaks of water borne diseases in the last five years.

#### Community Water Supply

There are two community drinking water supplies in the Pueblo which use 100% ground water. Both systems are monitored monthly for bacteriological quality and annually for inorganics, pesticides and radionuclides. One of the systems is fluoridated.

#### Individual Water Supply:

Four percent of the homes and less than 1% of the population are served by individual wells. Wells are monitored annually for bacteriological quality and never for inorganics, pesticides and radionuclides.

#### Water Usage

Two hundred acre feet of ground water is used each year entirely for domestic purposes.

#### Domestic Waste Disposal(Sewage)

There are three community systems in the Pueblo (McCarthy's Lagoon, Skyline Lagoon and Acomita Lagoon) and 129 individual systems.

#### Solid Waste Storage and Disposal

The Pueblo has no official plan for the disposal of solid wastes. Solid wastes are a major and growing problem for the Pueblo. There is a 1.5 acre community dumpsite for the disposal of solid wastes, but both community and individual incineration is also used as well as surface dumping. The Tribal Council sponsors no recycling program for the Pueblo.

### Hazardous Waste Storage and Disposal

The Tribal Council has no plan for the disposal of hazardous wastes. However, neither in the present or in the past have hazardous wastes been generated or stored in the Pueblo.

### Nuclear Waste/Radiation

There are uranium deposits in the Pueblo, but none have ever been exploited. However, within 20-30 miles of the Pueblo are three uranium processing mills (Anaconda, United Nuclear-Homestake, and Kerr-Megee). These mills are now closed. However, mill tailing ponds are now a major environmental problem.

No other radioactive materials are mined in the Pueblo, and there are no nuclear power generation facilities or nuclear waste storage sites within fifty miles of the Pueblo. Nor has the Pueblo been selected as a potential area for a permanent nuclear waste disposal site. Nuclear materials are, however, transported through the pueblo.

### Tribal Priorities

The Pueblo de Acoma Tribal Council has identified the following environmental problems in order of priority: surface and ground water pollution by upstream urban sewage effluent, wastewater and solid waste treatment, and non-point surface pollution into the reservation stream, e.g. upstream urban run-off and local surface run-off.

### Highlight of Known Significant Issues

The big challenge facing Acoma today is its water problems. Large upstream usages have seriously eroded tribal water rights and have damaged the water quality of its small and only perennial stream. Results have harmed the people and their land. Fewer Acomas farm today and many fields now lay fallow. The main reasons given for this are: 1) not enough irrigation water and 2) upstream wastewater effluent has harmed the soil. The Tribe has initiated lawsuits for its water rights and over damage to its water.

## *NARRATIVE PROFILE*

Zia Pueblo Reservation, New Mexico  
Environmental Contact:

Manuel Salas  
Chairman  
Pueblo of Zia  
General Delivery  
San Ysidro, New Mexico 87053  
(505) 867-3304

EPA Region VI: Ernest Woods, Indian Work Group Coordinator

### Introduction

Zia Pueblo consists of 117,702 acres wholly tribally owned. The population of Zia is 650.

### Tribal Government

The Zia Tribal Council consists of all male tribal members over the age of 18. The governor and other tribal officials are appointed by the religious leaders of the Pueblo for one year terms. Regular Council meetings are held monthly. This form of government regulated by tribal custom dates from before the Pueblo's 1689 land grant from the King of Spain. This tribal, traditional, customary form of government performs regulatory functions in the following areas: land use planning, animal control, fish resource development, and civil and criminal law. The Pueblo has not adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The Pueblo is currently implementing an environmental protection program which is responsible for water quality monitoring and sanitation and waste disposal. The Pueblo of Zia Administration and the Bureau of Indian Affairs conducts this program. The Pueblo directly employs a single staff person to work on this program. The Pueblo also has cooperative agreements with the Bureau of Indian Affairs to do water quality monitoring and standards enforcement, sanitation and waste disposal and soil analysis.

### Tribal Resource Use

Soil analysis and classification has been completed for the reservation. Agricultural, recreational, commercial and grazing resources are currently being developed. Oil and gas exploration is being planned. Water resources are being used for irrigation and tourism/recreation.



### Air Quality

The Pueblo has not designated air quality standards as provided in The Clean Air Act. Air quality is not monitored at all. No major air pollution sources were listed.

### Water Quality

#### General Water Quality:

There are no tribal water quality standards for the Pueblo's river and reservoir. Both are suffering from sedimentation. Actual water pollution stems from agricultural run-off. Potential water pollution is expected from oxidation ponds.

#### Drinking Water Quality:

There have been no violations of the Pueblo's drinking water quality in the last five years and no outbreaks of any water borne diseases.

#### Community Water Supply:

There are two community drinking water supply systems in the Pueblo. They use 100% ground water and are monitored monthly for bacteriological quality. Both systems are treated for water quality.

#### Individual Water Supply:

One per cent of the homes in the Pueblo are served by individual wells which amounts to .5% of the population. No information was listed about monitoring individual wells.

### Water Usage

No information was available on average annual water consumption for different purposes in acre feet per year.

### Domestic Waste Disposal(Sewage)

[This area was neglected in the original survey. Additional information was not received in time to include in the final narrative.]

### Solid Waste Storage and Disposal

The Pueblo has a plan for the disposal of solid wastes, and it is one of the few reservations where solid wastes are not a major problem. Solid wastes are disposed of in a two acre community dump site. The Pueblo has no recycling program.

### Hazardous Waste Storage and Disposal

The Pueblo has no plan for the disposal of hazardous wastes. No hazardous wastes are generated or stored in the Pueblo, nor are there any abandoned hazardous waste sites there.

### Nuclear Waste/Radiation

There are deposits of uranium, but no other radioactive material deposits in the Pueblo. There has, however, never been any uranium mining activity on Pueblo lands. There are no uranium processing mills within 50 miles of the Pueblo, but there are nuclear power generation facilities within 50 miles of the Pueblo at Los Alamos and Albuquerque. The Pueblo has not been selected as a potential area for a permanent nuclear waste disposal site. It is unknown whether nuclear materials are transported through the Pueblo.

### Tribal Priorities

The Pueblo of Zia's top environmental priority is soil erosion.

## NARRATIVE PROFILE

Pueblo of Zuni, New Mexico  
Environmental Contact:

Sefferino Eriaibo, Sr.  
Acting Governor  
Pueblo of Zuni  
P.O. Box 339  
Zuni, New Mexico 87327  
(505) 782-4481, Ext. 111

EPA Region VI: Ernest Woods, Indian Work Group Coordinator

### Introduction

The Zuni Reservation consists of 408,483.81 acres of which 406,969.37 acres are tribally owned. The population of the reservation is 8,600.

### Tribal Government

The eight member Zuni Tribal Council established by the Constitution of 1970, is the tribal governing body. The Governor, other executive officers and Council members are elected at large by tribal members for four year terms. The Council meets monthly.

The regulatory functions performed by the tribal government include licensing fees on business, sales tax, business/commercial development, hunting/fishing/game management, animal control, timber resource development and civil and criminal law. The tribe has not adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The tribe does not implement a comprehensive environmental protection program, but it does do activities in animal control, sanitation and waste disposal and emergency preparedness/evacuation. The tribe employs a staff of three to work on solid waste management and has unwritten cooperative agreements with the Indian Health Service, Bureau of Indian Affairs and the State of New Mexico. The Zuni Fish and Wildlife Program and the Indian Health Service coordinate animal control efforts. Zuni Utilities coordinate efforts with other governmental entities on sanitation and waste disposal as does the Zuni Disaster Committee on emergency preparedness/evacuation.

## Tribal Natural Resource Use

Soil analysis and classification has been completed for the reservation. A detailed land and water resource usage report has been compiled by the Bureau of Indian Affairs Branch of Natural Resources (contact James Enote [505] 782-4458, extension 165 and 168). Generally speaking, however, land resources are currently being used for agricultural, forestry/timber, recreational, commercial and grazing development while mining, industrial/commercial and further forestry/ timber development is in the planning stages. Water resources are currently being used for power generation, irrigation, fisheries, tourism/recreation and transportation with further development in power generation and transportation being planned.

## Air Quality

The tribe has not designated air quality standards as provided by the Clean Air Act, and air quality is not monitored. There are no major sources of air pollution within a fifty mile radius of the reservation.

## Water Quality

### General Water Quality:

There are no tribal water quality standards for reservation streams, rivers and lakes. Lakes/reservoirs suffer from eutrophication and sedimentation.

There are no actual sources of water pollution, but potential sources include oxidation ponds, domestic wastes (sewage), landfill leachate, agricultural run-off and on-lot disposal.

### Drinking Water Quality:

There have been no drinking water quality violations or outbreaks of water borne diseases in five years.

### Community Water Supply

There are two community drinking water supply systems on the reservation which use 100% ground water. Both systems are monitored monthly for bacteriological quality. One of the systems is monitored annually for inorganics and one for radionuclides. No monitoring is done for pesticides. Neither of the systems are treated for water quality.

### Individual Water Supply:

Both 5% of the homes and 5% of the population of the reservation are served by individual wells. None of the wells are monitored.

### Water Usage

Average annual consumption of ground water for domestic purposes is 23 acre feet (or 40% of total annual consumption). Consumption of ground water for municipal purposes is 514 acre feet annually (or 60% of total annual water consumption). Thus, total annual average water consumption amounts to no surface water consumption and to the consumption of 540 acre feet of ground water per year.

### Domestic Waste Disposal (Sewage)

[This area was neglected in the original survey. Additional information was not received in time to be included in the final draft of the narrative.]

### Solid Waste Storage and Disposal

Although the tribal government has a plan for the disposal of solid wastes, solid waste disposal is a growing problem on the reservation. Currently, such wastes are disposed of in a three acre community landfill. There is no tribally sponsored recycling program.

### Hazardous Waste Storage and Disposal

Hazardous wastes are not a problem on the Zuni Reservation.

### Nuclear Waste/Radiation

Nuclear waste/radiation is not a problem on the Zuni Reservation. However, it is unknown whether nuclear materials are transported through the reservation.

### Tribal Priorities

The tribe did not identify any pressing environmental problems.

REGION VII

Indian Work Group Coordinator: Edward Vest

Winnebago Reservation

## NARRATIVE PROFILE

Winnebago Reservation, Nebraska  
Environmental Contact:

Rueben Snake  
Winnebago Tribal Council  
P.O. Box 687  
Winnebago, Nebraska 68071  
(402) 878-2272

with copy to:  
Winnebago Tribal Health Department  
P.O. Box C  
Winnebago, Nebraska 68071  
(402) 878-2294

EPA Region VII: Edward Vest, Indian Work Group Coordinator

### Introduction

The Winnebago Reservation consist of 27,537.8 acres, 3,308.6 acres of which are tribally owned, 24,214.9 of which are in allotment and 243.9 of which are owned by the BIA. The population of the reservation is 1,444, 1108 Winnebagos and 336 non-Indians.

### Tribal Government

The nine member Winnebago Tribal Council, established by charter in 1934, is the governing body for the tribe. Council members are elected at large by the tribal membership for three year terms. The Chairman and other officers are appointed by Council for a one year term. Council meettings are held monthly.

The Council exercises regulatory functions in the following areas: hunting/fishing/game management, natural resource development (especially timber and fish) and criminal law. The tribe has adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The tribe is currently implementing an environmental protection program which is responsible for water quality monitoring, developing and enforcing tribal environmental standards, animal control, sanitation and waste disposal and emergency preparedness and evacuation. The Winnebago Tribal Health Department in cooperation with the U.S. Public Health Service (Indian Health Services, Sioux City, Iowa) conducts most of the environmental programs, including air and water quality monitoring, sanitation

and waste disposal, animal control, emergency preparedness and injury control. In cooperation with the BIA environmental rehabilitation/reclamation and soil analysis is carried out. One staff member is employed by the tribe to work on environmental programs, and there is no special committee within the tribal government which deals especially with environmental issues.

#### Tribal Natural Resource Use

Soil analysis and classification has been completed for the reservation. The use of agricultural, industrial/manufacturing, commercial and grazing resources is currently being implemented. The further development of agricultural, industrial/manufacturing and commercial resources is being planned as well as the development of forestry/timber and recreational resources. Water is presently used for irrigation, but there are plans to use it for power generation, fisheries, tourism/recreation and transportation as well.

#### Air Quality

The tribe has not designated air quality standards as designated by The Clean Air Act. Nor is the air monitored by any other authority. The major air pollution source within fifty miles of the reservation is a fossil fuel fired power generation plant ten miles away.

#### Water Quality

##### General Water Quality:

There are no tribal water quality standards for reservation streams, rivers and lakes, nor do reservation lakes and reservoirs suffer from eutrophication and sedimentation.

An actual source of water pollution is agricultural run-off. Potential sources of water pollution include sewage treatment plants, domestic wastes (sewage), landfill leachate, pesticide herbicide/nutrient run-off and toxicant build up due to pesticide usage.

##### Drinking Water Quality:

There have been no water quality violations or outbreaks of water borne diseases during the last five years.



#### Community Water Supply:

There are four community drinking water supply systems on the reservation, which use 100% ground water. All of the systems are monitored monthly for bacteriological quality. They are sampled every three years for inorganics, pesticides and radionuclides. All of the systems are treated for water quality.

#### Individual Water Supply:

Twelve per cent of the homes and five per cent of the population are served by individual wells. The wells are never monitored.

#### Water Usage

No information is available on surface and ground water usage in acre feet per year except that no surface water is used for either industrial or recreation purposes.

#### Domestic Waste Disposal(Sewage)

[This area was neglected in the original survey. Additional information was not received in time to be included in the final narrative.]

#### Solid Waste Storage and Disposal

Although the tribal government has no plan for the disposal of solid wastes, their disposal is a major problem on the reservation. There is however, a four-acre community dumpsite and the Public Health Service Hospital incinerates its solid waste. There is no recycling program for the reservation.

#### Hazardous Waste Storage and Disposal

The tribal government has no plan for the disposal of hazardous wastes. However, hazardous wastes have never been generated or stored on the reservation.

#### Nuclear Waste/Radiation

There are no deposits of uranium or other radioactive materials on the reservation, and no radioactive materials are stored on the reservation. The nearest nuclear power generation facility is Fort Calhoun, 75 miles away between Blair and Omaha, Nebraska. The reservation has not been selected as a potential permanent nuclear waste disposal site. However, it is possible that nuclear materials are transported through the reservation.

### Tribal Priorities

*The most pressing environmental problems on the Winnebago reservation in order of priority are: injury control, solid waste, vector and animal control, water quality and institutions and food service surveys.*

REGION VIII

Indian Work Group Coordinator: Chuck Gomez

Cheyenne River Sioux Reservation

Fort Belknap

Fort Berthold

Fort Peck

Lake Traverse

Lower Brule Sioux Reservation

Northern Cheyenne Reservation

Pine Ridge Reservation

Rocky Boy's Reservation

Rosebud Sioux Reservation

Southern Ute Reservation

Standing Rock Sioux Reservation

Yankton Sioux Reservation

## NARRATIVE PROFILE

*Cheyenne River Sioux Reservation, South Dakota*  
Environmental Contact:

Morgan Garreau, Chairman  
Cheyenne River Sioux Tribe  
P.O. Box 590  
Eagle Butte, South Dakota 57625  
(605) 964-4155

EPA Region VIII: Chuck Gomez, Indian Work Group Coordinator

### Introduction

*The Cheyenne River Sioux Reservation consists of 2,804,090 acres (43.6 square miles), 954,397.57 acres of which are tribally owned and 441,332 acres of which are in allotment. The population of the reservation is 5150.*

### Tribal Government

*The 15 member Cheyenne River Sioux Tribal Council, established through a Constitution and By-laws in 1935, is the tribal governing body. Council members, the chairman and other officers are all elected by district/geographic region by tribal members for four year terms. The Council meets monthly.*

*The regulatory functions performed by the tribal government include water resource planning, licensing fees on business, sales, cigarette, contractors' excise and Tribal Employment Rights Office taxes, hunting fishing/game management, animal control, sanitation, fish resource development and civil and criminal law. The tribe has not adopted an administrative procedures act.*

### Tribal Environmental Protection Infrastructure

*The tribe is currently implementing an environmental protection program which is responsible for pesticide, insecticide and fungicide monitoring. This program is conducted through the office of the tribal Pesticide Enforcement Program which employs one person. There is also a committee within the tribal government which addresses environmental issues, the Land and Natural Resources Committee. The tribal government also has cooperative agreements with the Indian Health Service and the Bureau of Indian Affairs for sanitation and waste disposal, with the Office of Surface Mining for environmental rehabilitation/reclamation, with the State of South Dakota Game Fish and Parks Department for animal control, and with the U.S. Environmental Protection Agency.*

## Tribal Natural Resource Use

Soil analysis and classification have been partially completed for the reservation. The development of agricultural and grazing resources is currently being implemented, and the development of industrial/manufacturing, recreational and commercial resources is in the planning stages. Water resources are currently being used for irrigation, and the use of water resources for power generation, fisheries, tourism/recreation and transportation is currently being planned.

## Air Quality

The tribe has not designated air quality standards as provided in the Clean Air Act. Air quality is not monitored on the reservation. The closest monitoring is done at Lemmon and Pollack, South Dakota, by the State. This monitoring includes data for the total suspended particulates and an annual measurement for lead. Monitoring for sulphur and nitrogen dioxide has not been done for two years.

There have been measured violations of national ambient air quality standards for total suspended particulates. Secondary standards were exceeded once in 1983, 1984 and 1985 at Lemmon, South Dakota, and once in 1983 and twice in 1984 at Pollock, South Dakota.

## Water Quality

### General Water Quality:

There are no tribal water quality standards for on-reservation streams, rivers and lakes. No lakes/reservoirs suffer from eutrophication, but some suffer from sedimentation.

There are no actual sources of water pollution, but potential sources run the whole gamut and include sewage and water treatment plants, oxidation ponds, municipal and industrial discharges, domestic wastes (sewage), oil and hazardous materials spills, landfill leachate, urban and agricultural run-off, sediment run-off due to construction, mining and timber production and harvesting, pesticide/herbicide/nutrient run-off, toxicant build-up due to pesticide usage and on-lot disposal.

### Drinking Water Quality

There have been no water quality violations of the reservations drinking water or outbreaks of water borne diseases in the last five years.

### Community Water Supply:

There is one major community water supply system, the Tri-County Water Supply System, which pumps water from the Missouri River to all communities in three counties through 9000 miles of piping. 91.5% of the water in this system is surface water and 8.5% ground water. The system is checked six times per month for bacteriological quality, annually for inorganics and every three years for pesticides and radionuclides. The system is also chlorinated, filtered, fluoridated daily and from April through December alum and lime polymer are added to the system to reduce turbidity.

### Individual Water Supply:

8.3% of the homes and 8.5% of the population on the reservation are served by individual wells. These wells are never monitored.

### Water Usage

Monthly average water consumption in the Tri-County System is 21,500,000 gallons, of which 3,000 acre feet are used yearly for irrigation on the reservation.

### Domestic Waste Disposal (Sewage)

[This area was neglected in the original survey. Additional information was not received in time to be included in the final draft of the narrative.]

### Solid Waste Storage and Disposal

The tribal government does have a plan for the disposal of solid wastes. This is a growing problem on the reservation. Solid wastes are currently disposed of in a 40 acre community landfill. There is no tribally sponsored recycling program on the reservation.

### Hazardous Waste Storage and Disposal

The tribal government does have a plan for the disposal of hazardous wastes. Although hazardous wastes are not generated on the reservation, pesticides, insecticides and fungicides are stored on the reservation. These are stored and disposed of in accordance with a tribal regulation governing the storage and disposal of pesticides and pesticide containers. There are no abandoned hazardous waste sites on the reservation.

### Nuclear Waste/Radiation

There are no deposits of uranium or other radioactive materials on the reservation. Nor are there uranium processing mills, nuclear power generation facilities or nuclear waste storage sites within 50 miles of the reservation. The reservation has not been chosen as a potential area for a permanent nuclear waste disposal site, nor are nuclear materials transported through the reservation.

### Tribal Priorities

The most pressing environmental problems on the Cheyenne River Sioux Reservation in order of priority are solid waste disposal, liquid waste (lagoons), water quality, recycling, animal control, food regulations, erosion and pesticides.

Fort Belknap Reservation, Montana

Environmental Contact:

(Name?)

Fort Belknap Community Council

Fort Belknap Agency

P.O. Box 249

Harlem, Montana 59526

(406) 353-2205

EPA Region VIII: Chuck Gomez, Indian Work Group Coordinator

Introduction

The Fort Belknap Reservation consists of 652,593.61 acres, of which 223,305.98 acres (39%) are tribally owned and 398,337.83 acres (58%) are in allotment. Of the tribally owned land 29,277.55 acres are original tribal land, 3,079.77 acres are from the I.R.A. purchase, 138,581.66 acres have been purchased by the tribes, 26,831.00 acres are timber reserve and 25,536.00 are sub-marginal land. Of the allotted land approximately 22,448.00 acres make up each allotment (TUDI). The remainder of the reservation is made up of 10,124.25 acres (1.6%) of fee patent land, 1,205.00 acres (.002%) controlled by the Bureau of Reclamation and 19,620.55 acres (2.398%) controlled by the State. The population of the reservation is 2,042 and is made up of the resident



members of two tribes, the Assiniboine (Nakoda) and the Gros Ventre (Atsina).

#### Tribal Government

The twelve member Fort Belknap Community Council is the tribal governing body. The President, Vice-President and Secretary/Treasurer are elected by the Council from within the Council for two year terms of office. The council members themselves are elected by tribal members at large from within districts for four year terms. Six council members are elected every two years. Regular Council meetings are held monthly, although special meetings may be called at any time. This government was established by the adoption of an IRA constitution and by-laws in 1935 and the adoption of a corporate charter in 1937. The Council performs regulatory functions in the areas of land use and water resource planning, water quality, air quality control, soil conservation, licensing fees on business, cigarette taxes, zoning, hunting/fishing/game management, animal control, timber and mineral (both energy and non-energy) resource development and civil and criminal law. The tribes have not adopted an administrative procedures act.

#### Tribal Environmental Protection Infrastructure

The tribes are currently implementing an environmental protection program responsible for air and

water quality monitoring. This program is being conducted through the tribal offices of Air Quality Control, Water Resources and Land Services. There are one full-time staff member and three part-time staff employed by the tribes to work on these environmental programs. There is also a committee within the tribal government, the Land Committee, which addresses environmental issues. The council also has cooperative agreements with the State of Montana for air quality monitoring and with federal agencies (IHS? EPA?) for water quality monitoring.

#### Tribal Natural Resource Use

Soil analysis and classification has been completed for the reservation. Currently, agricultural (both dry crop land and irrigated land) and grazing resources are being developed. Forestry/timber, industrial manufacturing and commercial resource

development is being planned. Current land usage on Fort Belknap is as follows:

Grazing (77%):

25,536.00 acres	submarginal (SM)
3,079.00 acres	IRA purchase (IRA)
27,757.00 acres	tribal original (TO)
<u>100,044.26 acres</u>	tribal purchase (TP)
156,417.58 acres	
	156,417.58 Tribal
	318,944.23 Allotted
	19,080.55 State
	6,604.25 Fee
	<u>1,205.00 Bur. Rec.</u>
	502,251.61

Dry Crop Land (15%):

880.00 (TO)	
<u>20,800.00 (TP)</u>	
21,680.00	
	21,680.00 Tribal
	70,289.00 Allotted
	540.00 State
	<u>3,520.00 Fee</u>
	96,029.00

Irrigated (3%):

(10,321 Federal)	
(7,944 Private)	
	1,800.00 Tribal
	<u>16,465.00 Allotted</u>
	18,265.00

Forests (5%):

	28,098.00 Tribal
	5,596.00 Allotted
	<u>33,694.00 Fee</u>
	96,029.00

Other (cemeteries, housing, schools, churches, administration, industrial, etc.) (nominal):

	1,000.00 Tribal
	1,354.00 Allotted
	2,354.00

Water resources are used for irrigation and stock watering with fisheries and tourism/recreation being planned for the future.

### Air Quality

The tribes themselves have not designated air quality standards as provided by the Clean Air Act, but air quality is designated as Class II and is monitored for total suspended particulates on a special study basis by the tribes. During the summer months the Hays monitoring site exceeds national ambient air quality limits for fugitive dust. Major air pollution sources within a fifty mile radius of the reservation include the coal fired generator at Hays School (within reservation boundaries), wood burning by 90% of the residences in the Hays Area (on the reservation), three landfill sites (two on the reservation and one off the reservation), 15% of the dry crop land (on the reservation) and the Zortman/Landusky Mining Company (one mile off the reservation).

### Water Quality

#### General Water Quality:

There are tribal water quality standards for reservation streams, rivers and lakes, none of which are suffering from eutrophication and sedimentation. Actual sources of water pollution include domestic wastes (sewage), sediment run-off due to mining and pesticide/herbicide/nutrient run-off. Potential sources of water pollution include sewage and water treatment plants, oxidation ponds, municipal discharges, hazardous

materials spills, landfill leachate, and urban and agricultural run-off.

Drinking Water Quality:

There have been no water quality violations of the reservations drinking water in the past five years. Nor have there been any outbreaks of water borne diseases.

Community Water Supply:

There are five community drinking water supply systems on the reservation. Of these 20% use surface water and 80% use ground water. All of the systems are monitored annually. Sixty percent of the community water supply systems are treated for water quality (chlorine? fluoride?).

Individual Water Supply:

374 homes are served by individual wells or about 61% of the population. All of the wells are monitored annually for bacteriological quality.

Water Usage:

No information is available on average annual water consumption for different purposes in acre feet per year.

Domestic Waste Disposal (Sewage)

[This area was neglected in the original survey, and Fort Belknap was not able to respond in time to our request for additional information.]

### Solid Waste Storage and Disposal

Although the tribal government does have a plan for the disposal of solid wastes, it is still a growing problem on the reservation. Solid wastes are disposed of at one community dumpsite, three community landfills (one off the reservation and two on the reservation) and by individual incineration. The tribes do not have a recycling program.

### Hazardous Waste Storage and Disposal

The tribal government does not have a plan for the disposal of hazardous wastes, but no hazardous wastes are generated or currently stored on the reservation. Nor are there any abandoned hazardous waste sites on the reservation.

### Nuclear Waste/Radiation

There are no deposits of uranium or other radioactive materials on the reservation. Nor are there uranium processing mills, nuclear power generation facilities, or nuclear waste storage facilities within 50 miles of the reservation. The reservation has not been selected as a potential area for a permanent nuclear waste disposal site, but it is unknown whether nuclear materials are transported through the reservation.

### Tribal Priorities

The Fort Belknap Reservation's primary environmental problem is water quality.

## NARRATIVE PROFILE

Fort Berthold Reservation, North Dakota  
Environmental Contact:

Rich Schiff,  
Environmental Quality Coordinator

Texx Lone Bear, Pesticides

Kyle Baker, Air Quality

Natural Resources Department  
Environmental Quality Division  
Tribal Business Council of the Fort Berthold Reservation  
P.O. Box 220  
New Town, North Dakota 58763  
(701) 627-3627

EPA Region VIII: Chuck Gomez, Indian Work Group Coordinator

### Introduction

The Fort Berthold Reservation consists of 981,000 acres of which 59,493 are tribally owned and 358,899 are in allotment. The reservation is occupied by three tribes, the Hidatsa, Mandan and Arikara. 1980 U.S. Census figures and IHS figures do not agree on the population of the reservation. U.S. Census figures put the total population at 5,610 (2,662 Indians and 2,948 non-Indians) while IHS figures put the total population at 6,897 (3,143 Indian and 3,754 non-Indian).

### Tribal Government

The eleven member Tribal Business Council, established by constitution in 1936 (amended in 1983), is the governing body of the reservation. The Council members and the chairman are both elected at large by the tribal membership for four year terms. The Council meets monthly.

The Council exercises regulatory functions in the following areas: tax collection and licensing (1% tax on certain contracts, TERO taxes, farm lease tax), hunting/fishing/game management, the development of natural resources (fish, gravel and energy and non-energy minerals), and civil and criminal law. The Council is working on regulations for land use planning, water resource planning, water quality control, air quality control, soil conservation, business and commercial development, zoning and sanitation (solid waste management plan). The tribes have not adopted an administrative procedures act, but they have adopted a pesticide hearing procedure which is similar to 40 CFR DART 22.

### Tribal Environmental Protection Infrastructure

The tribal government is currently implementing an environmental protection program which is responsible for air and water quality monitoring, developing and enforcing tribal environmental standards, environmental rehabilitation and reclamation and pesticide enforcement. The Council is also developing a sanitation and waste disposal project.

The tribal offices which conduct the environmental program are The Natural Resources Department, Environmental Quality Division, Environmental Quality Coordinator, Pesticides Officer and Air Quality Officer. The Natural Resources Committee of the Tribal Business Council also addresses environmental issues. Two and a half persons are employed by the tribe to work exclusively on environmental programs.

The tribes also have agreements with The North Dakota State Department of Health for air quality monitoring and with The North Dakota State Agricultural Department for pesticide control. They are working on agreements for sanitation and waste disposal with the BIA, for environmental rehabilitation/reclamation with the Bureau of Land Management and for the protection of endangered species with the U.S. Fish & Wildlife Service, BIA and the Bureau of Land Management.

### Tribal Natural Resource Use

Soil analysis and classification has not been completed, although the U.S. Department of Agriculture's Soil Conservation Survey has done analyses and classifications for most counties in North Dakota.

Currently, agricultural, grazing and oil and gas resources are being developed. Development is being planned for industrial/manufacturing, recreational, and commercial resources. Water resources are currently being used for irrigation, fisheries and tourism/recreation, and for power generation off the reservation.

### Air Quality

The tribes are in the process of developing their own air quality management plan (which they argue is not provided for in the Clean Air Act). The State of North Dakota's SIP has designated reservation air quality under Class II. Air quality will eventually be monitored continuously by the tribe. It is presently monitored for total suspended particles, sulphur dioxide, hydrogen sulfide and atmospheric depositia (acid rain). There have been no measured violations of national ambient air quality standards.



Major air pollution sources between 10 and 40 miles from the reservation include six coal fired power plants, one synthetic gas plant and four natural gas refineries. Sources of air pollution also include oil wells flaring sour gas, thermoelectric power, motor vehicles and fugitive dust from agricultural crop lands.

### Water Quality

#### General Water Quality:

There are no tribal water quality standards for reservation streams, rivers and lakes. Some of the reservation's lakes/reservoirs suffer from eutrophication and/or sedimentation.

Actual sources of water pollution are sewage and water treatment plants, domestic waste (sewage), agricultural and pesticide/herbicide/nutrient run-off, and sediment run-off from construction. Potential sources of pollution include oil and other hazardous materials spills, landfill leachate, toxicant build-up from pesticide usage, salt water disposal and the disposal of drilling fluids.

#### Drinking Water Quality

There have been no reported water quality violations of drinking water in the last five years and no outbreaks of water borne diseases. However, background levels for certain parameters in ground water often exceed IHS and EPA standards.

#### Community Water Supply:

There are six community drinking water supply systems on the reservation. The source of 33% of the systems is surface water and of 66% of the systems, ground water. All the systems are monitored monthly for bacteriological quality. Special studies are being done for pesticides. No monitoring is done for inorganics or radionuclides. All the systems are treated for water quality.

#### Individual Water Supply:

Twenty-one per cent of the homes and 35% of the population of the reservation are served by individual wells. None of the wells are ever monitored.

### Water Usage

No information is presently available for the average annual consumption of surface and ground water in acre feet for different purposes.

### Domestic Waste Disposal(Sewage)

The following table describes domestic liquid waste disposal on the Reservation:

Table 1. Fort Berthold Liquid Waste Disposal

<u>Common Name of System</u>	<u>Community Served</u>	<u>Number of Home</u>	<u>Type of Treatment</u>
<u>Community Systems</u>			
White Shield Sewage System	White Shield	51	3-cell Lagoon
	White Shield	22	1-cell Lagoon
Foru Bears Sewage System	Four Bears Park	94	3-cell
Lagoon			
Dragswolf	Dragswolf Village	50	2-cell Lagoon
Mandaree	Mandaree	94	3-cell Lagoon
Twin Buttes	Twin Buttes	26	2-cell Lagoon
	School District	19	1-cell Lagoon
City of Parshall	Parshall*	74	3-cell Lagoon
City of New Town	New Town	140	3-cell Lagoon

\* Only Includes Housing Authority Homes

### Rural Private Indian Systems

West Segment	66	Septic Tank
	1	Cesspool
East Segment	43	Septic Tank
South Segment	21	Septic Tank
North Segment	38	Septic Tank
North East Segment	3	Septic Tank
TOTAL	742	

### Solid Waste Storage and Disposal

Solid waste disposal is a major problem on the reservation, and the tribes are in the process of developing a solid waste disposal plan with CERT. Presently, along with individual dumps, there are three community dump sites and two community landfill sites of about 3-5 acres each. There is no recycling program, although occasionally a can crusher is brought in.

### Hazardous Waste Storage and Disposal

The tribal government has no plan for the disposal of hazardous wastes. There is a very small quantity of three types of hazardous waste generated by electronics plants, and a very small quantity (less than 10 gallons) from this source is stored on the reservation. These wastes have been stored on the reservation for the past twenty years in accordance with federal law. Two other abandoned hazardous waste sites were cleaned up in 1985. Each site contained large numbers of pesticide containers.

### Nuclear Waste/Radiation

There are no deposits of nuclear or other radioactive materials on the reservation, nor are there uranium processing mills, nuclear power generation facilities or nuclear waste storage sites within 50 miles of the reservation. The reservation has not been selected as a potential area for a permanent nuclear waste disposal site, nor are nuclear materials transported through the reservation.

### Tribal Priorities

The tribes' most pressing environmental problems in order of priority are: ground water quality protection, the preservation of ambient air quality, indoor air pollution, underground storage tanks, solid waste disposal and surface water quality protection. The tribes are currently working on a tribal air quality management plan with a goal of protecting air quality while allowing for development. The intent is to adopt Class I DSD standards as the tribal base standards and then allow an incremental adjustment to a Class II ceiling.

## NARRATIVE PROFILE

Fort Peck Reservation, Montana  
Environmental Contact:

Jackie Miller, Director  
Office of Environmental Protection  
Fort Peck Assiniboiné & Sioux Tribes  
P.O. Box 506  
Poplar, Montana 59255  
(406) 768-5155

EPA Region VIII: Chuck Gomez, Indian Work Group Coordinator

### Introduction

The Fort Peck Reservation consists of 2,093,300 acres, 393,450 acres of which is tribally owned and 559,206 acres of which is in allotment. In addition, 1,140,044 acres is fee land, and 600 acres is U.S. government land. The population of the reservation is made up of two tribes, the Assiniboiné and the Sioux (4,429 tribal members from enrollment records by peace of residence), 600 other Indians (from a 1981 house to house survey) which with a non-Indian population of 5,417 (1980 census) equals a total population of 10,446.

### Tribal Government

The fifteen member Fort Peck Tribal Executive Board, established by the adoption of a constitution in 1960, is the governing body for the reservation. Board members and the Chairman are elected at-large by tribal membership for two year terms every two years. The Board meets bi-weekly.

The Board exercises regulatory functions in the following areas: water resource planning, tax collection and licensing fees (severance tax on minerals and licensing fees on businesses), hunting/fishing/game management, animal control, sanitation, the development of energy mineral resources, and civil and criminal law. The tribes have not adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The tribes are currently implementing an environmental protection program which is responsible for air quality monitoring, water quality monitoring, developing and enforcing tribal environmental standards, animal control, sanitation and waste disposal, environmental rehabilitation/reclamation and emergency preparedness/evacuation. The tribal offices which conduct the environmental program are The Fort Peck Tribal Office of Environmental Protection and the Fort Peck Tribal Health Systems Office. There are two committees within the tribal government, the Land and Resource

Committee and the Health, Education and Welfare Committee, which address environmental issues. The tribe employs five staff to work on environmental programs and cooperates with the cities of Wolf Point and Poplar on animal control.

#### Tribal Natural Resource Use

Soil analysis and classification has been completed for the reservation. The use of agricultural, mining, industrial/manufacturing, commercial and grazing resources is currently being implemented. The development of recreational resources is being planned for the future. Water is currently used for irrigation, and there are plans being made to use it for fisheries and geothermal development.

#### Air Quality

The tribes have designated air quality standards as provided by the Clean Air Act. The air has a Class I designation and is monitored continuously by the tribes for total suspended particulates, sulphur dioxide and visibility. The tribes successfully achieved redesignation of their air quality in 1982. (See Fort Peck Tribe's Air Quality Redesignation Report prepared by Larry Allen & John Doyle for Fort Peck Tribe's Office of Environmental Protection, June 1982.)

There have been some measured violations of national ambient air quality standards, two violations of federal primary TSP standards at the Give Out Morgan site in 1981 and two violations of federal secondary TSP standards at the Wolf Point site in 1984 and five in 1985. All these events were caused by dust storms. Major air pollution sources near the reservation are 35 to 40 miles away in Canada, the Saskatchewan Power Corporation's Electric Generation Plant (35 miles north of the reservation border), and their Coal Mine and Power Plant (both 40 miles north of the reservation).

#### Water Quality

##### General Water Quality:

The tribes have developed draft standards for reservation streams, rivers and lakes, but they are not yet in effect. Reservation reservoirs suffer from both eutrophication and sedimentation.

Actual sources of water pollution include sewage treatment plants, municipal discharges, and urban, agricultural and pesticide/herbicide/nutrient run-off. Potential sources of water pollution include water treatment plants, oxidation ponds, industrial discharges, domestic wastes (sewage), oil and hazardous materials spills, landfill leachate, sediment run-off from construction, mining and timber production and harvesting, toxicant build up due to pesticide use and on-lot disposal.

### Drinking Water Quality

There have been no drinking water quality violations or outbreaks of water borne diseases in the last five years but wells on older homesites are producing sandy waters or have quite producing sandy waters or have quit producing altogether.

### Community Water Supply:

There are five community drinking water supply systems on the reservation using 100% ground-water. All the systems are monitored for bacteriological quality monthly, but no monitoring for inorganics, pesticides, or radionuclides is done. Forty per cent of the systems are treated for water quality. (See also Domestic Waste Disposal below).

### Individual Water Supply:

Two hundred Indian homes (17% of the homes) or about 16% of the population is served by individual wells. Thirty per cent of the wells are monitored annually for bacteriological quality. None are ever checked for inorganics, pesticides or radionuclides. (See also Domestic Waste Disposal below).

### Water Usage

Three hundred seventy acre feet of ground water are used each year for domestic purposes, 800 for municipal purposes, 35,00 for irrigation and more than 10 for industrial purposes. In addition, 70,000 acre feet of surface water is used for irrigation. Therefore, 100% of the water used for domestic, municipal and industrial purposes is ground water, while 67% of the water used for irrigation is surface water and only 33% ground water. Total annual water consumption is 36,180 acre feet of surface water and 70,000 acre feet of ground water per year.

### Domestic Waste Disposal(Sewage)

The Tribal Health, Education and Welfare Committee have prioritized reservation water and sewage needs for 1986. The following is the listing prepared by the Tribal Health System Field Engineer.

"The Fort Peck Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation are approaching an ever growing need for sanitary facilities construction for individual developments throughout the reservation, as well as assistance to communities as the demand for services increase through growth of populated areas.

Families today are searching for independence. They have developed a desire and need for independent living quarters separate from that of other family group members. In the past a young couple may move into the household of one or the others parents. It has become possible through tribal programs to assist these individuals in development of their own residence. This pursuit is supported by the Fort Peck Tribal Executive Board under the usual general consensus vote of approval by the Tribal Board committee members of home leases on Tribal lands. It is almost always possible for any tribal member to lease a homesite (generally 2 1/2 acres) on which to build a home.

Few homes are without some type of sanitary facilities, but yet still exist in some cases. Some also are older installations that were constructed by the individuals and need upgrading. These sanitary facilities generally do not meet current standards for construction as well as proper distances between wells and sewage disposal facilities.

As funds become available, the Fort Peck Tribes under memorandum of agreement with the Indian Health Service, have initiated programs to provide technical and financial assistance for the completion of these needed facilities. The engineering and construction department of the Fort Peck Tribal Indian Health Project also works with other tribal departments and city governments in providing sanitary facilities for larger development sites within the communities of the reservation. These projects are planned and construction under memorandum of agreement with the Indian Health Service.

### Projects

The unmet needs list for the reservation is reassessed each year by the H.E.W. committee of the Fort Peck Tribes. The following is the current unmet needs list for consideration during 1986.

<u>Project</u>	<u>Estimated Projected Costs</u>
1. Frazer Water Storage tank and pump house repairs on electrical systems.	\$125,000.00
2. Fort Kipp Community Water system upgrading pump house replacement and additional water supply	\$ 25,000.00

<u>Project</u>	<u>Estimated Projected Costs</u>
3. Individual water system treatment facilities - 125 sites upgrading wells and sanitary facilities on 25 sites.	\$210,000.00 75,000.00
4. Wolf Point celebration grounds Water Sewer	5,000.00 10,000.00
5. Brockton celebration grounds Water Sewer	5,000.00 10,000.00
6. Individual water supply & waste disposal facilities on 40 sites	70,000.00
7. Brockton Sewage system upgrading Lagoon repair & construction of a new cell Replace sewer lines	80,000.00 20,000.00
8. Fort Kipp Sewage System upgrading Replace lagoon inlet	15,000.00
9. Frazer Sewage System upgrading Replace plumbing for controls of lagoon levels	15,000.00
10. Max Martell Sewage upgrading for expansion of existing lagoon	10,000.00
11. Wolf Point - additional lagoon	\$596,000.00

Tribal resolution number 434-86-1 has prioritized the above unmet needs in accordance with H.E.W. committee recommendations. However, it is not uncommon to complete a lower priority project prior to higher priority items as funds become available on existing projects.



### Solid Waste Storage and Disposal

The tribal government has just completed and begun to implement an official plan for the disposal of solid wastes on the reservation. Solid wastes are a major problem. Solid wastes are up until now have been disposed of in community dump and landfill sites amounting to about 50 acres in all. The community and individuals also incinerate their solid waste. There is no recycling program on the reservation.

### Hazardous Waste Storage and Disposal

The tribal government has no plan for the disposal of hazardous waste. Reactive sulfides in excess of 500 ppm from an oil refining operation and trivalent chromium from an aluminum forming operation are currently generated on the reservation. Also, trichromium waste water and sludge from metal plating activities and waste from oil refining activities twenty years ago have been stored in the reservation in temporary storage ever since. These wastes are not stored in accordance with applicable tribal, local, state and/or federal laws.

### Nuclear Waste/Radiation

Nuclear/radioactive wastes are neither generated nor stored on the reservation. Nor are there uranium processing mills, nuclear power generation facilities or nuclear storage sites within 50 miles of the reservation. However, nuclear materials are transported through the reservation.

### Tribal Priorities

The Tribal Executive Board has identified the following environmental problems in order of priority: soil erosion, water quality degradation from soil and gas development, solid waste management, pesticide certification and enforcement mechanisms, wildlife management for the protection and enforcement of wildlife resources, leafy spurge and club moss infestation, comprehensive plant and soil inventory, hazardous waste management and emergency response plan.

## NARRATIVE PROFILE

Lake Traverse Reservation, South Dakota  
Environmental Contact:

Michael I. Selvage  
Tribal Planner  
Tribal Planning and Development Department  
Sisseton-Wahpeton Sioux Tribe  
Lake Traverse Reservation  
P.O. Box 509  
Agency Village, South Dakota 57262  
(605) 698-3911

EPA Region VIII: Chuck Gomez, Indian Work Group Coordinator

### Introduction

The Lake Traverse Reservation of the Sisseton-Wahpeton Sioux consists of 108,135.22 acres, of which 17,544.45 acres are tribally owned and 90,579.26 acres are in allotment. This represents only approximately 10% tribal ownership. 71.51% of the reservation is owned by the federal government. The population of the reservation is 3,462.

### Tribal Government

The 15 member Sisseton-Wahpeton Sioux Tribal Council and 3 executive officers (including the Chairman) constitute the tribal governing body. This form of government was established by Constitution and By-Laws in 1946. Council members and officers are elected by tribal members at large for two year terms. The Council meets monthly.

The regulatory functions performed by the tribal government include land use planning, soil conservation, licensing fees on business, sales tax, business/commercial development, zoning, hunting/fishing/game management, fish resource development and civil and criminal law. The tribe has not adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The tribe is not currently implementing an environmental protection program itself. There are, however, two committees within the tribal government which address environmental issues: the Human Services Board and the Reservation Planning Commission. The tribal government also has cooperative agreements with the Indian Health Service for sanitation and waste disposal and with the Soil Conservation Service for soil analysis.

### Tribal Natural Resource Use

Soil analysis and classification have been completed for the reservation. The development of agricultural, commercial, grazing, hunting and fishing resources is currently being implemented as is the development of improved homesites. The development of forestry/timber and recreational resources is currently being planned. Water resources are currently being used for irrigation.

### Air Quality

The tribe has not designated air quality standards as provided in the Clear Air Act. Air quality is not monitored. The only major source of air pollution within a 50 mile radius is the Big Stone Power Plant 40 miles from the reservation.

### Water Quality

#### General Water Quality:

There are no tribal water quality standards for on-reservation streams, rivers and lakes. None of the lakes/reservoirs suffer from eutrophication, but some suffer from sedimentation.

Actual sources of water pollution include agricultural and pesticide/herbicide/nutrient run-off and toxicant build-up due to pesticide usage.

#### Drinking Water Quality:

There have been no water quality violations of the reservation's drinking water nor any outbreaks of water borne diseases in the last five years.

#### Community Water Supply:

There are six community drinking water supply systems on the reservation. They all use ground water as a water source. All of the systems are monitored monthly for bacteriological quality, every three years for inorganics and every four years for radionuclides. All of the systems are treated for water quality.

### Individual Water Supply:

Ninety-eight homes on the reservation, or 35% of the population of the reservation, are served by individual wells. When wells are dug and approved, they are monitored once for bacteriological quality, inorganics and radionuclides. In addition, 2-3% of the wells are monitored annually for bacteriological quality. No monitoring is done for pesticides.

### Water Usage

Data is unavailable for specific uses of surface and ground water in terms of average annual consumption, but total annual water consumption amounts to no surface water and 111.1 acre feet of ground water per year.

### Domestic Waste Disposal (Sewage)

[This area was neglected in the original survey. Additional information was not received in time to be included in the final draft of the narrative.]

### Solid Waste Storage and Disposal

Solid waste disposal is a major and growing problem on the reservation. Although the tribal government has a plan for the disposal of solid wastes, such wastes are currently disposed of in a Roberts County landfill which is not on trust land and through individual incineration. There is no tribally sponsored recycling program.

### Hazardous Waste Storage and Disposal

Although hazardous wastes in general are not considered a problem on the reservation, the pollution of reservation lakes and streams by chemicals and the proper disposal of chemical containers are problems.

### Nuclear Waste/Radiation

Nuclear waste/radiation is not a problem on the reservation. However, it is unknown whether nuclear materials are transported through the reservation.

### Tribal Priorities

The most pressing environmental problems for the Lake Traverse Reservation in order of priority are the pollution of lakes and streams by sewage, chemicals and erosion, the lack of proper disposal of chemical containers, the importation of noxious weed, leafy spurge, etc., improper land use such as converting wildlife habitat to other uses, an insufficient number of sanitary landfills and submarginal crop use.

### Water Usage

The tribe uses approximately 137 acre feet of water per year through the community water system. This figure does not include wells.

### Domestic Waste Disposal System

[No response was given to this section.]

### Solid Waste Storage and Disposal

Solid waste disposal is a growing problem on the reservation, and the tribal government does have a plan for the disposal of solid wastes which includes a five acre community land fill. The tribal government does not sponsor a recycling program.

### Hazardous Waste Storage and Disposal

The tribal government has no plan for the disposal of hazardous wastes, but no hazardous wastes were generated or stored on the reservation either in the past or in the present.

### Nuclear Waste/Radiation

There are no deposits of uranium or other radioactive materials on the reservation. Nor are there uranium processing mills, nuclear power generation facilities or nuclear waste stored within 50 miles of the reservation. The reservation has not been selected as a potential area for permanent nuclear waste disposal. Neither are nuclear materials transported through the reservation.

### Tribal Priorities

The most pressing environmental problems in order of priority on the Lower Brule Reservation are: solid waste disposal, exhaust from cars and other vehicles, retention of a balance within the naturally occurring ecosystem and the regulation of chemical use on or near the reservation.

## NARRATIVE PROFILE

Lower Brule Sioux Reservation, South Dakota  
Environmental Contact:

Scott Jones, Pesticide Control Officer  
Lower Brule Tribal Council  
Box 187  
Lower Brule, South Dakota 57548  
(605) 473-5561

EPA Region VIII: Chuck Gomez, Indian Work Group Coordinator

### Introduction

The Lower Brule Sioux Reservation consists of 130,239.44 acres of which 104,243.60 acres are tribally owned and 25,995.84 are in allotment. The population of the reservation is 1,182 (724 Lower Brule Sioux, 260 other Indians including other bands of Sioux, and 135 non-Indians).

### Tribal Government

The seven member Lower Brule Tribal Council, established by charter in 1936 (revised 1960), is the tribal governing body. Council members are elected at large for two year terms, and the Council chairman is appointed by Council for a two year term as well. The Council meets monthly.

The regulatory functions performed by the tribal government include the following: land use planning, water quality control, soil conservation, licensing fees on businesses, sales tax, business/commercial development, zoning, hunting/fishing/game management, animal control, sanitation, the development of fish and mineral resources and civil and criminal law. The tribe has adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The tribe is currently implementing an environmental protection program which is responsible for air and water quality monitoring, soil analysis, developing and enforcing tribal environmental standards, animal control, protection of endangered species, sanitation and waste disposal and environmental rehabilitation/reclamation. This program is implemented through the tribal Department of Sewage and Water, through the Tribal Council's Land Committee and through the Tribal Council itself. The tribe hires a Pesticide Control Officer under a cooperative agreement with the U.S. Environmental Protection Agency. The lead agency for the pesticide control program is the Lower Brule Land Committee.

The tribal government has an on-going cooperative agreement with the EPA for the Pesticide Control Office. It also cooperates with other governmental entities if the need arises.

#### Tribal Natural Resource Use

Soil analysis and classification has been completed for the reservation. The development of agricultural, recreational and grazing resources is currently being implemented. Water resources are currently being used for power generation (by the Big Bend Dam which is a Corps of Engineers project), irrigation, fisheries, and tourism/recreation. The use of water resources for transportation is currently being planned.

#### Air Quality

The tribe has not designated air quality standards as provided in the Clear Air Act. Nor is the air monitored by any other authority. Air pollution sources consist of four highways 8-18 miles away, and the exhaust fumes from vehicles within the reservation.

#### Water Quality

##### General Water Quality:

The Council has just adopted a Water Code. Some of the reservation lakes/reservoirs are suffering from sedimentation.

There are no current sources of water pollution. Potential sources include domestic wastes (sewage), agricultural and pesticide/herbicide/nutrient run-off and toxicant build-up due to the use of pesticides.

##### Drinking Water Quality:

There have been no drinking water quality violations in the last five years, nor any outbreaks of water borne diseases.

##### Community Water Supply:

There is one community drinking water supply system which uses 100% surface water. This system is monitored monthly for bacteriological quality, inorganics, pesticides and radionuclides. The system is also treated for water quality.

##### Individual Water Supply:

Sixteen percent of the homes on the reservation are served by individual wells. After initial testing wells are monitored only at the request of the home owner.

Northern Cheyenne Reservation, Montana

Environmental Contact:

William C. Sullivan, Director

Northern Cheyenne Environmental Affairs Department

Northern Cheyenne Tribe

P.O. Box 128

Lame Deer, Montana 59034

406-665-2220

EPA Region VIII: Chuck Gomez, Indian Work Group

Coordinator

Introduction

The Northern Cheyenne Reservation consists of 446,784 acres, 99 percent of which is tribally owned. The population of the reservation is 4000 (3000 Cheyenne, 500 other Indian, and 500 non-Indian).

Tribal Government

The 16 member (including the President) Northern Cheyenne Tribal Council is the tribal governing body. Council members and the President are elected by tribal members by district/geographic region. Council members are elected for a two year term of office, the President for a four year term. The council is scheduled to meet monthly but sometimes meets more often. This government was established by an IRA constitution in 1936 which was amended in 1962. The Council performs regulatory



functions in land use planning, air quality control, licensing fees on business, business/commercial development, and natural resource development. The tribe has adopted an administrative procedures act.

#### Tribal Environmental Protection Infrastructure

The tribe is currently implementing an environmental protection program which is responsible for air and water quality monitoring, developing and enforcing tribal environmental standards, the protection of endangered species, environmental rehabilitation/reclamation, making a hazardous waste inventory, and for pesticide enforcement/certification. The tribal Environmental Affairs Office is responsible for the conduct of these programs, and the Northern Cheyenne Environmental Commission is the committee within the tribal government which addresses environmental issues. The tribe has hired five staff people to work on environmental programs: a director, office manager, air specialist, hydrologist, and pesticide officer. The tribal government has cooperative agreements with the State of Montana and the Environmental Protection Agency for air quality monitoring and standards enforcement, with the United States Geological Survey for water quality monitoring, with the state level United States Department of Agriculture office and the Environmental Protection

Agency for pesticide certification and enforcement and with Big Horn County for sanitation and waste disposal.

#### Tribal Natural Resource Use

Soil analysis and classification has been completed for the reservation. The development of agricultural, forestry/timber, industry/manufacturing, recreation and grazing resources is currently being implemented and additional agricultural development is being planned. Water resources are currently being used for irrigation, fisheries, tourism/recreation and for livestock. Further development of water resources for tourism/recreation is being planned. There is no possibility of developing water resources for power generation.

#### Air Quality

The tribe has designated air quality standards as provided by the Clean Air Act. Air quality is designated under Class I. Air quality is monitored continuously by the tribe, state and privately (GeoResearch, Inc., Mr. Douglas Richardson, President (406) 248-6771) including data for total suspended particulates, sulphur and nitrogen dioxide, air toxics and visibility. There has been one measured TSP violation by arithmetic and geometric annual means of Class I ambient air quality standards at the Lane Deer townsite. Current and

potential major air pollution sources are the Colstrip I-IV fossil fuel fired power generation facility 15 miles away and the not yet operational MontCo coal mine half a mile away from the reservation.

### Water Quality

#### General Water Quality:

Standards have been drafted for water quality standards for on-reservation streams, rivers and lakes. These standards have been violated for fecal coliform, the breaching of a sewage lagoon into Lame Deer Creek, and the leaking of another lagoon. Reservation lakes/reservoirs suffer from both eutrophication and sedimentation. Actual sources of water pollution include sewage treatment plants, domestic wastes (sewage), hazardous materials spills, urban and agricultural run-off (especially from cattle waste), sediment run-off from construction and timber production and harvesting, pesticide/herbicide/nutrient run-off and toxicant build-up due to pesticide usage. Potential sources of water pollution include future sewage treatment plants, industrial discharges, hazardous materials spills and landfill leachate.

#### Drinking Water Quality:

There have been continuous water quality violations in the last five years when water quality did

not meet secondary and some primary standards for sulphate and TSP levels. This occurred in individual home sites only. There have also been raised levels of fecal coliform, almost continuously in Lane Deer Creek.

#### Community Water Supply:

There are five community drinking water supply systems on the reservation using 100 percent ground water sources. All of the systems are monitored quarterly for bacteriological quality. No other monitoring is done. All of the systems were just recently treated for water quality (chlorination). These systems are only for schools, hospitals etc., not for individual homesites and are located in townsites (Lane Deer, Birney, Busby, Muddy Cluster, and Ashland).

#### Individual Water Supply:

All of the 620 homesites on the reservation are served by individual wells. This covers 100 percent of the population. One percent of these wells are monitored quarterly for bacteriological quality and for inorganics.

#### Water Usage

The tribe is currently negotiating its water rights with the state so average annual consumption information in acre feet per year is confidential until negotiations are finalized.

### Domestic Waste Disposal (Sewage)

Lame Deer Townsite, Muddy Cluster, Ashland, Busby, and Birney all have community waste disposal systems. All these sites need improvement. Ashland and Birney sites are not functional, and Lame Deer needs to be expanded and improved. Individual homesites utilize septic fields and 121-projects have put in sanitation facilities using septic drainage fields.

### Solid Waste Storage and Disposal

Although the tribe has a plan for solid waste disposal, the plan is not effective, and the disposal of solid wastes is a major and growing problem on the reservation. Solid wastes are currently disposed of in a community dumpsite off the reservation (colstrip dump in Rosebud County) and by individual incineration. There is no tribal recycling program.

### Hazardous Waste Storage and Disposal

The tribe does not have a plan for the disposal of hazardous wastes. Although no hazardous wastes are generated on the reservation, old pesticides used by the BIA or CC programs, aldrin 4, sodium arsenate, old transformers, asbestos panels, industrial solvents and chemicals are stored on the reservation, some for over 50 years. None of these wastes has been stored in accordance with applicable tribal and/or federal law. Two abandoned

storage sites are at St. Labre School where industrial wastes are buried in an old sewage lagoon in The Tongue River flood plain and at Dull Knife College where barrels of old pesticides, transformers, asbestos panels and other industrial wastes are stored.

#### Nuclear Waste/Radiation

There are no deposits of uranium or other radioactive materials on the reservation. Nor are these uranium processing mills, nuclear power generation facilities or nuclear waste storage sites within 50 miles of the reservation. Neither has the reservation been selected as a potential area for a permanent nuclear waste storage site. However, nuclear materials are transported through the reservation, and statistically highway 212, which runs east/west through the reservation, is one of the most dangerous roads in the state as far as car accidents are concerned. Presently, the tribe has no emergency preparedness program to deal with a spill of nuclear materials caused by a highway accident.

#### Tribal Priorities

The most pressing environmental problems on the Northern Cheyenne Reservation in order of priority are: solid waste, sewage, safe drinking water, fish and wildlife management, hazardous waste storage, surface and ground water protection, air quality and pesticide enforcement.

## NARRATIVE PROFILE

Pine Ridge Reservation, South Dakota  
Environmental Contact:

Wayne M. Iteska, Coordinator  
Natural Resources Regulatory Agency  
Oglala Sioux Tribe  
Box 468  
Pine Ridge, South Dakota 57770  
(605) 867-5821 #235  
(605) 867-5624

EPA Region VIII: Chuck Gomez, Indian Work Group Coordinator

### Introduction

The Pine Ridge Reservation of the Oglala Sioux consists of 2.7 million acres, approximately 706,000 acres of which are tribally owned and 1,078,000 of which are in allotment. The population of the reservation is 14,699.

### Tribal Government

The 16 member Oglala Sioux Tribal Council is headed by a president elected to a two year term of office by tribal members. Council members are elected by district or region. The Council meets monthly. This governmental system was established with the adoption of an IRA Constitution in 1936. The Council performs regulatory functions in regard to water quality control, air quality control, tax collection (severance tax on minerals and sales tax) and licensing (for businesses), hunting/ fishing/game management, mineral resource development and criminal law. The tribe has not adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The Land Committee within the tribal government addresses environmental issues. The tribe employs a staff of eight to work on environmental programs, and the tribes' environmental protection program is currently implemented through the following tribal offices: Natural Resources Regulatory Agency, Air Quality Office, and Pesticides Office. The tribal environmental program is responsible for air and water quality monitoring, soil analysis (which has been completed), sanitation and water disposal, protection of endangered species and for developing and enforcing tribal environmental standards. The tribe also has cooperative agreements with the State of South Dakota Air Program and (for air quality standards enforcement) with the South Dakota Air Program on Standards.

### Tribal Natural Resource Use

Soil analysis and classification has been completed for the reservation. The use of agricultural, mining, industrial/manufacturing, recreation, commercial and grazing resources are being implemented. Water is currently used for irrigation, fisheries, tourism/recreation, and road projects.

### Air Quality

The tribe has designated air quality standards which are monitored continuously by the tribe in conjunction with EPA Region VIII's Special Studies Program. Data is collected for total suspended particulates, sulphur and nitrogen dioxide and carbon monoxide.

There have never been any measured violations of the national ambient air standards, but there are some potential sources of pollution: the proposed uranium mining at Crawford, Nebraska (75 miles away), the proposed sand and gravel mining on Pine Ridge itself and pollutants from agricultural pesticides in Bennett County, South Dakota (20 miles away).

### Water Quality

#### General Water Quality:

There are no tribal water quality standards for on-reservation streams, rivers and lakes, even though lakes and reservoirs are suffering from eutrophication and sedimentation. Actual water pollution stems from municipal discharges and sewage. Potential pollution might emanate from oxidation ponds, landfill leachate, urban and agricultural run-off, sediment run-off from construction and mining and from pesticide/herbicide/nutrient run-off.

#### Drinking Water Quality:

There have been no water quality violations of the reservations drinking water in the past five years and no outbreaks of water borne diseases.

#### Community Water Supply:

There are 15 community drinking water supply systems on the reservation, 99% using ground water. 25 % are treated for water quality, but none are monitored.

#### Individual Water Supply:

90% of the houses and population on the reservation depend on individual wells for drinking water. None are monitored.



### Water Usage

There was no information available on total annual water usage and consumption in acre feet.

### Domestic Waste Disposal (Sewage)

[This area was neglected in the original survey. Additional information was not received in time to be included in the final narrative.]

### Solid Waste Storage and Disposal

Solid waste management is the tribe's primary concern at the moment. It has no plan for the disposal of solid wastes, although it does have a 20 acre community waste disposal site. Incineration is also used both by the community and by individuals. The tribe has no recycling program.

### Hazardous Waste Storage and Disposal

Although the tribe has a plan for the disposal of hazardous wastes, none are either generated or stored on the reservation. Nor are there any abandoned storage sites on the reservation.

### Nuclear Waste/Radiation

The nearest source of nuclear/radioactive waste pollution is the proposed uranium mining operation 75 miles away at Crawford, Nebraska.

### Tribal Priorities

Solid waste management is the most pressing environmental problem for tribal members. The tribe is also particularly anxious that the proposed Indian Policy Amendments to Environmental Protection Agency policy in all areas (Clean Air Act, Safe Drinking Water Act, Solid Waste and Hazardous Waste Act, Toxics, and Water Quality Projects) be approved by Congress so tribes can apply for and receive funding for the establishment of complete environmental protection programs on reservations implemented by tribes for tribal members.

## NARRATIVE PROFILE

Rocky Boy's Reservation, Montana  
Environmental Contact:

Tom Weist  
Tribal Grantsperson  
The Chippewa Cree Tribe  
Rocky Boy's Reservation  
Rocky Boy Route  
Box Elder, Montana 59521  
(406) 395-4421

EPA Region VIII: Chuck Gomez, Indian Work Group Coordinator

### Introduction

The Rocky Boy's Reservation consists of 108,015 acres, all tribally owned. The population of the reservation is 2,169 (2,030 Chippewa Cree and 139 other Indian). No figures are available on the non-Indian population.

### Tribal Government

The nine member Chippewa Cree Business Committee, established by the Constitution and By-Laws of 1935, is the tribal governing body. Committee members and executive officers are elected at large by tribal members for four year staggered terms. The Committee meets monthly.

The regulatory functions performed by the tribal government include land use and water resource planning, hunting/fishing/game management, animal control, occupational health and safety, sanitation, the development of timber, fish and energy and non-energy mineral resources and civil and criminal law. The tribe has not adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The tribe is not currently implementing an environmental protection program. Although the Chippewa Cree Department of Natural Resources can conduct environmental programs, there is presently no staff so employed. There is also a committee within the tribal government, the Natural Resource Committee, which addresses environmental issues. The tribe also has cooperative agreements with the United States Geological Survey for water quality monitoring, with the Indian Health Service for sanitation and waste disposal and with the Soil Conservation Service and Bureau of Indian Affairs for soil analysis.

### Tribal Natural Resource Use

Soil analysis and classification have been completed for the reservation. The development of agricultural, recreational and grazing resources is currently being implemented with the development of forestry/timber, mining, industrial/manufacturing and commercial resources in the planning stages. Water resources are currently being used for irrigation, fisheries and tourism/recreation.

### Air Quality

The tribe has not designated air quality standards as provided in the Clean Air Act. However, air quality is monitored on a special study basis by the federal government through the Indian Health Service Center at Elder, Montana (Contact Henry Gardipee [406] 395-4404). The monitoring is only for carbon monoxide. Major sources of air pollution are limited to wood stoves, the Indian Health Service incinerator and the community dumps at Box Elder and Sangrey.

### Water Quality

#### General Water Quality

There are no tribal water quality standards for reservation streams, rivers and lakes. Reservation lakes/reservoirs do not suffer from eutrophication but some do from sedimentation.

Actual sources of water pollution include municipal discharges, domestic wastes (sewage) and sediment run-off due to construction. Potential sources include oxidation ponds, hazardous materials spills (from the post and pole plant), landfill leachate, agricultural run-off, sediment run-off due to mining and pesticide/herbicide/nutrient run-off due to the noxious weed program.

#### Drinking Water Quality

There have been violations of drinking water quality and outbreaks of water borne diseases in the last five years. Mineral constituents or the constituent indicators have not met primary or secondary drinking water standards, and there have been outbreaks of giardiasis from surface water sources.

### Community Water Supply:

There are eight community water supply systems on the reservation, all of which use ground water. All of the systems are monitored monthly for bacteriological quality, every three years for inorganics, and quarterly during the first year for radionuclides. No monitoring is done for pesticides. None of the systems are treated for water quality.

### Individual Water Supply:

Fifty-eight percent of the homes and 57% of the population of the reservation are served by individual wells. All new wells are tested for bacteria and inorganics upon completion. However, about 30% of existing wells have never been tested for bacteria and about 10% have never been tested for inorganics.

### Water Usage

There is no available data on the average annual consumption in acre feet of surface and ground water for different purposes.

### Domestic Waste Disposal (Sewage)

Figure I provides domestic waste disposal system information from Rocky Boy's IHS Environmental Health Profile and Priority Projection for FY-86. (See Figure I.)

### Solid Waste Storage and Disposal

The tribal government has no plan for the disposal of solid wastes, although this is a major problem on the reservation. Solid wastes are currently disposed of in four community waste disposal sites (7 acres altogether) and by individual incineration. There is no tribal recycling program except for one involving the collection of aluminum cans to help provide costs for eye glasses.

### Hazardous Waste Storage and Disposal

There is no tribal plan for the disposal of hazardous wastes even though such wastes are generated on the reservation: penta from a post and pole plant, as well as oil and natural gas and hydrogen sulfide from natural gas wells. For the last 15 years hazardous material in the form of gasoline has been stored at several gasoline stations on the reservation, but in accordance with tribal and federal regulations. There are no abandoned storage sites on the reservation.

FIGURE I. IHS Environmental Health Profile and Priority Projection, FY-85.

R. 1. LIQUID WASTE DISPOSAL SYSTEM (COMMUNITY)

COMMON NAME OF SYSTEM	COMMUNITY SERVED	OWNERSHIP	NUMBER OF HOMES	TYPE OF TREATMENT	REMARKS
Rocky Boy Agency	Rocky Boy	Bureau of Indian Affairs	59	Four cell lagoon, approx. 3.3 acres.	The Rocky Boy Elementary and High School along with the Health Center are hooked into this treatment pond.
Box Elder	Box Elder	Chippewa-Cree Tribe	38	Three cell lagoon	The grass around the lagoon should be trimmed in the summer to have better wind action. *Five new houses under construction will be hooked into system.
Azure	Azure	Chippewa-Cree Tribe	26	Three cell lagoon with one lined cell being used at the present time.	The old cells should be lined and put into operation for the colder months. *Twelve new houses under construction will be hooked into system.
Sangrey	Upper & Lower	Chippewa-Cree Tribe	18	Two cell lagoon and a lift station	The lift station pumps the liquid waste for 7 homes to the lagoon. *Three new houses under construction will be on upper lagoon.

B. 2. LIQUID WASTE DISPOSAL SYSTEMS (INDIVIDUAL)

COMMUNITY OR DISTRICT LOCATION	NUMBER OF INDIVIDUAL SYSTEMS	TYPE	REMARKS
Sangrey	78	63 1,000 gallon concrete septic tanks and drain fields. 1 privy.	Twenty (20) of these homes are in the Sangrey community with septic tanks and drain systems.
Duck Creek	27	26 1,000 gallon septic tanks and drain fields, and 1 individual lagoon shared by two families.	*One new house under construction
Haystack	60	57 septic tanks and drain fields. One (1) individual lagoon serving 3 homes and 2 individual lagoons.	Four new houses under construction
Parker	41	40 septic tanks and drain fields. 1 privy.	
Parker Canyon	24	24 septic tanks and drain fields.	
Agency	14	14 septic tanks and drain fields	
New Town	34	33 septic tanks and drain fields. 1 privie.	
Lower Box Elder Road	33	33 septic tanks and drain fields	
Box Elder Community	14	8 septic tanks and drain fields, 5 homes on the Box Elder City lagoon, and 1 home with an individual lagoon.	

### Nuclear Waste/Radiation

*Even though there are uranium deposits on the reservation they have never mined, nuclear waste/radiation is not a problem on Rocky Boy or within a fifty mile radius of the reservation.*

### Tribal Priorities

*The most pressing environmental problems on Rocky Boy's in order of priority are solid waste disposal, hydrogen sulfide from natural gas in ground water sources and soil erosion.*

## NARRATIVE PROFILE

Rosebud Indian Reservation, South Dakota  
Environmental Contact:

Mr. Syed Y. Huq  
Director  
Water Resources  
Tribal Water Resource Office  
Rosebud Sioux Tribe  
Rosebud Indian Reservation  
Rosebud, South Dakota 57570  
(605) 747-2559

EPA Region VIII: Chuck Gomez, Indian Work Group Coordinator

### Introduction

The Rosebud Sioux Reservation consists of 957,000 acres of which 522,559 acres are tribally owned and 434,441 acres are in allotment. The population of the reservation is 11,744.

### Tribal Government

The 33 member Rosebud Sioux Tribal Council, established by charter as a federal corporation in 1934, is the tribal governing body. The Chairman and Vice-Chairman are elected by tribal members at large. Council members are elected by their respective communities and the tribal Secretary and Treasurer are elected by Council members. All serve four year terms. The Council meets monthly.

The regulatory functions performed by the tribal government include water resource planning, water and air quality control, soil conservation, severance tax on minerals, licensing fees on business, sales and excise tax, business/commercial development, hunting/fishing/game management, animal control, sanitation, timber and fish resource development, the development of energy and non-energy mineral resources and civil and criminal law. The tribe has adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The tribe is currently planning the implementation of a comprehensive environmental protection program. This program will be responsible for air and water quality monitoring, for developing and enforcing tribal environmental standards, for animal control, the protection of endangered species and emergency preparedness/evacuation. The tribal offices involved with the planning, development and implementation of tribal environmental programs are the Office of Water Resources and



Pesticide Enforcement (Syed Y. Huq), the Office of Natural Resources (Tom Frederick) and the Water and Sewer Commission (Louis Schmidt). Sixteen staff are currently employed by the tribe to work on environmental programs, and the Land and Natural Resources Committee of the tribal government also addresses environmental issues. In addition, the tribal government has cooperative agreements with federal governmental entities for air quality standards enforcement, for soil analysis, animal control and the protection of endangered species, with state governmental entities for emergency preparedness/evacuation, and with combined state-federal programs for water quality monitoring and standards enforcement. In addition, the tribe has a proposal submitted to the Region VIII Environmental Protection Agency office for air quality monitoring.

#### Tribal Natural Resource Use

Soil analysis and classification has been completed for the reservation.

Agricultural, forestry/timber, mining, recreational, and grazing resources are currently being developed, and the development of industrial/manufacturing, commercial and oil and gas resources is in the planning stages. Water resources are currently being used for irrigation, fisheries, and tourism/recreation. The further development of ground water resources and of the rural water system is being planned as is the use of water resources for power generation and transportation.

#### Air Quality

The tribe is planning the designation of air quality standards as provided by the Clean Air Act, but no monitoring is currently being done. A proposal has been submitted to the Region VIII Environmental Protection Agency Office in Denver, but for lack of funds the earliest the proposal can possibly be considered is 1988 (Mr. DeWitt Baulch, Air Programs Indian Coordinator). Unless the tribe has the proposed monitoring program implemented there is no way of knowing if national ambient air quality standards are being violated. There are no major sources of air pollution within a 50 mile radius of the reservation.

#### Water Quality

##### General Water Quality:

There are tribal water quality standards for reservation streams, rivers and lakes which have been violated by dissolved oxygen levels in Chases Woman Lake and high fecal coliform counts in another lake and a stream. Reservation lakes/reservoir are also suffering from eutrophication and sedimentation.

Actual sources of water pollution include sewage treatment plants oxidation ponds and municipal discharges. Potential sources of water pollution include domestic wastes (sewage), landfill leachate, and urban and agricultural run-off.

#### Drinking Water Quality

There have been both water quality violations of the reservations drinking water and outbreaks of water borne diseases in the last five years which have included high total coliform in some wells pumping ground water, high fecal coliform in stream and lake water, fecal coliform contamination of other surface water and shigellosis.

#### Community Water Supply:

There are 21 community water supply systems on Rosebud. Of these 5% use surface water, and 95% use ground water. Seventy-five percent of the systems are monitored quarterly and 25% annually for bacteriological quality, 100% annually for inorganics and pesticides and 25% annually for radionuclides. All of the systems are treated for water quality.

#### Individual Water Supply:

Three hundred fifteen homes or 15% of the population of the reservation are served by individual wells for drinking water. Twenty-five percent of these wells are monitored annually for bacteriological quality, inorganics, pesticides and radionuclides.

#### Water Usage

Average annual consumption of water for domestic purposes is 3.31 acre feet of surface water (0.07% of total annual consumption) and 505.83 acre feet of ground water (8.72% of total annual consumption). For irrigation annual consumption is 4,500 acre feet of surface water (99.93% of total annual consumption) and 5,200 acre feet of ground water (89.64% of total annual consumption). For industrial purposes average consumption is 95.44 acre feet of ground water annually (1.64% of total annual consumption). Total average annual consumption is, thus, 4,503.31 acre feet of surface water and 5,801.27 acre feet of ground water.

#### Domestic Waste Disposal (Sewage)

[This area was neglected in the original survey. Additional information was not received in time to be included in the final draft of the narrative.]

### Solid Waste Storage and Disposal

The tribal government has no plan for the disposal of solid wastes although such wastes are a major problem on the reservation. Most solid wastes are currently disposed of in a 40 acre community dump site and by individual incineration. There is no tribal recycling program.

### Hazardous Waste Storage and Disposal

Hazardous waste storage and disposal is not a problem on Rosebud.

### Nuclear Waste/Radiation

Nuclear waste/radiation is not a problem on Rosebud or within a 50 mile radius of the reservation, although it is unknown whether nuclear materials are transported through the reservation.

### Tribal Priorities

The most pressing environmental problems on Rosebud in order of priority are the need for waste water treatment facilities, solid waste disposal, surface water quality, particularly in the northern parts of the reservation, and the funds, as outlined in the tribe's proposal to the Environmental Protection Agency, to implement air quality monitoring on the reservation.

## NARRATIVE PROFILE

Southern Ute Indian Tribe Reservation, Colorado  
Environmental Contact:

Michael Frost, Air Quality Specialist  
Bennet Thompson, Solid Waste Specialist  
Southern Ute Indian Tribe  
Tribal Affairs Building  
P.O. Box 737  
Ignacio, Colorado 81137  
(303) 563-4525

EPA Region VIII Chuck Gomez, Indian Work Group Coordinator

### Introduction

Within the exterior boundaries of the Southern Ute Indian Reservation there are approximately 671,834 acres. 304,168 acres are tribally owned, and 6,790 acres are in allotment lands. The Southern Ute Indian Reservation also consists of 48,860 acres of National Forest and 312,124 acres are private lands. The population of the reservation is 11,050; 1050 Ute, 10,000 nonIndian, and no information is available for other Indians.

### Tribal Government

The seven member Southern Ute Indian Tribal Council (including the tribal Chairman) is elected by tribal members at large for three year terms. There are staggered terms. The Council meets weekly. This government was established by corporate charter on November 1, 1938. The Council performs regulatory functions as regards land use planning, tax collection and licensing fees (severance tax on minerals, income tax and sales tax), hunting/fishing/game management and civil and criminal law. The tribe has adopted a Constitution which was approved by the Commissioner of Indian Affairs on October 1, 1975. The tribe has no adopted an administration procedures act.

### Tribal Environmental Protection Infrastructure

The tribe is currently implementing an environmental protection program which is responsible for air quality monitoring, the development of tribal environmental standards and sanitation and waste disposal. Two staff people, an air quality specialist and a solid waste specialist, are employed by the tribe to work on environmental programs. The Council has cooperative agreements with the Environmental Protection Agency for air quality monitoring and sanitation and waste disposal and with the Indian Health Service for water quality monitoring.

### Tribal Natural Resource Use

A soil analysis was completed by the Soil Conservation Service for the entire reservation. An irrigation, range and soil inventory was completed by the Bureau of Indian Affairs. This study concluded that irrigation and land capabilities were best utilized along the Pine River. Agricultural, forestry/timber, recreational, and grazing resources are currently being developed. Mining resource development is being planned. Water resources are currently being used for irrigation and tourism/ recreation. There are no current plans for future water resources development.

### Air Quality

The tribe has designated air quality standards as provided in The Clean Air Act, and reservation air quality is designated under Class II by the Clean Air Act which so categorizes those lands other than wilderness and National Parks. Air quality is monitored continuously by the tribe and includes data for total suspended particulates, sulphur and nitrogen dioxide, ozone and visibility. There have been no measured violations of national ambient air quality standards. Major air pollution sources within a 50 miles radius of the reservation are The Four Corners Power Plant, The San Juan Power Plant and the Northwest Pipeline Processing Plant (which is located within the exterior boundaries of the reservation).

### Water Quality

#### General Water Quality:

There are no tribal water quality standards for reservation streams, rivers and lakes. They are not suffering from either eutrophication or sedimentation. There are no actual sources of water pollution. Potential sources include sewage and water treatment plants, domestic wastes (sewage), agricultural run-off and sediment run-off due to construction.

#### Drinking Water Quality:

There were drinking water quality violations in August and December of 1985 due to TDS levels being too high in the surface water, also some bacteriological samples were positive for coliform bacteria. No other violations have occurred since September 1985.

### Community Water Supply:

There is one community drinking water supply system on the reservation and it uses 100% surface water. This system is monitored annually for inorganics, pesticides, and a cumulative sample taken over a one year period for radionuclides. Bacteriological quality is monitored monthly. The community water supply is treated for water quality at a filtration plant owned and operated by the tribe. This system supplies the Ignacio area and is treated for water quality one hundred percent.

### Individual Water Supply:

There are 85 individual wells located around the Ignacio area, with 11 wells located within the limits of Ignacio. An estimated thirty percent of population use individual wells for drinking water in this area. No information is available for the entire reservation. Routine bacteriological and chemical tests are completed when the well is originally drilled. No further monitoring is done, unless there is a problem which requires more testing.

### Water Usage

Domestic water usage consumes about 576 acre feet per year of surface water and 26 acre feet per year of ground water. No other information available as to acre feet per year for irrigation and recreation. Other purposes of water usage were found to be inapplicable.

### Domestic Waste Disposal(Sewage)

#### Community Systems:

There are two liquid waste disposal systems that service the Ignacio area. Approximately 300 non-tribal facilities and homes and approximately 225 tribal facilities and homes are served by the community sewer system. This system is under the jurisdiction of the Ignacio Sanitation District and is periodically inspected by the Colorado State Health Department. The second system services seven Tribal Mutual Help homes. This system is owned by the Southern Ute Public Housing Authority and is maintained by the Southern Ute Tribe, constructed with plans and specifications by the Indian Health Service. No other information available for the entire reservation.

#### Individual Systems:

Forty-nine septic tank drainfield and two septic tank lagoon liquid waste disposal systems are located on the reservation.

### 121-Projects:

Through Public Law 86-121 the Indian Health Service provides a Sanitation Facilities Program for the Southern Ute Reservation. Through P.L. 86-121 tribal members receive water facilities and sewage disposal systems for their homes. Future P.L. 121 projects will vary depending upon available funding and community needs.

### Solid Waste Storage and Disposal

The tribe does have a plan for the disposal of solid wastes and the Southern Ute Reservation is one of the few reservations where the disposal of solid wastes is not a problem. Wastes are disposed of in a two acre tribal landfill and in two 2 acre county landfills. There is no tribal recycling program.

### Hazardous Waste Storage and Disposal

The tribal government has no plan for the disposal of hazardous wastes, but hazardous wastes are not now nor ever have been generated or stored on the reservation.

### Nuclear Waste/Radiation

There are no deposits of uranium or any other radioactive materials on the reservation. There is, however, a uranium processing mill and uranium mill tailings 24 miles northwest of the reservation. There are no uranium power generation facilities or nuclear waste storage sites within 50 miles of the reservation. The reservation has not been selected as a potential area for a permanent nuclear waste disposal site. Nor are nuclear materials transported through the reservation.

### Tribal Priorities

#### Brine Water Waste Disposal:

With the production of oil and gas on the reservation and the amounts of water that are being produced a need for monitoring the disposal of waste water has become a major topic among tribal officials, as well as neighbors of the tribe living within the boundaries of the reservation. A need for enforcement of violations which occur need to be addressed by the tribe, state and EPA as to the responsibility of each. These disposal pits which are currently being used for storage of brine water need to be monitored, especially those located near individual water supplies.

#### Other:

Water Quality, Air Quality, Solid Waste Management are not major priorities at this time, but these are concerns at the local level.

## NARRATIVE PROFILE

Standing Rock Sioux Reservation, North Dakota  
Environmental Contact:

Charles W. Murphy  
Chairman  
Standing Rock Sioux Tribe  
Standing Rock Sioux Reservation  
P.O. Box D  
Fort Yates, North Dakota 58538  
(701) 854-7231

EPA Region VIII: Charles Gomez, Indian Work Group Coordinator

### Introduction

The Standing Rock Sioux Reservation consists of 2.3 million acres in combined ownership. The population of the reservation is 10,463 including Indian and non-Indians.

### Tribal Government

The 18 member Standing Rock Sioux Tribal Council, established by Constitution in 1889, is the governing body for the reservation. Tribal officials are elected by tribal membership for four year terms. Ten council members are elected at large and eight by district/geographic region. The Council meets monthly.

The tribal government performs regulatory functions in the following areas: land use and water resource planning, soil conservation, land use taxes and fees, hunting/fishing/game management, the development of fish resources and civil and criminal law. The tribe has adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The tribe is not currently conducting an environmental protection program. There are, however, two committees within the tribal government which address environmental issues: the Economics and the Health, Education and Welfare Committees. The tribe has a cooperative agreement with the Soil Conservation Service for soil analysis.

### Tribal Natural Resource Use

Soil analysis and classification have been completed for the reservation. Agricultural and grazing resources are currently being developed with plans for the development of mining, industrial/manufacturing, recreational and commercial resources. Water is currently used for irrigation with plans to use water resources for power generation, fisheries, tourism/recreation and transportation.



### Air Quality

The tribe has not designated air quality standards as provided in the Clean Air Act. The tribe has no air quality program and did not identify any major sources of air pollution within a fifty mile radius of the reservation.

### Water Supply

#### General Water Quality:

There are no tribal water quality standards for reservation streams, rivers and lakes. Some of the lakes/reservoirs are suffering from sedimentation. Actual sources of water pollution include municipal discharges and domestic wastes (sewage), and potential sources include sewage and water treatment plants, oxidation ponds, urban run-off and toxicant build up due to pesticide use.

#### Drinking Water Quality:

There have been some drinking water quality violations in the last five years but no outbreaks of water borne diseases.

#### Community Water Supply:

There are 8 community drinking water supply systems on the reservation. The water source for 65% of the systems is surface water and for 35% of the systems, ground water. Systems are checked quarterly for bacteriological quality and annually for inorganics and pesticides. Thirty percent of the systems are treated for water quality.

#### Individual Water Supply:

Thirty-eight percent of the homes and of the population on the reservation use individual wells for drinking water. These wells are checked annually for bacteriological quality and inorganics.

### Water Usage

Information on average annual water consumption rates in acre feet for different purposes has not yet been compiled.

### Domestic Waste Disposal(Sewage)

[This area was neglected in the original survey. Additional information was not received in time to be included in the final draft of the narrative.]

### Solid Waste Storage and Disposal

The tribal government has no plan for the disposal of solid wastes which are a major problem on the reservation. Presently, they are disposed of in a community dump site of approximately twelve acres. There is no tribal recycling program.

### Hazardous Waste Storage and Disposal

The tribal government has no plan for the disposal of hazardous wastes. They are neither generated nor stored on the reservation.

### Nuclear Waste/Radiation

There are no deposits of uranium or other radioactive materials on the reservation. Nor are there uranium processing mills, nuclear power generation facilities or nuclear wastes stored within 50 miles of the reservation. No information was given as to whether the reservation has been selected as a potential area for a permanent nuclear waste disposal site, nor on whether nuclear materials are transported through the reservation.

### Tribal Priorities

The Standing Rock Sioux have indentified their most pressing environmental problems as water quality control and land use control.

## NARRATIVE PROFILE

Yankton Sioux Reservation, South Dakota  
Environmental Contact:

Joe Abdo, Jr.  
Tribal Planner  
Yankton Sioux Business & Claims Committee  
P.O. Box 248  
Marty, South Dakota 57361  
(605) 384-3804

EPA Region VIII: Chuck Gomez, Indian Work Group Coordinator

### Introduction

The Yankton Sioux Reservation consists of 41,000 acres, 24,900 acres of which is tribally owned and 17,000 acres of which is in allotment. The Indian population of the reservation is 5,200.

### Tribal Government

The 9 member Yankton Sioux Tribe Business and Claims Committee, established by the Constitution of 1963, is the tribal governing body. The Chairman and Committee members are elected at large by tribal members for 2 year terms. The Committee meets weekly.

The regulatory functions performed by the tribal government include land use planning, soil conservation, business/commercial development, hunting/fishing/game management, animal control, occupational health and safety, sanitation, timber development and civil and criminal law. The tribe has not yet adopted an administrative procedures act.

### Tribal Government Protection Infrastructure

The tribe is not currently implementing an environmental protection program. There is no committee within the tribal government which addresses environmental issues. The tribe does, however, have some cooperative agreements: with the Public Health Service for water quality monitoring and standards enforcement, sanitation and waste disposal, soil analysis and animal control and with the Fish and Wildlife Department for the protection of endangered species.

### Tribal Natural Resource Use

Soil analysis and classification have been completed. Land resources are currently being used for agricultural development, industry/manufacturing, recreation, commercial development and grazing. Water resources are currently used for irrigation with planned usage for fisheries, tourism/recreation and transportation.

## Air Quality

The tribe has not designated air quality standards as provided in the Clean Air Act. Air quality is not monitored. Major air pollution sources, all on-reservation, are incineration, weed burning, and herbicides and pesticides.

## Water Quality

### General Water Quality:

There are no tribal water quality standards for on-reservation streams, rivers and lakes. The lakes/reservoirs are suffering from eutrophication and sedimentation.

Actual sources of water pollution include agricultural run-off and pesticide/herbicide/nutrient run-off. Potential sources include sewage and water treatment plants, oxidation ponds, domestic wastes (sewage), landfill leachate, urban run-off and toxicant build-up due to pesticide use.

### Drinking Water Quality:

There have been no drinking water violations in the last five years nor any outbreaks of water borne diseases.

### Community Water Supply:

There are 4 community drinking water supply systems on the reservation. Seventy-five percent use surface water and 25% ground water. They are monitored annually for bacteriological quality and inorganics. Seventy-five percent of the systems are treated for water quality.

### Individual Water Supply:

Sixty-five percent of the homes and 30% of the population on the Yankton Sioux Reservation are served by individual family wells. No monitoring is being done.

## Water Usage

Data for the average annual consumption in acre feet of ground water and surface water for different purposes are not yet available.

#### Domestic Waste Disposal (Sewage)

[This area was neglected in the original survey, and additional information was not received in time to be included in the final draft of the narrative.]

#### Solid Waste Storage and Disposal

The tribal government has no plan for the disposal of solid wastes which are a growing problem on the reservation. They are currently disposed of in a community landfill (40 acres but past capacity) and by community and individual incineration. The tribe does not sponsor a recycling program.

#### Hazardous Waste Storage and Disposal

The tribe has no plan for the disposal of hazardous wastes, nor are they a problem on the reservation.

#### Nuclear Waste/Radiation

Nuclear waste/radiation are not a problem on the reservation.

#### Tribal Priorities

The Yankton Sioux have identified their most pressing environmental problems in order of priority as water quality, air quality, sanitation and waste disposal and potential pesticide/herbicide pollution.

#### Additional Comments

The Yankton Sioux at present have no environmental program in operation. The need to implement such programs is essential in order "to protect the environment and the Native American living on the Yankton Sioux Reservation."

REGION IX

Indian Work Group Coordinator: Mike Monroe

Benton Paiute Reservation

Berry Creek Rancheria

Cabazon Indian Reservation

Colorado River Indian Reservation

Colusa Indian Reservation

Ely Shoshone Colony

Hopi Reservation

Hoopa Valley Reservation

Hualapai Reservation

The Navajo Nation

Pyramid Lake Paiute Reservation

Rincon Indian Reservation

San Carlos Apache Reservation

Santa Rosa Rancheria

Susanville Rancheria

## NARRATIVE PROFILE

Benton Paiute Reservation, California  
Environmental Contact:

Joseph C. Saulque  
Manager/Planner  
Uta Uta Gwaitu Paiute Tribe  
Benton Paiute Reservation  
Star Route 4  
Box 56-A  
Benton, California 93512  
(619) 933-2321

EPA Region IX: Mike Monroe, Indian Work Group Coordinator

### Introduction

The Benton Paiute Reservation consists of 160 acres all of which are tribally owned. The population of the reservation is 90 Uta Uta Gwaitu Paiute.

### Tribal Government

The five member Uta Uta Gwaitu Paiute Tribal Council, established by the Constitution of 1986, is the tribal governing body. The Council members and Chairman are elected at large by tribal members for two year terms. The Council meets monthly.

The regulatory functions performed by the tribal government include land use and water resource planning, water quality control, business/commercial development, animal control and civil law. Ordinances for tax collection and licensing fees are in the development stage. The tribe has not adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The tribe does not yet have an environmental protection program. Studies have been done regarding soil analysis and the protection of endangered species, and ordinances are being developed regarding animal control. There are only two tribal offices, the Office of the Manager/Planner and the Fiscal Office. Part of the Manager/Planner's current responsibilities is to work on environmental programs. There is no committee within the tribal government which addresses environmental issues, but the tribal government has cooperative agreements with the Indian Health Service regarding water quality monitoring and standards enforcement as well as sanitation and waste disposal.

### Tribal Natural Resource Use

Soil analysis and classification has been completed for the reservation. Land resources are used for residential purposes only, and water resources are used for wells (two in all).

### Air Quality

The tribe has not designated air quality standards as provided in the Clean Air Act. Air quality is monitored by the state, but it is not known for what parameters. It is unknown if national ambient air quality standards have been violated. Air pollution sources on/near the reservation (within a fifty mile radius) are limited to wood burning stoves on the reservation.

### Water Quality

#### General Water Quality:

There are no actual sources of water pollution. Potential sources include domestic waste (sewage) and sediment runoff due to construction.

#### Drinking Water Quality:

There have been no drinking water violations or outbreaks of water borne diseases in the past five years.

#### Community Water Supply:

There is one community water supply system on the reservation using 100% ground water. This system is not monitored, nor is it treated for water quality.

#### Individual Water Supply:

There are no individual wells on the reservation.

### Water Usage:

Figures are not available for average annual water consumption in acre feet. Water, however, is used only for domestic and municipal purposes, and no surface water is consumed. Ninety-five percent of all ground water consumption is for domestic purposes and 5% for municipal purposes.



#### Domestic Waste Disposal (Sewage)

[This area was neglected in the original survey. Additional information was not received in time to be included in the final draft of the narrative.]

#### Solid Waste Storage and Disposal

The tribal government has no plan for the disposal of solid wastes, but this is not a problem on the reservation. Tribal members use a dump site controlled by Mono County and a two acre Bureau of Land Management site. The tribe sponsors the recycling of aluminum but nothing else as yet.

#### Hazardous Waste Storage and Disposal

Hazardous wastes are not a problem on the reservation.

#### Nuclear Waste/Radiation

Nuclear waste/radiation is not a problem on the reservation.

#### Tribal Priorities

The Uta Uta Gwaitu Paiute Tribe did not identify any pressing environmental problems.

## NARRATIVE PROFILE

Berry Creek Rancheria, California  
Environmental Contact:

Berry Creek Rancheria  
1779 Mitchell Avenue  
Orville, California 95966

EPA Region IX: Mike Monroe, Indian Work Group Coordinator

### Introduction

The isolated Berry Creek Rancheria consists of 33 1/3 acres, all of which are tribally owned. The population of the reservation is 10 Tyme Maidu Indians.

### Tribal Government

The four member Berry Creek Rancheria General Council, established by Articles of Association in 1977, is the tribal governing body. Council members/tribal officers are elected at large by tribal members for two year terms. The Council meets monthly. No information was available on the regulatory functions performed by the tribal government. The tribe has not adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The tribe is not currently implementing an environmental protection program.

### Tribal Natural Resource Use

Soil analysis and classification have been completed for the rancheria. The development of forestry/timber resources is currently being planned as is the development of power generation capacities and irrigation.

### Air Quality

The rancheria has no air quality program.

### Water Quality

#### General and Drinking Water Quality:

There have been no water quality violations or outbreaks of water borne diseases in the last five years. No information was available on either current or potential sources of water pollution.

#### Community Water Supply:

There is one community water supply system on the reservation which uses 100% ground water. It is not monitored at this time.

#### Individual Water Supply:

There are no individual wells on the rancheria.

#### Water Usage:

No average annual water consumption figures in acre feet are available.

#### Domestic Waste Disposal (Sewage)

Each house has its own septic tank.

#### Solid Waste Storage and Disposal

No information was available on the management of solid wastes. The tribe has no recycling program.

#### Hazardous Waste Storage and Disposal

There is no problem with hazardous wastes on the rancheria.

#### Nuclear Waste Storage and Disposal

There is no problem with nuclear wastes on the rancheria.

#### Tribal Priorities

The Rancheria did not identify its environmental priorities.

## NARRATIVE PROFILE

Cabazon Indian Reservation, California  
Environmental Contact:

Arthur Welmas  
Tribal Chairman  
Cabazon Band of Mission Indians  
Cabazon Indian Reservation  
84-245 Indio Springs Drive  
Indio, California 92201  
(619) 342-5155

EPA Region IX: Mike Monroe, Indian Work Group Coordinator

### Introduction

The Cabazon Indian Reservation consists of 1,460 acres in three separate parcels miles from each other. Approximately 100 acres are tribally owned, and 460 acres are in allotment. The total population of the reservation is 56 (25 Cabazon Band, 8 other Indians and 23 non-Indians).

### Tribal Government

The 18 member General Tribal Council consists of all adult members of the band. The five member Tribal Business Committee (including the chairman and other executive officers) is the governing body of the tribe. The Committee members and Chairman are elected at large by tribal members for four year terms. General Council meetings are held bi-weekly. This form of government was established by Articles of Association in 1965.

The regulatory functions performed by the tribal government include land use and water resource planning, soil conservation, tax collection and licensing fees including licensing fees on business, sales tax, gross income tax and a hunting tax, business/commercial development, zoning, hunting/fishing/game management, animal control, occupational health and safety, sanitation and civil and criminal law. The tribe has adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The tribe is currently implementing an environmental program which is responsible for soil analysis, developing tribal environmental standards, animal control, protection of endangered species, sanitation and waste disposal, emergency preparedness/evacuation and the development of ordinances and codes for environmental issues and the control of future development. The tribal offices which conduct environmental programs are the Tribal Health and Safety Office and the Tribal Administration.

Two staff are employed to work on environmental programs, and the Business Committee addresses environmental issues as well. In addition, the tribal government has cooperative agreements with the Valley Sanitary District for sanitation and waste disposal, with the United States Department of Agriculture for soil analysis, with the Fringe-Toed Lizard Habitat Area for the protection of endangered species, with the county of Riverside Health & Sanitation Department for restaurant inspections, and informal agreements with local fire and police departments for emergency preparedness and evacuation.

#### Tribal Natural Resource Use

Soil analysis and classification has been completed for some sections but not for all of the reservation. Land resources are currently being used for recreational and commercial development. Industrial/manufacturing, recreational and commercial development and the development of housing and apartments is being planned.

#### Air Quality

The tribe has not designated air quality standards as provided in the Clean Air Act. Air quality is not monitored by the tribe.

#### Water Quality

##### General Water Quality

There are no actual sources of water pollution. Potential sources include sewage treatment plants and domestic wastes (sewage).

##### Drinking Water Quality

There have been violations of the State of California's bacteriological standards for drinking water in April 1984 and May 1985. This occurred in the ground water. There have been no outbreaks of water borne diseases.

##### Community Water Supply:

Water on the reservation is presently supplied by the City of Indio on a fee basis. This is 100% ground water which is monitored four times a month for bacteriological quality and every four years for inorganics, pesticides and radionuclides. The system is not treated for water quality.

##### Individual Water Supply:

There are no individual wells on the reservation.

### Water Usage

No figures are available for a breakdown of average annual water consumption in acre feet for different purposes. But total average, annual water consumption consists of 300-350 acre feet of ground water.

### Domestic Waste Disposal (Sewage)

#### Community Systems:

Section 19 (191 acres) of the Cabazon Indian Reservation is tied into Valley Sanitary District Sewage.

#### Individual Systems:

Four household septic tank systems are installed on the reservation.

#### 121-Projects:

N/A. A tribal ordinance exists controlling who and where septic tanks or district sewage exists.

### Solid Waste Storage and Disposal

The tribe does have a plan for the disposal of solid wastes, and they are not a problem on the reservation. A dump site in an adjacent county is used. The tribe sponsors an aluminum recycling program.

### Hazardous Waste Storage and Disposal

The tribe has a plan for the disposal of hazardous wastes, and they are not a problem on the reservation.

### Nuclear Waste/Radiation

Nuclear waste/radiation is not a problem on the reservation except for the transportation of nuclear materials on the I-10 Interstate.

### Tribal Priorities

The Cabazon Reservation's environmental priorities are (1) the need for technical assistance in the development of air and water quality systems and monitoring capacity and (2) dust control.

## NARRATIVE PROFILE

Colorado River Indian Reservation, Arizona  
Environmental Contact:

Colorado River Indian Tribal Council  
Route #1, Box 23-B  
Parker, Arizona 85344

EPA Region IX: Mike Monroe, Indian Work Group Coordinator

### Introduction

The Colorado River Indian Reservation consists of 268,691 acres, of which 261,842 are tribally owned and 6,850 are in allotment. The enrolled members of the reservation are of Mohave, Chemehuevi, Hopi and Navajo descent, but they are all enrolled only as Colorado River Indian Tribes. The population of the reservation is 4,800.

### Tribal Government

The 9 member Colorado River Indian Tribal Council, established by the Constitution of 1937 (revised 1975), is the tribal governing body. The Chairman and Council members are elected at large by tribal membership for four year terms. The Council meets monthly.

The regulatory functions performed by the tribal government include land use planning, licensing fees on business, business/commercial development, hunting/fishing/game management, animal control, sanitation, natural resource development and civil and criminal law. The tribes have not adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The tribes are currently implementing an environmental protection program which is responsible for air and water quality monitoring, soil analysis, developing and enforcing tribal environmental standards, protection of endangered species, sanitation and waste disposal, environmental rehabilitation/reclamation, pesticide control, hazardous waste control and fish and game regulations. The tribal offices which conduct this program are the C.R.I.T. (Colorado River Indian Tribes) Environmental Protection Office, the C.R.I.T. Museum and the C.R.I.T. Fish and Game Department. The tribes directly employ a staff of two to work on environmental programs, and there are two committees within the tribal government, Environmental Protection and Agriculture, which address environmental issues. The tribes also have cooperative agreements with La Paz County for sanitation and waste disposal, with the U.S. Bureau of Reclamation, and with the California Fish and Game Department and the U.S. Fish and Wildlife Service for the protection of endangered species. There is also a program for Pesticide Use Control.

### Tribal Natural Resource Use

Land resources are currently being used for agricultural development, mining, industry, manufacturing, recreation, tourism, commercial development and grazing. Planning is currently going on for the use of land resources for forestry/timber and for additional industry/manufacturing. Water resources are used for power generation, irrigation, fisheries, tourism/recreation, and transportation. Planning is underway for the use of water resources for the production of industrial grade gypsum.

### Air Quality

The tribes have not designated air quality standards as provided in the Clean Air Act. Nor is the air monitored by any non-tribal agency. There are no major sources of air pollution within a fifty mile radius of the reservation.

### Water Quality

#### General Water Quality:

There are no tribal water quality standards for on-reservation streams, rivers and lakes. The reservation lakes/reservoirs are not suffering from either eutrophication or sedimentation. There are no actual sources of water pollution, but potential sources include sewage and water treatment plants, oxidation ponds, domestic wastes (sewage), hazardous materials spills, landfill leachate, urban and agricultural run-off, sediment run-off from mining, pesticide/herbicide/nutrient run-off, toxicant build-up due to pesticide usage and on-lot disposal.

#### Drinking Water Quality:

There have been no drinking water quality violations in the past five years nor any outbreaks of water borne diseases.

#### Community Water Supply:

There are 3 community drinking water supply systems on the reservation. They use 100% ground water and are monitored monthly for bacteriological quality. All the systems are treated for water quality.

#### Individual Water Supply:

There are no individual wells on the reservation.



### Water Usage

Data were not available for the average annual use in acre feet of ground water and surface water for different purposes.

### Domestic Waste Disposal (Sewage)

[This area was neglected in the original survey. Additional information did not arrive in time to be included in the final draft of the narrative.]

### Solid Waste Storage and Disposal

Although the tribe has a plan for the disposal of solid wastes, they are still a major problem on the reservation. Such wastes are currently disposed of in a 160 acre community landfill. The tribes have no recycling program.

### Hazardous Waste Storage and Disposal

The tribes do have a plan for the disposal of hazardous wastes. Although no hazardous wastes are generated on the reservation, some are stored there. PCB's and transformer oils have been stored on the reservation for 15 years but not in accordance with tribal or federal law. They are now in the process of being cleaned up. There are no abandoned hazardous waste sites on the reservation.

### Nuclear Waste/Radiation

Nuclear waste/radiation are not problems on the Colorado River reservation, although it is not known whether or not nuclear materials are transported through the reservation.

### Tribal Priorities

The most pressing environmental problems on Colorado River in order of priority are water quality, air quality maintenance, pesticide control maintenance, and unauthorized solid waste dump sites.

## NARRATIVE PROFILE

Colusa Indian Community, California  
Environmental Contact:

Michael E. Mitchum, Chairman  
Colusa Indian Community Council  
P.O. Box 8  
Colusa, California 95932  
(916) 458-8231

EPA Region IX: Mike Monroe, Indian Work Group Coordinator

### Introduction:

The Colusa Indian Community consists of 227 acres, all tribally owned. The population of the reservation is 24 (19 Wintum, 3 other Indian and 2 non-Indian).

### Tribal Government

The twenty-four member Colusa Indian Community Council consists of all members of the community. The Chairman is elected at large by tribal members for a one year term. The Council has special meetings as needed. This form of government was established by the Charter and Constitution of 1934.

The tribal government performs regulatory functions in the areas of land use planning, business/commercial development, zoning and hunting/fishing/game management. The tribe has not adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The tribe is not currently implementing an environmental protection program. Nor is there even a committee within the tribal government which addresses environmental issues.

### Tribal Natural Resource Use

Soil analysis and classification has not been completed for the reservation. Land resources are currently used for agricultural development with recreational and commercial development planned for the future. Water resources are currently used for irrigation with the development of tourism and recreation planned for the future.

### Air Quality

The tribe has not designated air quality standards as provided in the Clean Air Act, as the tribe does not monitor air quality.

## Water Quality

### General Water Quality:

The tribe has no water quality standards for the reservation river. There are no actual sources of water pollution, but potential sources include pesticide/ herbicide/nutrient run-off.

### Drinking Water Quality:

There have been water quality violations of the community's drinking water in the past five years due to high bacterial levels. There have been no outbreaks of water borne diseases.

### Community Water Supply:

There is one community pump for the reservation. It uses 100% ground water and is monitored monthly for bacteriological quality and treated for water quality.

### Individual Water Supply:

See above.

## Water Usage

There is no data available for average annual water consumption in acre feet for different purposes.

### Domestic Waste Disposal (Sewage)

Each of the houses has its own septic tank.

### Solid Waste Storage and Disposal

Solid wastes are not a problem in the community. Some are disposed of in the community through individual incineration. The tribe has no recycling program.

### Hazardous Waste Storage and Disposal

Hazardous wastes are not a problem in the community.

### Nuclear Waste/Radiation

Nuclear waste/radiation is not a problem in the community.

### Tribal Priorities

The Colusa Indian Community has identified two environmental problems: high bacteria levels in ground water and run-off from pesticides, herbicides and fertilizers due to farming.

## NARRATIVE PROFILE

Ely Shoshone Colony, Nevada  
Environmental Contact:

Sally Marques, Chairperson  
Ely Colony Council  
Ely Shoshone Colony  
16 Shoshone Circle  
Ely, Nevada 89301  
(702) 289-3013

EPA Region IX: Mike Monroe, Indian Work Group Coordinator

### Introduction

The Ely Colony consists of 111 acres, of which 100 acres are tribally owned. This reservation is actually three neighborhoods in the town of Ely, Nevada. The population of the Colony is 366: 242 Shoshone tribal members; 97 other Indian; and 27 non-Indian.

### Tribal Government

The five member Ely Colony Council, established by the Constitution of 1967, is the tribal governing body. Council members are elected at large for two year terms, and the Council appoints from their membership a Chairperson, a Vice-Chairperson, and a Secretary-Treasurer, also for two-year terms. The Council meets monthly.

The regulatory functions performed by the tribal government include land use planning, business/commercial development, zoning, animal control and civil and criminal law. The tribe has not adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The tribe is not currently implementing an environmental protection program.

### Tribal Natural Resource Use

Soil analysis and classification is not yet completed for the colony. Land resource usage is currently restricted to domestic housing and commercial development. Further commercial development as well as recreational and industrial/manufacturing development are in the planning stages.

### Air Quality

The Colony has no air quality program. Kennecott Copper, the major air pollution source, is currently shut down.

### Water Quality

Ely Colony uses City of Ely water. There are no actual sources of water pollution. Potential sources are limited to hazardous materials spills.

### Water Usage

No information is available on the Colony's average annual water consumption isolated from the town of Ely's water consumption.

### Domestic Waste Disposal (Sewage)

Ely Colony uses City of Ely Sewer, which is a five-cell Airated Lagoon, serving 1,000 homes.

### Solid Waste Storage and Disposal

Tribal members use the Municipal landfill, and solid wastes are not a problem for the Colony. The Colony does not sponsor a recycling program.

### Hazardous Waste Storage and Disposal

Hazardous wastes are no problem for the community, but an old County dump on land granted to the Colony in 1977 has to be analyzed and cleaned up.

### Nuclear Waste/Radiation

As far as Colony members know, nuclear waste/radiation is not a problem except for the transportation of nuclear materials through the reservation.

### Tribal Priorities

Ely Colony's major environmental problem is animal control.

## NARRATIVE PROFILE

Hopi Reservation, Arizona  
Environmental Contact:

Wayne Taylor, Jr.  
Staff Assistant  
Office of the Vice Chairman  
The Hopi Tribe  
P.O. Box 123  
Kykotsmovi, Arizona 86039  
(602) 734-2441, Extension 111

Region IX: Mike Monroe, Indian Work Group Coordinator

### Introduction

The Hopi Reservation consists of 1,561,054 acres. The population of the reservation is 9,000.

### Tribal Government

The 16 member Hopi Tribal Council, including the Chairman and Vice-Chairman, which was established by the adoption of a constitution and by by-laws in 1936, is the tribal governing body. The chairman and Vice Chairman are elected by tribal membership for four year terms. The rest of the Council members are elected by villages, also for four year terms. The Council meets quarterly with special sessions monthly.

The tribal government performs regulatory functions in the following areas: land use planning, licensing fees on business, sales tax, peddlers permits, business/commercial development, the development of both energy and non-energy minerals and civil and criminal law. The tribe has adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The tribe is currently implementing an environmental protection program which is responsible for air and water quality monitoring, soil analysis, animal control, the protection of endangered species, sanitation and waste disposal, environmental rehabilitation/reclamation, emergency preparedness/evacuation and the preparation of an Environmental Impact Statement for the Black Mesa Coal Operation. The tribal offices which conduct the environmental programs are the Division of Economic and Natural Resources (Donald Ami, Division Director), the Office of Mining and Reclamation Enforcement (Nat Nutongla), and the Hopi Veterinary Services. There is also a committee within the tribal government, the Resources Committee, which addresses environmental issues. A staff of approximately ten is employed by the tribe to work on environmental programs. The tribe also has cooperative agreements with the Indian

Health Service's Office of Environmental Health for water quality, monitoring and standards enforcement and for sanitation and waste disposal. The Indian Health Service and the Hopi Veterinarian Service do a cooperative animal control program, and the tribe has additional cooperative agreements with the Office of Surface Mining for soil analysis with the U.S. Fish and Wildlife Service for the protection of endangered species, with the Department of Energy for emergency preparedness/evacuation and with the Department of the Interior/SHPO for historic and cultural preservation.

#### Tribal Natural Resource Use

Soil analysis and classification has been completed for the reservation. The development of mining, industrial/manufacturing (limited), commercial, grazing and traditional agricultural resources is currently being implemented. The development of commercial, agricultural and recreational resources is currently being planned. Water resources are currently being used for power generation, irrigation, fisheries and the transportation of coal slurry. The use of water resources for tourism/recreation is being planned.

#### Air Quality

The tribe has not designated air quality standards as provided in the Clean Air Act, but air quality is monitored on a special study basis both by the federal government and privately, by the Office of Surface Mining (Rade Orell, Albuquerque Field Office) and by the Peabodie Coal Company (Gary Melvin, Arizona Division). Tribal officials did not know what parameters were being monitored. However, national ambient air quality standards have been violated. Both 24-hour primary & secondary TSP standards were violated at Black Mesa in 1985, and there are seasonal violations of national standards at the Tuba City Uranium Mine tailings site. Major air pollution sources are mining at Black Mesa 20 miles away, road construction reservation wide and village residential coal/wood burning on the reservation.

#### Water Quality

##### General Water Quality:

Actual sources of water pollution are oxidation ponds, industrial discharges (uranium tailings), landfill leachate, and sediment run-off due to mining. Potential sources of water pollution include both oxidation ponds and municipal discharges and hazardous materials spills.



### Drinking Water Quality:

There have been drinking water quality violations: Polucca well exceeded the maximum contaminant level for nitrates and, therefore, a new well is being developed. Lower Moenkopi has had periodic bacteriological violations, and that water source is currently being redeveloped. There have been no outbreaks of water borne diseases.

### Community Water Supply:

There are 12 community drinking water supply systems on the reservation. One (8%) uses surface water; 11 (92%) use ground water. The systems are monitored monthly for bacteriological quality and every three years for inorganics, pesticides and radionuclides. Seventeen percent of the systems are treated with chlorine and 42% with fluoride.

### Individual Water Supply:

Three homes, or less than 1% of the homes and population on the reservation, are served by individual wells. The Indian Health Service does not monitor individual wells.

### Water Usage

Data on average annual consumption of ground and surface water for different purposes in acre feet was not available.

### Solid Waste Storage & Disposal

The tribal government does have a plan for the disposal of solid wastes which are a major problem on the reservation. Currently, solid wastes are disposed of in approximately 30 dumps totaling about 100 acres and through community and individual incineration. There is no tribally sponsored recycling program although some individuals recycle aluminum.

### Hazardous Waste Storage & Disposal

There is no tribal plan for the disposal of hazardous wastes. No hazardous wastes are generated or stored on the reservation and there are no abandoned hazardous waste sites.

### Nuclear Waste/Radiation

There are no deposits of uranium or other radioactive materials on the reservation. Nor is there presently any mining underway or any abandoned or stand by uranium mines on the reservation. However, at

*Tuba City is an abandoned uranium mine tailing site which has been in existence nearly 30 years. Reclamation activities are currently underway under the Uranium Mine Tailings Remediation Act (UMTRA) requirements. There are also potentially three uranium processing mills within 50 miles of the reservation (at Tusuan, Arizona, near the Grand Canyon). Hopi has not, however, been selected as a potential area for a permanent nuclear waste disposal site. Nor are nuclear materials transported through the reservation.*

#### *Tribal Priorities*

*Hopi has identified the following environmental problems as the most pressing in order of priority: water depletion (ground/surface); soil conservation; waste disposal, both sewage and solid, and range deterioration due to overgrazing.*

## NARRATIVE PROFILE

Hoopa Valley Reservation, California  
Environmental Contact:

George Kalistik, Director  
Environmental Protection Department  
Hoopa Valley Business Council  
P.O. Box 727  
Hoopa, California 95546  
(916) 625-4269

EPA Region IX: Mike Monroe, Indian Work Group Coordinator

### Introduction

Hoopa Valley Reservation consists of approximately 90,000 acres, 80,000 acres of which is tribally owned and 10,000 acres of which is in allotment. The population of the reservation is 3,000 and is made up of these tribes: Hoopa, Yurok and Karok.

### Tribal Government

The eight member Hoopa Valley Business Council is the reservation governing body. The Council members and the chairman are elected by tribal members by district/geographic region for two year terms of office. The Council meets bi-weekly. This government was established by the Constitution and By-Laws adopted in 1950 and revised in 1972. The Council currently performs regulatory functions in the areas of land use planning, water resource planning, business/commercial development, sanitation, timber and fish resources development. Draft codes are in the process of being developed for water and energy development. Additional codes are being drafted for sanitation and timber resources development. The tribes have adopted an administration procedures act.

### Tribal Environmental Protection Infrastructure

The tribes are currently implementing an environmental protection program which is responsible for developing and enforcing tribal environmental standards, protecting endangered species, sanitation and waste disposal, environmental rehabilitation/reclamation and for cultural and archaeological site protection. They have partial responsibility for air and water quality monitoring and for soil analysis. The tribal office which conducts the environmental programs is the Environmental Protection Department. Two and one third staff people are employed by the tribes to carry out the environmental programs. There are cooperative agreements with the State Water Quality Board for water quality monitoring, with the Environmental Protection Agency and California Health Services for environmental rehabilitation and reclamation and with the United States Forestry Service on culturally significant issues.

### Tribal Natural Resource Use

Soil analysis and classification has been completed for the reservation. Forestry/timber, gravel mining, recreational, commercial and grazing resources are currently being developed, and there are plans for agricultural development. Water resources are used for irrigation, fisheries and tourism/recreation. There are plans for the use of water resources for power generation.

### Air Quality

The tribes have not designated air quality standards as provided in The Clean Air Act, and air quality is not monitored. Major air pollution sources on or near the reservation include a timber mill, wood burning for heat, incineration of trash and debris in containers, open pit burning of trash and debris and controlled burning for timber stand treatment, all occurring on or within 12 miles of the reservation.

### Water Quality

#### General Water Quality:

There are no tribal water quality standards for on-reservation streams, rivers and lakes. Actual sources of water pollution affecting the reservation include domestic wastes (sewage), agricultural run-off, and sediment run-off from construction, mining and timber production and harvesting. Potential sources include sewage treatment plants, landfill leachate, urban run-off and pesticide/herbicide/nutrient run-off.

#### Drinking Water Quality:

Two years ago there was a violation of the drinking water bacteriological quality in both ground and surface water, but there have been no outbreaks of water borne diseases in the last five years.

#### Community Water Supply:

There are three community drinking water supply systems on the reservation. Seventy-five percent use surface water as a source and 25% use ground water as a source. All of the systems are monitored monthly for bacteriological quality, one system is monitored annually for inorganics, one is monitored annually for pesticides and 25% of the systems are monitored annually for radionuclides. Ninety percent of the community water supply systems are treated for water quality.

### Individual Water Supply:

Seventy-five percent of the homes on the reservation are served by individual wells. This covers about 25% of the population. Ten percent of the wells are monitored annually for bacteriological quality. No other monitoring is done.

### Water Usage

Total annual average water consumption amounts to 2498 acre feet of surface water and 294 acre feet of ground water for domestic municipal, and industrial purposes and for fisheries and irrigation. Irrigation (1529 acre feet of surface water and 15 acre feet of ground water) and domestic uses (830 acre feet of surface water and 270 acre feet of ground water) account for the bulk of the consumption.

### Domestic Waste Disposal(Sewage)

[This area was neglected in the original survey. Additional information was not received in time to include in the final draft of the narrative.]

### Solid Waste Storage and Disposal

The tribal government has no plan for the disposal of solid wastes even though this is a major and growing problem on the reservation. Presently, solid wastes are disposed of in community dump sites and landfills (6 acres total) and in roadside dumps and through individual incineration. The tribes engage in limited recycling of aluminum and paper. Hoopa is one of the only reservations to have any recycling activity at all.

### Hazardous Waste Storage and Disposal

The tribal government has no plan for the disposal of hazardous wastes. Although hazardous wastes are not generated on the reservation, they are stored on the reservation in a small way (brush killer and rodent poisons for home use and the underground storage tanks of the reservations' three gas stations). There are also abandoned hazardous waste sites on the reservation (Celtor Chemical Works, Copper Bluffs Mine, and Masonite Mill).

### Nuclear Waste/Radiation

There are no deposits of uranium or other radioactive materials on the reservation. Nor are there uranium processing mills, nuclear power generation facilities or nuclear waste storage sites within 50 miles of the reservation. The reservation has not been selected as a potential area for a permanent waste disposal site, but although nuclear materials are not transported through the reservation, they are transported 12 miles to the south.

### Tribal Priorities

Hoopa Valley Reservation's most pressing environmental problems in order of priority are abandoned hazardous waste and other industrial sites, solid waste disposal, the lack of implementable land use, zoning, building and other development control measures and plans, slides, slope failure and stream sedimentation due to roads, logging and other development, septic system failure, loss of quality of old growth forest and other sensitive habitat, potential threat of extensive pesticide use on and near the reservation, disturbance of traditional use and culturally significant resources and the absence of a comprehensive resource recovery (recycling) program.

## NARRATIVE PROFILE

Hualapai Reservation, Arizona  
Environmental Contact:

Hualapai Tribal Council  
P.O. Box 168  
Peach Springs, Arizona 86434  
(602) 769-2216

EPA Region IX: Mike Monroe, Indian Work Group Coordinator

### Introduction

The Hualapai Reservation consists of 933,083 acres, approximately 992,434 acres of which are tribally owned and 640 of which are in allotment. The population of the reservation is 1200.

### Tribal Government

The nine member Hualapai Tribal Council, established by executive order in 1955, is the tribal governing body. Council members are elected at large for two year terms, as is the tribal chairman. The Council meets monthly.

The tribal government exercises regulatory functions in the following areas: water resource planning, water quality control, hunting/fishing/game management, animal control, natural resource development (especially as regards fishing), and civil and criminal law. The tribe has adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The tribe is currently implementing an environmental protection program which is responsible for water quality monitoring, developing tribal environmental standards, and animal control. The Hualapai Tribal Health Department conducts the environmental program with a paid staff of one.

### Tribal Natural Resource Use

Soil analyses and classification has been completed for the reservation. Forestry/timber and grazing resources are currently being used, and agricultural development is being planned. Water is currently used for tourism/recreation and for transportation.

### Air Quality

The tribe has no air quality program.

## Water Quality

### General Water Quality:

There are no tribal water quality standards for reservation streams, rivers and lakes, but there is some problem with eutrophication and sedimentation. There are no present sources of water pollution, but oxidation ponds, hazardous material spills and landfill leachate constitute potential sources of water pollution.

### Drinking Water Quality:

There have been no water quality violations or outbreaks of water borne diseases in the last five years.

### Community Water Supply:

There are two community drinking water supply systems. Ten percent of the water is surface water and 90% is ground water. Both systems are monitored for bacteriological quality monthly, for inorganics every three years, and for radionuclides every four years. There is no monitoring for pesticides. Both systems are treated for water quality.

### Individual Water Supply:

There are no individual family wells on the reservation.

## Water Usage

There is no information on water usage in acre feet.

### Domestic Waste Disposal (Sewage)

[This area was neglected in the original survey. Additional information was not received in time to be included in the final draft of the narrative.]

### Solid Waste Storage and Disposal

The tribal government has no written plan for the disposal of solid wastes, and solid wastes are a growing problem on the reservation. There is a one acre community dumpsite. There is no reservation recycling program.

### Hazardous Waste Storage & Disposal

The tribal government has no plan for the disposal of hazardous wastes, nor are hazardous wastes generated or stored on the reservation either currently or in the past.



### Nuclear Waste/Radiation

There are, however, uranium deposits on the reservation, but none are currently being mined, nor have they been mined in the past. There are no other radioactive materials mined on the reservation, nor has the reservation been selected as a potential permanent nuclear waste disposal site. Within fifty miles of the reservation there are no uranium processing mills, nuclear power generation facilities or nuclear waste storage sites. No nuclear materials are transported through the reservation.

### Tribal Priorities

The Hualapai Tribal Council has identified the following environmental problems in order of priority: personal injury and safety, solid waste disposal, animal control, water and sewage system maintenance and home sanitation.

## NARRATIVE PROFILE

California, Nevada, Arizona, New Mexico, Utah  
and Federal District:

Michael J. Linn, Legal Counsel  
Office of the Chairman

RECEIVED  
SAC/ASAC RICHMOND AND RANTON OFFICE

[illegible]

### STATE OF NEW YORK

Regions VI and VII): Mike Monroe,  
Director

On December 31, 1986, there were 16,193,358.07 acres (as of 12/31/86) of Trust Land, 508,000 acres of Bureau of Land Management land, 125,265.13 acres of Bureau of Land Management land in allotments and 109,249.24 acres of land. Of this 14,769,221.14 acres are tribally owned. The population of the reservation, as of April 1, 1986, was 43,000 Navajo and other Indians and 5,465 non-Indians. The reservation has 43,000 Navajo on the allotted and fee land and 5,465 non-Indians on the reservation.

[illegible]

1. Council members are elected by the Tribal Council for a term of 2 years, body of the reservation. Council members are elected by district/geographic region for a term of 2 years. Council meetings are held quarterly. Council is the governing document, only Tribal resolutions.

The tribal government performs regulatory functions in the following areas: land use and water resource planning, water quality control, tax collection and licensing fees (severance tax on minerals, licensing fees on businesses, business activity tax and possessory interest tax), business/commercial development, zoning, hunting/fishing game management, animal control, timber, fish and wildlife (game and energy) development and civil and criminal law. The tribe has adopted an administrative procedures act.

#### Tribal Environmental Protection Infrastructure

The tribe is currently implementing an environmental protection program which is responsible for air and water quality monitoring, soil analysis, the development and enforcement of tribal environmental standards, animal control, the protection of endangered species, sanitation and waste disposal, environmental rehabilitation/reclamation and the control of pesticides and radiation. The tribal organizations which conduct these programs include the Air Quality Program, Archaeology, The Pesticide Regulatory Program, Project Review, UMTRA, The Navajo Coal and Reclamation Program, the Department of Water Management and the Navajo Environmental Protection Administration. There is also a committee within the tribal council which addresses environmental issues, The Resources Committee. The tribe employs 40 staff to work on environmental programs: UMTRA, 4; Navajo Coal Commission, Environmental Quality, 14; Archaeology, 18; the Water Quality Section of the Department of Water Management, 2, and The Water Regulation Section of the same department, 2. The tribe has cooperative agreements with the national EPA office for air quality monitoring and air quality standards enforcement, with the EPA, Region IX office for water quality monitoring and with the Office of Surface Mining and Department of Energy for environmental rehabilitation/reclamation.

#### Tribal Natural Resource Use

Soil analysis and classification are partially (30%) completed for the reservation. The use of agricultural, forestry/timber, mining, industrial/manufacturing, recreational, commercial and grazing resources is currently being implemented with further agricultural and recreational development in the planning stages. Grazing, however, is uncontrolled. Water is used for irrigation, fisheries and tourism/recreation. The use of water resources for power generation and for the further development of irrigation, fisheries and tourism/recreation is in the planning stages.

## Air Quality

The tribe has not designated air quality standards as provided in The Clean Air Act. However, the Navajo Air Quality Control Program is currently working on gathering air quality data and designing an air quality program with the anticipated completion date of the end of FY 1987. Meanwhile, air quality is monitored on a special study basis by the U.S. Environmental Protection Agency's Region IX. The monitoring includes data for total suspended particulates, sulphur and nitrogen dioxide, carbon monoxide, lead and visibility.

Although there have been no measured violations of national ambient air quality standards, major air pollution sources on and within a fifty mile radius of the reservation include 6 fossil fuel power plants (Four Corners, San Juan Power, Cholla Power, Page Power, Plains Electric and Dineh Power-proposed), 4 areas of surface mining (Peabody-two leases, Pittsburgh and Midway and Utah International), one petroleum refinery (Ciniza), numerous oil and gas companies and CO-2 processing plants (El Paso, Gallup, Four Corners, Aneth, Utah), 1 sawmill-NFPI (Navajo, New Mexico), 4 uranium mill tailings projects (Shiprock, Monument Valley, Mexican Hat, and Tuba City), numerous landfills and open burning, unpaved roads, vehicle emissions, and road and other construction projects.

## Water Quality

### General Water Quality:

The tribe has no water quality standards for reservation streams, rivers and lakes. No lakes/reservoirs are suffering from eutrophication; some are suffering from sedimentation. Actual sources of water pollution include sewage treatment plants, oil spills, agricultural run-off, and sediment run-off from construction and mining. Potential sources of water pollution include oxidation ponds, municipal and industrial discharges, domestic wastes (sewage), hazardous materials spills, landfill leachate, sediment run-off from timber production and harvesting, pesticide/herbicide/nutrient run-off and toxicant build-up due to pesticide usage.

### Drinking Water Quality

In the past five years there have been primary drinking water quality violations with radionuclides and a small number of violations with fluoride, selenium, arsenic and nitrates. There have been no outbreaks of water borne diseases.

### Community Water Supply:

There are 215 community drinking water supply systems on the reservation. Three per cent use surface water, and 97% use ground water. All the systems are monitored monthly for bacteriological quality, every three years for inorganics and every four years for radionuclides. The systems were monitored for pesticides the first time screening was done in 1979-80. Thirty-two per cent of the systems are treated for water quality (fluoride and chlorine).

### Individual Water Supply:

Approximately 35% of the reservation population haul their water from windmills and developed springs. None of these water sources are monitored.

### Water Usage

The average annual consumption of water for various purposes is as follows: 600 acre feet of surface water (0.2% of total surface water consumption) and 300 acre feet of ground water (0.8% of total ground water consumption) for domestic purposes, 700 acre feet (0.2%) of surface water and 9300 acre feet (23.5%) of ground water for municipal purposes, 290,000 acre feet (92.4%) of surface water and 10,000 acre feet (25.3%) of ground water for irrigation, 3000 acre feet (7.6%) of ground water for industrial purposes, 5000 acre feet (1.6%) of surface water and 14,00 acre feet (35.4%) of ground water for mineral development, 10,000 acre feet (3.2%) of surface water for recreational purposes and lake evaporation, 3,000 acre feet (7.6%) of ground water for livestock and 7500 acre feet (2.4%) of surface water for stock pond evaporation. Total Navajo average water consumption is 313,800 acre feet of surface water and 39,600 acre feet of ground water annually.

### Domestic Waste Disposal(Sewage)

#### Community Systems:

Navajo has 168 community systems.

#### Individual Systems:

Navajo has 9,500 individual systems.

#### 121-Projects:

Navajo has 577 121-Projects for water, water and sewer, and just sewer. Meanwhile 9,300 homes on Navajo lack any kind of sanitation facilities (Indian Health Service Navajo Area Profile).

### Solid Waste Storage and Disposal

Solid waste disposal is a major and growing problem on Navajo. The tribe does have a plan for solid waste disposal and is currently developing codes and regulations for the implementation of the plan. Presently, solid wastes are disposed of in community dump sites and landfills. The usual withdrawn dump site is 5 - 10 acres. People also make their own dump sites within their own land use areas. There is no tribal recycling program.

### Hazardous Waste Storage and Disposal

Hazardous wastes are not a problem on the reservation.

### Nuclear Waste/Radiation

There are uranium deposits on the reservation but no deposits of other radioactive materials. There is no uranium mining currently underway on the reservation, but there is the Kerr McGee mine at Churchrock which is currently on stand-by due to the depressed uranium market. There are four piles of uranium tailings on the reservation (at Shiprock, New Mexico, and Monument Valley, and Mexican Hat, Utah, and Tuba City, Arizona). Some of these tailings have been stored on the reservation for 35 years and not in accordance with applicable tribal and federal law. Reclamation activities are presently underway through the UMTRA (Uranium Mine Tailings Remediation Act) Project. The Shiprock site is presently being stabilized; the Tuba City site is in the planning stages, and the Monument Valley and Mexican Hat sites are in the data collection stages. There are also two uranium processing mills within fifty miles of the reservation, one at Grants, New Mexico (Ambrosia Lake) and an inactive mill at Blanding, Utah. There are no nuclear power generation facilities or current waste storage sites within 50 miles of the reservation. Nor has Navajo been selected as a potential area for a permanent nuclear waste disposal site. Nuclear materials are not transported through the reservation.

### Tribal Priorities

Navajo has identified the following environmental problems in order of priority: the management of radioactive wastes (tailings, abandoned mines, the contamination of the Rio Puerco and the Little Colorado by uranium waste), coal mining and its associated problems (reclamation, leaching, coal dust, coal slurry pipeline problems), oil and gas company depletion of water in oil & gas operations because of injection wells, domestic wastes (septic tanks), over grazing, lack of reforestation and the potential problem of underground storage tanks for hazardous wastes.

## NARRATIVE PROFILE

Pyramid Lake Paiute Reservation, Nevada  
Environmental Contact:

Joe H. Ely, Tribal Chairman  
Pyramid Lake Paiute Tribal Council  
P.O. Box 256  
Nixon, Nevada 89424  
(702) 574-0140

EPA Region IX, Mike Monroe, Indian Work Group Coordinator

### Introduction

The Pyramid Lake Paiute Reservation consists of 475,086 acres, all tribally owned. The population of the reservation is 1,285 Indians, the lion's share Paiute and 566 non-Indians, for a total population of 1,851 within the reservation boundaries. (This includes fee patent/squatter lands.)

### Tribal Government

The ten member Tribal Council, established by charter in 1936, is the tribal governing body. Council members are elected at large, for two year terms, as is the Tribal Chairman. The council meets monthly.

The tribal government exercises regulatory functions in the following area: land use planning, water resource planning, water quality control, soil control, tax collection and licensing (on businesses, for sales tax, and on utilities), business and commercial development, zoning, hunting/fishing/game management, animal control, sanitation, development of fish and mineral resources, and civil and criminal law. The tribe also has an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The tribe is currently implementing an environmental protection program, which is responsible for air quality and water quality monitoring, developing tribal environmental standards and protecting endangered species of animals. The program is conducted through the Pyramid Lake Fisheries and Fisheries Board. The latter is a committee of the tribal government. There are three staff employed by the tribe to work on environmental programs. The tribe has cooperative agreements with the U.S. Fish & Wildlife Service and the U.S. Soil Conservation Service for work in environmental rehabilitation and reclamation and for the protection of endangered species.

### Tribal Natural Resource Use

Soil analysis and classification has been completed. Recreational, commercial and grazing resources are currently being developed with the development of agriculture resources in the planning stages for the future. Water is used for irrigation, fisheries and tourism/recreation.

### Air Quality

The tribe has no air quality program, nor is the reservation air monitored by anyone else. The two sources of off-reservation air pollution (within a radius of fifty miles are the Fernely Cement Plant (3 miles away) and the Reno/Sparks area (30 miles away).

### Water Quality

#### General Water Quality:

Some reservation lakes/reservoirs are suffering from eutrophication. Actual sources of pollution are sewage treatment plants, municipal discharges, domestic wastes (sewage), urban run-off, and agricultural and pesticide/herbivore/nutrient run-off, while potential sources of water pollution include industrial discharges, hazardous materials spills, landfill leachate and sediment run-off.

#### Community Water Supply:

There are three community drinking water supply systems on the reservation all of which use groundwater. All systems are monitored monthly for bacteriological quality and annually for inorganics and radionuclides. No monitoring is done for pesticides. One hundred per cent of the community water supply systems are treated for water quality.

#### Individual Water Supply:

Thirty per cent of the homes and thirty per cent of the population on the reservation are served by individual wells. No monitoring of the wells is done.

### Water Usage:

One thousand six hundred seventy-five (1675) acre feet of groundwater (19% of all the ground water used on the reservation) is used for domestic purposes; 7000 acre feet (81%) are used for irrigation.



## Domestic Waste Disposal (Sewage)

### Community Systems:

Fifty (50) homes in Sutcliffe are served by a lagoon.

### Individual Systems:

Septic/Leachfield systems are generally located in fast draining soils and may promote pollution to the lower Truckee River.

### 121-Projects:

There are no Public Law 86-121 Projects currently being implemented at Pyramid Lake. The tribe seemed to be unfamiliar with this program.

## Solid Waste Storage and Disposal

The tribal government has no plan for the disposal of solid wastes, but it is a growing problem on the reservation. There are three four-acre community waste disposal sites (12 acres in all) and no recycling program.

## Hazardous Waste Storage and Disposal

Hazardous wastes are not a problem on the reservation.

## Nuclear Waste/Radiation

There are no uranium deposits or deposits of any other radioactive materials on the reservation. Nor is there a uranium processing mill, a nuclear power generation facility or a nuclear waste storage site within fifty miles of the reservation.

## Tribal Priorities

The Pyramid Lake Paiute Tribal Council has identified the following environmental problems in order of priority: Truckee River water quality and quantity, the Sutcliffe Community domestic water system and community solid waste disposal sites.

## NARRATIVE PROFILE

Rincon Indian Reservation, California  
Environmental Contact:

Dennis Smith  
Tribal Administrator  
Rincon, San Luiseno Band of Mission Indians  
Business Committee  
P.O. Box 68  
Valley Center, California 92082

EPA Region IX: Mike Monroe, Indian Work Group Coordinator

### Introduction:

The Rincon Indian Reservation of the San Luiseno Band of Mission Indians consists of 3,960 acres. It is unknown how much is tribally owned. The population of the reservation is 427.

### Tribal Government

The five member Rincon Band of Mission Indians Business Committee, established by the Articles of Association of 1960, is the tribal governing body. The Committee members, Chairman and other executive officers are elected by tribal membership through general membership balloting for two year terms. The Committee meets monthly.

The regulatory functions performed by the tribal government include hunting/fishing/game management. The band has not adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The band is not currently implementing an environmental protection program. There is no committee within the band government which exclusively addresses environmental issues. However, the band has cooperative agreements with the Indian Health Service for water quality monitoring and standards enforcement.

### Tribal Natural Resource Use

Soil analysis and classification have not been completed for the reservation. Land resources are used for agricultural and commercial development. Water resources are used for power generation.

### Air Quality

The band has not designated air quality standards as provided by the Clean Air Act. Air quality is not monitored by the band.

### Water Quality

#### General Water Quality:

There are no tribal water quality standards for the reservation river. There are no current water pollution sources. A potential source is landfill leachate.

#### Drinking Water Quality:

There have been no violations of drinking water quality or outbreaks of water borne diseases in the last five years.

#### Community Water Supply:

There are two drinking water supply systems on the reservation. They use 100% ground water. They are monitored quarterly for bacteriological quality inorganics, pesticides and radionuclides but not treated for water quality.

#### Individual Water Supply:

Ten percent of the houses and 15% of the population of the reservation are served by individual wells. These wells are never monitored.

### Water Usage

Data is not available for average annual water consumption in acre feet for different purposes.

### Domestic Waste Disposal (Sewage)

[This area was neglected in the original survey. Additional information was not received in time to included in the final draft of the narrative.]

### Solid Waste Storage and Disposal

The band government has no plan for the disposal of solid wastes, but they are not a problem on the reservation. Currently, such wastes are disposed of in a 10 acre community dump site. The band has no recycling program.

### Hazardous Waste Storage and Disposal

Hazardous wastes are not a problem on the reservation.

### Nuclear Waste/Radiation

Nuclear waste/radiation is not a problem on the reservation.

### Tribal Priorities

The Rincon Reservation's major environmental priority is a community dump site.

## NARRATIVE PROFILE

San Carlos Apache Reservation, Arizona

Environmental Contact:

Ned Anderson, Chairman  
San Carlos Apache Tribe  
P.O. Box 0  
San Carlos, Arizona 85500  
(602) 475-2361

EPA Region IX: Mike Monroe, Indian Work Group Coordinator

### Introduction

The San Carlos Reservation consists of 2,854 square miles. 1,826,541 acres of which is tribally owned and 825 acres of which is in allotment. The population of the reservation is 8,976.

### Tribal Government

The nine member San Carlos Apache Tribal Council is the tribal governing body. Council members and the Chairman are elected by tribal membership by district/geographic region for four year terms. The Council meets monthly. This government was established by Charter in 1841. The Council performs regulatory functions in land use planning, tax collection and licensing fees (severance tax on minerals, licensing fees on business and grazing fees), business/commercial development, zoning, hunting/fishing/ game management, animal control, sanitation, and civil and criminal law. The tribe has not adapted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The tribe as a whole is not currently implementing an environmental protection program although there is a committee, The San Carlos Tribal Health, Education and Welfare Committee, within the tribal government which addresses environmental issues. Also, 20 people (more than in most other tribes) are currently employed by the tribe to work on environmental programs such as the tribe's cooperative program with IHS for water quality monitoring and with FEMA for emergency preparedness.

### Tribal Natural Resource Use

No information was available on soil analysis and classification or on land resource usage. The use of water resources for irrigation is currently being planned.

## Air Quality

The tribe has not designated air quality standards as provided in The Clean Air Act. Air quality is not monitored. The major sources of air pollution are four mines about 25 miles away from the reservation.

## Water Quality

### General Water Quality

There are no tribal water quality standards for on-reservation streams, rivers and lakes. The lakes/reservoirs are suffering from sedimentation. Actual sources of water pollution are industrial discharges, landfill leachate, agricultural run-off and on-lot disposal. Potential sources include sewage treatment plants, municipal discharges, domestic wastes (sewage), oil and hazardous materials, pesticide/herbicide/nutrient run-off and toxicant build-up due to pesticide use.

### Drinking Water Quality

There have been some ground water sampling technique problems in the last five years but no actual water quality violations. There have, however, been some outbreaks of water borne diseases but not in the community water systems.

### Community Water Supply:

There are 10 community drinking water supply systems on the reservation all of which use ground water. Half of the systems are monitored monthly for bacteriological quality. No other monitoring is done. Half of the systems are also treated for water quality.

### Individual Water Supply:

Only 1% of the homes on the reservation are served by individual wells which amounts to about .5% of the reservation population. Eighty percent of these wells are monitored annually for bacteriological quality.

## Water Usage

No information was available on average annual water consumption in acre feet.

### Domestic Waste Disposal(Sewage)

[This area was neglected in the original survey. No additional information was received in time to include it in the final draft of the narrative.]

### Solid Waste Storage and Disposal

The tribal government is in the process of making a plan for the disposal of solid wastes which is a major problem on the reservation. Presently, solid wastes are disposed of at the 15-16 acre, community dumpsite and by individual incineration. There is no tribal recycling program.

### Hazardous Waste Storage and Disposal

The tribal government does not have a plan for the disposal of hazardous wastes. Although no hazardous wastes are generated on the reservation, such wastes, mostly asbestos, have been stored there for a year and not in accordance with federal law. There are also abandoned hazardous waste sites on the reservation.

### Nuclear Waste/Radiation

Although there are no remaining deposits of uranium or other radioactive materials on the reservation, there are abandoned uranium mines and uranium tailings on the reservation. The abandoned mines and tailings are at the Hilltop site, and no reclamation activities are presently underway. Although there is an inoperative uranium processing mill within fifty miles of the reservation, there are no nuclear power generation facilities or other nuclear waste storage sites within fifty miles of the reservation. Nor has the reservation been selected as a potential area for a permanent waste disposal site. It is unknown whether nuclear materials are transported through the reservation.

### Tribal Priorities

The overwhelming environmental priority for The San Carlos Apache Reservation is solid waste management.

## NARRATIVE PROFILE

Santa Rosa Rancheria, California  
Environmental Contact:

Santa Rosa Rancheria Tribal Council  
16835 Alkali Drive  
Lemoore, California 93245

EPA Region IX: Mike Monroe, Indian Work Group Coordinator

### Introduction

The Santa Rosa Rancheria of the Tachi Indians consists of 170 acres of which 160 acres are tribally owned and 10 are in allotment. The population of the rancheria is 325.

### Tribal Government

The four member Santa Rosa Tribal Council, established by Constitution and By-Laws in 1963, is the tribal governing body. Council members and other officials are elected by tribal members at large for two year terms. The Council meets monthly.

The regulatory functions performed by the tribal government include land use and water resource planning, water and air quality control, soil conservation, tax collection and licensing fees, business/commercial development, occupational health and safety and civil law. The tribe has not adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The tribe is not yet implementing an environmental protection program but is developing a comprehensive one with the Region IX Environmental Protection Agency. The Tribal Business Council will conduct the program. The tribe already employs one staff person to work on environmental issues. As yet the tribal government has no committee which addresses specifically environmental issues. The tribe does have cooperative agreements with the Indian Health Service for water quality monitoring and standards enforcement and for soil analysis, with Sunset Waste Disposal Company for sanitation and waste disposal, and with Rings County for animal control.

### Tribal Natural Resource Use

Soil analysis and classification has been completed for the reservation. Land resource use is being planned for agricultural, industrial/manufacturing and commercial development. Water resource planning focuses on the development of recreational fishing.



### Air Quality

The tribe has not designated air quality standards as provided in the Clean Air Act. Air quality is not monitored. Major sources of air pollution in a fifty mile radius are the Ketterman Hills Chemical Waste Dump, the Bacon Oil Refinery and agricultural spraying. All are/occur between one and 22 miles from the reservation.

### Water Quality

#### Drinking Water Quality:

Elevated levels of coliform bacteria were found in the drinking water, and there was a case of hepatitis (2-26-86).

#### Community Water Supply:

There are two community drinking water supply systems on the rancheria, both of which use ground water. Both systems are monitored monthly for bacteriological quality and annually for inorganics, pesticides and radionuclides. One of the systems is treated for water quality.

#### Individual Water Supply:

There are no individual wells on the rancheria.

NOTE: From this point on the Santa Rosa Rancheria's survey form was blank.

## NARRATIVE PROFILE

Susanville Rancheria, California  
Environmental Contact:

Susanville Indian Rancheria Business Committee  
P.O. Drawer U  
Susanville, California 96130  
(916) 257-6264

EPA Region IX: Mike Monroe, Indian Work Group Coordinator

### Introduction

The Susanville Rancheria consists of 150 acres, all tribally owned. The Rancheria population is made up of 380 descendants of approximately three tribes, the Maidu, Paiute and Pit River.

### Tribal Government

The 3 member Business Committee, established by the Constitution and By-laws of 1969, is the tribal governing body. The Chairman and Committee members are elected at large by tribal members for two year terms. The Committee meets monthly. The tribal government performs no regulatory functions, and the tribes have not adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The tribes are not currently implementing an environmental protection program. There is no committee within the tribal government which addresses environmental issues, and the tribal government has no cooperative agreements with other governmental entities (local, state, or federal) for the purpose of protecting the environment.

### Tribal Natural Resource Use

Soil analysis and classification have not been completed for the reservation. No information was available on land or water resource use.

### Air Quality

The tribes have not designated air quality standards as provided in the Clean Air Act. Air quality is not monitored by any authority. No information was available on major air pollution sources.

## Water Quality

### General Water Quality

There are no tribal water quality standards for on-reservation streams, rivers and lakes. The lakes/reservoirs are not suffering from eutrophication or sedimentation. The actual source of water pollution is urban run-off.

### Drinking Water Quality

There have been no violations of the reservation's drinking water in the past five years nor any outbreaks of water borne diseases.

### Community Water Supply

There is one community water supply system for the rancheria which uses 100% ground water. It is not monitored, but it is treated for water quality.

### Individual Water Supply

There are no individual wells serving the rancheria.

## Domestic Waste Disposal (Sewage)

[This area was neglected in the original survey. Additional information was not received in time to be included in the final draft of the narrative.]

## Solid Waste Storage and Disposal

Although the tribal government has a plan for the disposal of solid wastes, they are a growing problem on the reservation. They are presently disposed of in a community landfill of unknown size and through individual incineration. The tribal government does not sponsor a recycling program.

## Hazardous Waste Storage and Disposal

The tribal government has no plan for the disposal of hazardous wastes, but they are neither generated nor stored on the rancheria.

## Nuclear Waste/Radiation

Nuclear waste/radiation are not a problem on the rancheria.

### Tribal Priorities

The Susanville Rancheria identified the following as the rancheria's most pressing environmental problems in order of priority: two dilapidated abandoned houses, abandoned cars and garbage in the yards.

REGION X

Indian Work Group Coordinator: Rick Seaborne

Colville Confederated Tribes

Fort Hall Reservation

Quinault Reservation

Umatilla Reservation

Warm Springs Reservation

Yakima Indian Reservation

Colville Confederated Tribes Reservation, Washington  
Environmental Contact:

Gary Passmore, Director  
Myra Clark, Watershed Manager  
Hydrology Department  
Colville Confederated Tribes  
P.O. Box 150  
Nespelem, Washington 99155  
(509) 634-4763)

EPA Region X: Rick Seaborne, Indian Work Group Coordinator

Introduction

The Colville reservation consists of 1,373,000 square acres, 1,023,641 acres of which (75 percent) is tribally owned and 39,598 acres of which (3 percent) is in allotment. The population of the reservation is made up of eleven bands (Colville, Palus, Methow, Okanogan, Chelan/Entiot, Wenatchee, San Poil, Moses/Columbia, Lakes, Nez Perce, Nespelem) consisting of 3,674 people. In addition there are 194 Indians of other tribes and 3,571 non-Indians for a total reservation population of 7,439.

Tribal Government

The 14 member Colville Business Council is the tribal governing body. Council members are elected by district/geographic region for two year terms. Officers, including the Chairman, are elected by council members from their own ranks for one year terms. The full Council meets bi-weekly but the Council's 13 committees (consisting of 4-9 Council members) meet weekly except for the

Election Committee which meets less regularly on an as needed basis. This government was established by an IRA Constitution in 1938. The Council performs regulatory functions in land use planning, water resource planning and quality control, TERO (Tribal Employment Rights Office) taxes and permit fees, business/commercial development, zoning, hunting/fishing/ game management, animal control, sanitation, timber, fish and mineral (energy and non-energy minerals) development and civil and criminal law. The Colesville Confederated Tribes have adopted an administrative procedures act.

#### Tribal Environmental Protection Infrastructure

The tribes are currently implementing an environmental protection program which is responsible for water quality monitoring, soil analysis, developing and enforcing tribal environmental standards, animal control, protection of endangered species, sanitation and waste disposal, environmental rehabilitation/reclamation and emergency preparedness. The following tribal offices conduct these programs: The Hydrology Department, the Fish and Wildlife Department, the Public Works Department and the Geology Department. Staff in the above mentioned departments work on environmental programs in conjunction with other programs' goals. Full time equivalent employee hours spent on environmental programs are not available.

In addition, The Colville Environmental Quality Commission, one of the tribal government's committees, addresses environmental issues. The tribal government also has cooperative agreements with the Environmental Protection Agency and the State of Washington for water quality monitoring and water quality standards enforcement and for the tribes' Water Quality Management Plan regulations (under Section 208 of the Clean Water Act) regarding non-point source pollution for forest practices, mining practices and on-site waste water disposal.

#### Tribal Natural Resource Use

The bulk of the reservation is rural (378,451 acres), with 20,749 acres semi-rural, 4,922 acres suburban and 2,874 acres urban and unincorporated. The reservation has 94,843 acres suitable for agricultural development, 858,579 acres for forestry/timber, and 12,845 acres for industry/manufacturing. Forestry/timber, mining, recreation and grazing resources are currently being developed. Plans are in the works for additional development in mining, recreation and grazing and for initial commercial development. There are 5 major rivers and 175 lakes of 5 or more acres in size on the reservation. Water resources are currently being used for irrigation, fisheries, tourism/recreation and for transportation (the 3 mile Inchelium and Keller ferries).



Additional development of fisheries is being planned as well as the development of 93 miles of river for tourism/recreation.

#### Air Quality

The tribe has designated air quality standards as provided in the Clean Air Act. Air quality is designated under Class II and is monitored on a special study basis by the tribe and privately (Washington Water Power P.O. Box 3737, Grahame, Washington, 99220, Doug Pottratz 509-489-0500 and Ray Kelleher Shop 509-328-5895). The monitoring includes data for total suspended particulates, sulphur and nitrogen dioxide, carbon monoxide ozone, lead, air toxics and visibility. There have been no measured violations of national ambient air quality standards. Major sources of air pollution on or within a fifty mile radius of the reservation include prescribed fires (slash and grass), wood burning, and wild fires.

#### Water Quality

##### Individual Water Supply:

There are many individual wells, but again, data is not available on them due to a lack of baseline surveys.

##### General Water Quality:

Tribal water quality standards for reservation streams and lakes were adopted January, 1985, and went into effect February, 1985. Standards reflect uses to be

protected as prioritized by the Tribal Business Council.

No violations have been documented to date.

Monitoring is done on a regular basis on the major streams and on an as needed basis on tributaries and other surface waters. Again, funding is needed for baseline data acquisition. Lakes/reservoirs are suffering from eutrophication and sedimentation.

Actual sources of water pollution include hazardous materials spills, agricultural run-off, and sediment run-off from timber production and harvesting. Sources of potential pollution are sewage and treatment plans, municipal and industrial discharge, domestic wastes (sewage), sediment run-off due to mining, pesticide/herbicide/nutrient run-off, toxicant build-up due to pesticide usage and on-lot disposal.

#### Drinking Water Quality:

There has been one documented case of the aesthetic quality of an individual's water supply being degraded. The source of the degradation was under study from 1981-1985 in cooperation with EPA and the results were inconclusive. Further information on drinking water quality violations or water borne diseases is not available from either the Indian Health Service or the local department of sanitation and health services.

### Community Water Supply:

There are 16 community drinking water supply systems on the reservation. Six percent use surface water and 94 percent use ground water. At least 75% of the systems are monitored monthly for bacteriological quality. The data received from the Indian Health Service is incomplete in that it deals only with Indian owned systems. Due to the diverse population within the reservation and subsequent jurisdictional boundaries (two counties, several municipalities, State and Federal, in addition to tribal) much of this data is not available at this time and is not necessarily indicative of no treatment or analysis. This illustrates the need for funding for tribal governments to do comprehensive surveys to identify existing conditions and unmet needs.

### Water Usage

No information is available on average annual consumption of water from different sources for different purposes in acre feet per year.

### Domestic Waste Disposal (Sewage)

Data supplied from the Indian Health Service, the local sanitation department and tribal departments are by their own admission incomplete and funding is needed for a door to door survey to establish numbers, locations, and conditions of on-site wastewater disposal.

Best estimates indicate there are five community systems serving approximately 70% of the reservation's total population. There are approximately 500 individual systems and approximately 250 121-Project systems.

#### Solid Waste Storage and Disposal

Although the tribal government has a plan for the disposal of solid wastes, solid wastes are a major problem. Currently, they are disposed of in approximately 20 community open dump sites of about 5 acres each. Later this year a tribal transfer system will be implemented, and solid wastes will be disposed of off the reservation. There is no tribally sponsored recycling program.

#### Hazardous Waste Storage and Disposal

The tribal government has a plan for the disposal of hazardous wastes. Hazardous wastes are both generated and stored on the reservation, PCP and CAA are used and stored on site at the Incheium Wood Treatment Plant. This has been going on about 2 1/2 years, and all storage is in accordance with applicable tribal and federal law. There are no abandoned storage sites on the reservation.

#### Nuclear Waste/Radiation

There are no deposits of uranium or other radioactive materials on the reservation. There are two inactive uranium processing mills within fifty miles of the reservation at Ford and Wellpinit, Washington. There

are no nuclear power generation facilities or nuclear waste storage facilities within fifty miles of the reservation. Nor has the reservation been selected as a potential area for a permanent nuclear waste disposal site. No data is available on the transportation of nuclear materials through the reservation.

#### Tribal Priorities

The most pressing environmental problems on Colville Reservation in order of priority are funding for the adoption, implementation and enforcement of tribal environmental protection plans and ordinances, the State of Washington's attempted assertion of jurisdiction regarding reservation environmental issues, inadequate baseline data, surface and ground water protection in regard to non-point source pollution due to agricultural, forestry, on-site water disposal and mining practices, solid waste disposal, unsuitable development of sensitive lands and hazardous/toxic waste management.

Fort Hall Reservation, Idaho

Environmental Contact:

Delbert Farmer, Reservation Pesticide

Control Officer

Land Use Commission

Fort Hall Business Council

P.O. Box 306

Fort Hall, Idaho 83206

(208) 238-3826

EPA Region X: Rick Seaborne, Indian Work Group

Coordinator

### Introduction

The Fort Hall Reservation consists of 543,900 acres, 257,725 of which are tribally owned and 231,975 of which are in allotment. Two tribes occupy the reservation, the Shoshones and Bannocks. The population of the reservation is between 4088 and 4788.

### Tribal Government

The seven member Fort Hall Business Council, established in 1936, is the tribal governing body. Council members are elected at large for two year terms. The Chairman of the Council is appointed by the Council, also for a two year term, and the Council meets bi-weekly.

The tribal government exercises regulatory functions in the following areas: land use planning,

water resource planning, water quality control, soil conservation, business and commercial development, zoning, hunting, fishing and game management, animal control, occupational health and safety, sanitation, natural resource development (fish and minerals), civil law and criminal law. The tribal government has adopted an administrative procedures act.

#### Tribal Environmental Protection Infrastructure

The tribe is currently implementing an environmental protection program which is responsible for water quality monitoring, soil analysis, enforcing tribal environmental standards, animal control, protection of endangered species, sanitation and waste disposal, environmental rehabilitation and reclamation, emergency preparedness and evacuation, and pesticide regulation and enforcement. The tribal offices which conduct environmental programs are the Land Use Department, the Tribal Fish and Game Department and the Office of Tribal Biologists. The committee within the tribal government which addresses environmental issues is the Environmental Impact Committee, and the tribe employs ten staff in various fields and one attorney to work on environmental programs. The tribal government has cooperative agreements with the U.S. Geological Service to work on water quality monitoring, with the Bingham County Solid

Waste Disposal Department to work on sanitation and waste disposal, with the Corps of Engineers, the Bureau of Reclamation and the Bureau of Land Management to work on environmental rehabilitation and reclamation, with the Soil Conservation Service to work on soil analysis and also another cooperative effort to work on emergency preparedness and evacuation.

#### Tribal Natural Resources Use Information

Soil analysis and classification was completed March 2, 1977, by the U.S. Soil Conservation Service, Department of Agriculture, U.S. Department of Interior and the University of Idaho.

Agricultural, mineral, recreational, commercial and grazing resources are presently being used, and the use of industrial/manufacturing and further commercial resources is currently being planned.

Water is currently used for irrigation and for fishery and the hunting of waterfowl and game. Fisheries are planned.

#### Air Quality

The tribal government has no designated air quality standards as provided by the Clean Air Act. Air quality is, however, monitored by the State of Idaho and by both the Simplex and FMC corporations. Air quality monitoring includes data for total suspended particulates



(monitored by the State of Idaho) and for sulfur dioxide (monitored by the State of Idaho and Simplex).

Major air pollution sources near the reservation include mineral processing plants (phosphorous chemicals) (FMC and Simplex) and automobile exhaust.

#### Water Quality

##### General Water Quality:

The reservation does not have water quality standards for reservation streams, rivers, and lakes. Some of the lakes/reservoirs are suffering from eutrophication.

Actual sources of water pollution include cropland, animal waste, and pesticide/herbicide/nutrient run-off and stream bank erosion. There are potential sources of pollution from all the other categories listed in the survey.

##### Drinking Water Quality:

There was one violation of the reservation's drinking water in the past five years, a case of arsenic contamination in approximately 1978 in a ground water well. The well was abandoned. There have been no outbreaks of water borne diseases.

##### Community Water Supply:

There are three community drinking water supply systems on the reservation all of which use ground water.

Two are monitored monthly for bacteriological quality and one never is. All were tested for inorganics when first installed, but none have been monitored since, and the three systems have never been tested for pesticides or radionuclides. None are treated for water quality.

#### Individual Water Supply:

Eighty-five percent of the homes on the reservation are served by individual wells as is 85 percent of the population. All the wells were tested for bacteriological quality when they were first installed, but there has been no subsequent monitoring. The wells have never been tested for inorganics, pesticides or radionuclides.

#### Water Usage:

The information on water usage is currently being compiled in the reservation's 10 Year Water Study.

#### Domestic Waste Disposal (Sewage)

[This area was neglected in the original survey. No additional information was received in time to include in the final draft of the narrative.]

#### Solid Waste Storage & Disposal

Although the tribal government has a plan for the disposal of solid wastes, their disposal is a major problem on the reservation. Presently wastes are deposited in a one acre community landfill and/or picked

up and taken to the county landfill under a special contract with Bingham County. There is no reservation recycling program.

#### Hazardous Waste Storage Disposal

The tribal government has no plan for the disposal of hazardous wastes although pesticide wastes (class B poisons) are generated on the reservation. None are stored on the reservation, however.

#### Nuclear Waste/Radiation

There is no problem with uranium deposits, mining, processing or wastes. However, there is radioactivity in the phosphate mining residue at FMC, and the mining slag is used for road coverings. There is also a nuclear power generation facility, Idaho National Engineering Laboratories, 30 miles away which stores nuclear waste. Nuclear materials are also transported through the reservation.

#### Tribal Priorities

The Fort Hall environmental staff has identified the following environmental problems in order of priority: water quality, air quality, stream bank erosion, chemigation, agricultural erosion, open pit mining, solid waste disposal, water quality, sewage disposal and the disturbance of wetlands.

Quinault Reservation, Washington

Environmental Contact:

Department of Natural Resources

Quinault Business Committee

Quinault Indian Nation

P.O. Box 189

Tahalah, Washington 98587

EPA Region X: Rick Seaborne, Indian Work Group

Coordinator

Introduction

The Quinault Reservation consists of 196,645 acres, 189,621 acres of which is land. Of the total acreage, 7,296.9 acres are wholly tribally owned, 8,203 acres are partially tribally owned and 98,224 acres are in allotment. The population of the reservation is 1501 consisting of two tribes plus five affiliated tribes Quinault, Queets, Hoh, Chehalis, Chinook, Cowlitz, and Quiluate.

Tribal Government

The eleven member Quinault Business Committee and its chairman are elected at large by tribal members for three year terms. The Committee meets two times monthly. This government was established by resolution. The Committee performs regulatory functions in land use planning, licensing fees on business, hunting/fishing/game

management, sanitation, timber and fish resource development and civil and criminal law. The tribes have not adopted an administrative procedures act.

#### Tribal Environmental Protection Infrastructure

The tribes are not currently implementing an environmental protection program. However, the tribes do have a Department of Natural Resources as part of the tribal administrative structure, and the tribes employ one staff member to work on environmental programs. The Committee currently has one cooperative agreement with Gray Harbor County for water quality monitoring.

#### Tribal Natural Resource Use

Soil analysis and classification has been completed for the reservation. Only forestry/timber resources are currently being developed. There are no plans for other land resources development. Water resources are only being used for fisheries with no plans for other water resources development.

#### Air Quality

The tribes have no designated air quality standards as provided in the Clean Air Act. Air quality is not monitored. Major air pollution sources are a pulp mill fifty miles from the reservation and waste wood incineration on the reservation.

## Water Quality

### General Water Quality:

The tribes have no tribal water quality standards for reservation streams, rivers and lakes. The reservation lakes and reservoirs are not suffering from eutrophication or sedimentation. The actual source of water pollution is sediment run-off from timber production and harvesting. Potential sources of water pollution include sewage treatment plants, oxidation ponds, municipal and industrial discharges, domestic wastes (sewage), landfill leachate, and urban run-off.

### Drinking Water Quality:

There have been no drinking water quality violations in the last five years nor any outbreaks of water borne diseases.

### Community Water Supply:

There are four drinking water supply systems on the reservation using 100 percent ground water. Half of the systems are monitored monthly for bacteriological quality, organics, pesticides and radionuclides. Half the systems are also treated for water quality.

### Individual Water Supply:

Ten percent of the homes on the reservation are served by individual wells. Thus, 7 percent of the total population on the reservation uses individual wells for drinking water. None of the wells are monitored.

### Water Usage:

There is no information available about average annual water consumption in acre feet per year, but 80 percent of the annual ground water consumption is for domestic purposes and 20 percent for industrial purposes. There is no surface water consumption.

### Domestic Waste Disposal (Sewage)

[This area was neglected in the original survey. No additional information was received in time to be included in the final draft of the narrative.]

### Solid Waste Storage and Disposal

The tribes do not have a plan for the disposal of solid wastes, and solid waste disposal is a growing problem on the reservation. Currently, wastes are disposed of in an off-reservation landfill. The tribes have no recycling program.

### Hazardous Waste Storage and Disposal

The tribes have no plan for the disposal of hazardous wastes, but hazardous wastes are neither generated nor stored on the reservation, and there are no abandoned hazardous waste sites on the reservation.

### Nuclear Waste/Radiation

There are no deposits of uranium or other radioactive deposits on the reservation. There are no uranium processing mills, nuclear power generation

facilities or nuclear waste storage sites within 50 miles of the reservation. The reservation has not been selected as a potential area for a permanent nuclear waste disposal site, and nuclear materials are not transported through the reservation.

#### Tribal Priorities

The Quinault Reservation's most pressing environmental problems are solid waste disposal and river sedimentation due to logging.



## NARRATIVE PROFILE

Umatilla Reservation, Oregon  
Environmental Contact:

Michael J. Vtarrow  
Director  
Department of Natural Resources  
Board of Trustees  
Confederated Tribes of the Umatilla  
Indian Reservation  
P.O. Box 638  
Pendleton, Oregon 97801  
(503) 276-3165

Region X: Rich Seaborne, Indian Work Group Coordinator

### Introduction

The Umatilla Reservation consists of 86,340 acres of which 17,198 acres are tribally owned and 69,142 are in allotment. The population of the reservation made up of three tribes, Cayuse, Walla Walla and Umatilla, is 3,000.

### Tribal Government

The 9 member Board of Trustees, established by the adoption of a constitution and by-laws in 1949, is the tribal governing body. The board members are elected at large by tribal members for two year terms and officers are elected within the Board annually. The board meets bi-weekly. The regulatory functions performed by the Board include land use and water resource planning, water quality control, zoning, hunting/fishing/game management, animal control, sanitation, the development of natural resources and civil and criminal law. The tribes have not adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The Tribe is currently implementing an environmental protection program which is responsible for developing and enforcing tribal environmental standards and for the protection of endangered species. This program is carried out by the tribal departments of Natural Resources and Health and Welfare. There are eight staff employed by the tribe to work on environmental programs. There is also a committee within the tribal government which addresses environmental issues, the Natural Resources Commission. The tribal government also has cooperative agreements with other governmental entities: with the Bureau of Indian Affairs for soil analysis and the protection of endangered species and with the Indian Health Service for animal control.

## Tribal Natural Resource Use

Soil analysis and classification has been completed for the reservation. Land resources are currently being used for agriculture, agri-business, timber, mining, industry/manufacturing, recreation, commercial development, grazing, residential, and public use. Water resources are currently being used for fisheries (and anadromous fish) with plans to use them for power generation, irrigation, tourism/recreation and for municipal/industrial purposes.

## Air Quality

The tribe has not designated air quality standards as provided in the Clean Air Act. Air quality is not monitored on the reservation, although the state does it elsewhere. It is unknown whether there have been any measured violations of national ambient air quality standards. The major air pollution source on the reservation is gravel mining. Near the reservation major sources include the Boardman Coal Fire Plant (50 miles west), a proposed P.C.B. plant (80 miles west) and the city of Portland (200 miles west).

## Water Quality

### General Water Quality:

There are tribal water quality standards for on-reservation streams, rivers, lakes, and these standards have been violated. Riparian vegetation has been destroyed and stream beds disturbed. It is unknown whether reservation lakes/reservoirs are suffering from eutrophication. They are not suffering from sedimentation. Actual sources of water pollution include agricultural run-off, sediment run-off from timber production, and pesticide/herbicide/nutrient run-off. Potential sources of water pollution include water treatment plants, municipal and industrial discharges, domestic wastes (sewage), hazardous materials spills, urban run-off, sediment run-off from construction and mining, toxicant build-up from pesticide use and on-lot disposal.

### Drinking Water Quality:

There have been violations of drinking water quality in the last five years involving the failure to get permits for uses affecting ground water and causing stream zone alteration. There have been no outbreaks of water borne diseases.

### Community Water Supply:

There are seven community drinking water supply systems on the reservation. One percent use surface water as a source, and 99% use ground water. One percent are monitored monthly for bacteriological quality and 99% annually for inorganics. One percent of the systems are treated for water quality.

### Individual Water Supply:

Sixty-five percent of the homes on the reservation are served by individual wells which amounts to about 65% of the population as well. Forty percent of the wells are monitored annually for bacteriological quality.

### Water Usage

Average annual consumption of water is as follows: 9 acre feet of surface water and 570 acre feet of ground water for domestic purposes; 3,670 acre feet of ground water for municipal purposes; 525 acre feet of surface water and 2,775 acre feet of ground water for purposes of irrigation; 10 acre feet of surface water for industrial purposes; 20 acre feet of ground water for commercial purposes; 135,000 acre feet of surface water for fish habitat and 3,070 acre feet of surface water for fish hatcheries. This amounts to a total consumption of 3,630 acre feet of surface water and 7,010 acre feet of ground water per year.

### Domestic Waste Disposal (Sewage)

[This area was neglected in the original survey, and additional information as not received in time to be included in the final draft of the narrative.]

### Solid Waste Storage and Disposal

The tribal government has a plan for the disposal of solid wastes. Solid wastes are not a problem on the reservation. They are presently disposed of in 3-5 acre community landfills. The tribes, however, do not have a recycling program.

### Hazardous Waste Storage and Disposal

The tribal government has no plan for the disposal of hazardous wastes, but hazardous wastes are neither generated nor stored on the reservation.

### Nuclear Waste/Radiation

Since there are no deposits of radioactive materials on the reservation, nuclear waste is not a problem except for the presence within fifty miles of the reservation boundary of a uranium processing mill, a nuclear power generation facility and a nuclear waste storage site, all at Hanford, Washington. In addition, although the reservation has not been selected as a potential area for a permanent nuclear waste disposal site, nuclear materials are transported through the reservation.

### Tribal Priorities

The Confederated Tribes of the Umatilla Indian Reservation have listed the following as their most pressing environmental problems in order of priority: soil erosion, pesticide/herbicide pollution (potential but not yet quantified), the transport of hazardous materials, degradation of riparian zones, extensive roads in mountain regions, air quality (potential but not yet quantified), overgrazing (by both domestic and wild herds), lack of coordination by federal, state and private sector, federal agencies unwilling to finance tribal programs and destruction of watershed adjacent to the reservation.

### Additional Comments

The Director of the tribes' Department of Natural Resources had these observations to share on Water Management:

"The list of water uses [in the survey] is incomplete. The tribes currently have a list of 17 beneficial uses of water. It might be easier to quantify tribal uses of water if tribes could have a list and [the] duty of [indicating] water assigned to all uses, both consumptive and non-consumptive.

The states have poorly administered the Clean Water Act with federal money. Tribes can and should utilize Section 208 of the Act to implement provisions of their section on the reservations. EPA is apparently unwilling to finance Indian projects even though policy requires it. Federal and state efforts to reduce non-point source pollution continue to be fragmented and very poorly coordinated.

The [Umatilla Confederated Tribes have] been ready to save [their] soils and improve the quality of waters since 1981, but have not been successful in obtaining needed finance for its projects.

Other environmental programs and projects are available to the tribes as well but there is not enough time or manpower to address other environmental projects."

Warm Springs Reservation, Oregon

Environmental Contact:

Ray Rangila

Warm Springs Tribal Council

P.O. Box C

Warm Springs, Oregon 97761

(503) 553-1161 Ext. 270

EPA Region X: Rick Seaborne, Acting Indian Work Group

Coordinator

### Introduction

The Warm Springs Reservation consists of 656,134 acres, 589,007 of which is tribally owned and 67,127 acres of which is in allotment. Three tribes occupy the reservation: the Warm Springs, Wasco and Paiute, for a total Indian population of 2527 and a non-Indian population of 273. The total population of the reservation is 2800.

### Tribal Government

The eleven member Warm Springs Tribal Council, established by corporate charter and through the creation of a constitution and by-laws in 1938, is the governing body of the reservation. Eight of the eleven members of the Council are elected by district/geographic region for three year terms. The Chiefs of the three Warm Springs tribes are elected by district and serve on the Council

for life, and the Chairman is appointed by the Council, also for a three year term. Council meetings are held three days per week.

The Council exercises regulatory functions in the following areas: land use and, water resource planning, water quality control, soil conservation, licensing fees on businesses, business commercial/development, zoning, hunting/fishing/game management, animal control, occupational health and safety, sanitation, the development of timber and fish resources and civil law. The tribes have not adopted an administrative procedures act.

#### Tribal Environmental Protection Infrastructure

The tribes are currently implementing an environmental protection program, mostly through the BIA and tribal staffs. The environmental program is responsible for air quality monitoring, water quality monitoring, soil analysis, developing tribal environmental standards, enforcing tribal and federal environmental standards, animal control, protection of endangered species (Warm Springs has extensively catalogued both endangered plants as well as animals and birds), sanitation and waste disposal, environmental rehabilitation and reclamation, emergency preparedness/evacuation, and archaeological protection.

Twelve different organizational entities conduct this environmental program: five committees within the tribal government (Natural Resources, Range, Culture and Heritage, Land Use Planning, and Timber), two other tribal departments (the Water Masters Department and the Culture and Heritage Department) and four BIA offices (Forestry, Roads, Land Operations and the Superintendent's Office). There is, however, no tribal staff specifically employed by the tribes to work on environmental programs, but man years necessary to run the program are devoted to the program according to need, although a tribal archaeologist was recently hired.

As mentioned above the Bureau of Indian Affairs is Warm Springs' major cooperative partner for environmental programs including air quality monitoring and standards enforcement, sanitation and waste disposal, environmental rehabilitation/reclamation, soil analysis, the protection of endangered species and emergency preparedness/evacuation. Warm Springs cooperates with the Indian Health Service on water quality monitoring and water quality standards enforcement. In addition the State of Oregon is developing a Hazardous Waste Response Plan for the state in which the tribes are involved.

#### Tribal Natural Resource Use

Soil analysis and classification have been completed for the reservation. The use of agricultural,

forestry/timber, mining, industrial/manufacturing, recreational, commercial and grazing resources are currently being implemented. The production of traditional foods is also being developed, as is better housing.

Warm Springs extensive water resources (there significant rivers and ten plus lakes/reservoirs) are used for power generation, irrigation, livestock watering, fisheries, tourism/recreation, and transportation as well or for domestic and industrial purposes.

#### Air Quality

The tribes have designated air quality standards as provided by the Clean Air Act. Warm Springs air quality is designated Class II (as referenced in the reservation's Forestry Management Plan). General monitoring occurs only at the time of slash burning (usually in July and August). This informal monitoring is done by The Oregon State Department of Environmental Quality in Bend, Oregon, and includes only general visibility checks made from the Bend area. There have been no measured violations of national ambient air quality standards.

Minor sources of air pollution on the reservation include a lumber mill, a small rock crusher and dust from truck roads. The major air pollution source near the



reservation is the agricultural field burning in the Madras, Oregon, area 10-25 miles away during July and August.

### Water Quality

#### General Water Quality:

There are tribal water quality standards for reservation streams, rivers and lakes. The Warm Springs Water Code includes monitoring for turbidity, dissolved oxygen, pH and etcetera. Reservation lakes/reservoirs do not suffer from eutrophication or sedimentation.

The only actual source of water pollution at the moment is sediment run-off from timber production and harvesting. Potential sources, however, include sewage and water treatment plants, oxidation ponds, municipal and industrial discharges, domestic wastes (sewage), oil and other hazardous materials spills, land fill leachate and urban, agricultural and pesticide/herbicide/nutrient run-off.

#### Drinking Water Quality:

There was one drinking water quality violation in 1981-82 which involved turbidity in a surface water source and led to the abandonment of that drinking water system. There was also an outbreak of giardiasis in the system which was abandoned.

### Community Water Supply:

There are three community drinking water supply systems on the reservation. Thirty-three percent use surface water and 67 percent use ground water. However, in volume, almost all use is of surface water(?). All the systems are monitored for bacteriological quality monthly. One of the systems is monitored annually for inorganics. The other two are monitored every three years for inorganics. One of the systems is monitored every three years for pesticides, and all three systems are monitored every four years for radionuclides. All of the systems are treated for water quality.

### Individual Water Supply:

Thirteen percent of the 46 homes or 4 percent of the population on the reservation is served by individual wells. Wells are monitored only at the time they are dug, although the United States Geological Survey is doing some monitoring under contract with the tribes.

### Water Usage

In 1984 Warm Springs used 411,000,000 gallons (of approximately 1261 acre feet) of surface water (96 percent of total consumption) and 19,000,000 gallons (or approximately 58 acre feet) of ground water (4 percent of total consumption) for domestic, municipal and industrial purposes. Figures are not available for water usage for

irrigation and recreational purposes or for the water used in individual wells.

#### Domestic Waste Disposal (Sewage)

There are three community systems using oxidation methods. All rural housing includes individual septic tank and drainfield systems.

#### Solid Waste Storage and Disposal

The Warm Springs Tribal Council has a plan for the disposal of solid wastes. Twenty acres of a 40 acre community landfill are currently being used for this purpose. Warm Springs is one of the few reservations where solid wastes are not a problem. There is no tribal recycling program, although a tribal solid waste management plan is being considered.

#### Hazardous Waste Storage and Disposal

The tribal government does not have a plan for the disposal of hazardous wastes. However, neither historically nor currently have hazardous wastes been either generated or stored on the reservation.

#### Nuclear Waste/Radiation

There are no known deposits of uranium or other radioactive materials on the reservation. There are no uranium processing mills, nuclear power generation facilities or nuclear waste storage sites within 50 miles of the reservation. Nor has the reservation been

designated a potential area for the permanent disposal of nuclear waste. It is unknown whether nuclear wastes are transported through the reservation.

#### Tribal Priorities

Warm Springs' major priority as far as environmental protection is concerned is the availability of federal funding to implement federal regulations and laws, including those having to do with the protection of archaeological sites. A second environmental concern was stream erosion. Some Warm Springs and BIA staff, exhibiting a degree of ambivalence about this project, wanted to know how participation in this survey would benefit them; why they needed another federal agency running around telling them what to do, what EPA services they were not now getting and why CERT was chosen to house the national data base.

## NARRATIVE PROFILE

Yakima Indian Reservation, Washington  
Environmental Contact:

Lorintha Warwich  
Tribal Planning Office  
Confederated Tribes and Bands  
Yakima Indian Nation  
P.O. Box 151  
Toppenish, Washington 98948  
(509) 865-5121

EPA Region X: Rick Seaborne, Indian Work Group Coordinator

### Introduction

The Yakima Indian reservation consists of 1.3 million acres, of which 29,237 irrigated acres are tribally owned and 884,558 acres are in allotment. The population of the reservation is 25,000 (the 1981 Indian Health Service profile gives the population of the reservation as 36,000) people of all races including the 6,500-7,000 members (1981 IHS Profile) of the 14 tribes and bands of the Confederated Yakima Indian Nation (Klickitat, Klinkuit, Kow-wa-say-ee, Kah-milt-pah, Li-ay-was, Oche-chotes, Palouse, Piquose, Skin-pah, Se-ap-cat, Shyike, Wenatcha-pam, Wish-ham and Yakima). Demographic data by community is incomplete.

### Tribal Government

The Confederated Tribes and Bands of the Yakima Indian Nation have both a General Council consisting of the general membership of enrolled members and a 14 member Tribal Council elected to represent the people in the day to day affairs of the confederation. Tribal Council members are elected at large for two year terms. The Chairman is in turn elected by the Yakima Tribal Council for a four year term. The Tribal Council meets monthly. This form of government was created by resolution in 1956 and revised in 1961 and continues at the pleasure of the General Council.

The tribal government performs regulatory functions as regards land use and water resource planning, tobacco use taxation, business/commercial development, zoning, animal control, the development of timber, fish and mineral resources and civil and criminal law. The tribe has adopted an administrative procedures act.

### Tribal Environmental Protection Infrastructure

The tribes and bands are currently implementing an environmental protection program which is responsible for water quality monitoring, soil analysis, developing tribal environmental standards, and the protection of endangered species. The tribal offices conducting this program are the Forestry, Wildlife, Fisheries, Water Code, Zoning, and Cultural Resources Offices and the Office of the White Swan Sewer and Sanitation Program. A staff of 15 is employed by the Yakima Nation to work on environmental programs, and there are seven committees within the tribal government which address environmental issues: the Committees of Fish, Wildlife, Timber, Land, Irrigation, Health and Cultural Resources. In addition, the tribal government has cooperative agreements with the Indian Health Service for water quality monitoring and standards enforcement and for sanitation and waste disposal and with the Bureau of Indian Affairs for soil analysis and the protection of endangered species.

### Tribal Natural Resource Use

Soil analysis and classification have not been completed for the reservation. The development of agricultural, forestry/timber and grazing resources are currently being implemented with additional development of forestry/timber resources and the development of industrial/manufacturing, recreational and commercial resources in the planning stages. Water resources are currently being used for irrigation, fisheries and tourism/recreation with further development in these areas tentatively being planned.

### Air Quality

The tribal government has not designated air quality standards as provided in the Clean Air Act. Air quality is monitored, not by the tribe, but by the State. It is unknown what data is included in the air quality monitoring data except for visibility. There have been no measured violations of national ambient air quality standards, and there are no major sources of air pollution within a 50 mile radius of the reservation.

### Water Quality

#### General Water Quality:

There are no tribal water quality standards for reservation streams, rivers and lakes. There is eutrophication in reservation lakes/reservoirs to a minor degree, but no on-reservation sedimentation of lakes/reservoirs, although there are some off reservation impacts from erosion on the reservation.

Actual sources of water pollution include sewage treatment plants as system sources, oxidation ponds, municipal and industrial discharges, domestic wastes, urban and agricultural run-off, sediment run-off from construction and timber production and harvesting, pesticide/herbicide/nutrient run-off, and toxicant build-up due to pesticide usage. Potential sources of pollution include sewage treatment plants on the reservation, water treatment plants off the reservation, oil spills (to a slight degree), hazardous materials spills, landfill leachate, sediment run-off due to mining and on-lot disposal of solid wastes.

It is interesting to note the degree to which Yakima sees itself reciprocally with its total environment both as a source and recipient of pollution.

#### Drinking Water Quality:

There have been no drinking water quality violations or outbreaks of water borne diseases in five years.

#### Community Water Supply:

The Tribes identify five community water supply systems, all of which use 100% ground water. All these systems are monitored monthly for bacteriological quality, bi-annually for inorganics, every four years for radionuclides and never for pesticides. None of the systems are treated for water quality because it is not required.

However, the Indian Health Service's 1981 Community Profile lists 24 large and small community water supply systems and includes the following information on them. (See Figure I.)

#### Individual Water Supply:

Fifty percent of the homes and of the population of the reservation use individual wells for drinking water. None of the wells are monitored except the wells serving foster homes, which are monitored every two years.

#### Water Usage

Average annual consumption of surface water for irrigation is 642,000 acre feet which amounts to 90% of the total annual consumption of surface water on the reservation. There are studies currently being conducted to determine the other average annual consumption figures for surface and ground water for different purposes.

Figure 1. Facility Identification

1. Water systems community -Large

NAME	LOCATION	OWNERSHIP OR CONTACT PERSON	NUMBER HOMES AND/OR OTHER CONNECTIONS	SOURCES NUMBER & KIND	TREATMENT	REMARKS
Georgeville	Klickitat County	Tribe - HUD-BIA Housing Frank Hehlen	15 homes 1 headstart 1 NAP Office 1 Community building	new drilled well 6" 373 ft. Old drilled well 6" & 200 ft.	None Chlorination Equipment available	Maintenance may be taken over by Tribal Maintenance
White Swan Community	White Swan Yakima County Fort Rd	Tribe Byron Kent	200 +	Main well 12" 1303 ft. Standby wells	Gas chlorination Iron removal planned 10-78 possibly also water soften- ing.	865-5121
Yakima Tribal-BIA Complex	West of Toppenish on Fort Rd, Yakima County	Tribe BIA Facility Mgt.	BIA Agency; Indian Health Center; Cor- rectional Facility; Alcohol Receiv- ing; Senior Citizen Commu- ity Center; BIA Forestry Shops; Tribal Utilities; Tribal Game Dept. Tribal Public Defender; Cult- ural Heritage Center	Two drilled wells 8" 59 foot depth	Solution chlorination	



Figure I - Continued

2. Water supply systems communal - small number of hookups or sporadic usage

COMMON NAME OF SYSTEM	LOCATION AND/OR COMMUNITY SERVED	OWNERSHIP OR CONTACT PERSON	NUMBER OF HOMES OR OTHER CONNECTIONS	SOURCES NUMBER AND KIND	TREATMENT	REMARKS
Billyville	Klickitat County	Jim Wahchumwah P. O. Box 238A Goldendale, WA 98620	2 homes 2 community buildings	1 drilled well	None	Trust property Most bacterial samples have been satisfactory.
Camp Chaparral	Yakima County	Tribe BIA Facility Mgmt.	Summer School June/July/Aug.	1 drilled well	None	Well drilled Fall 1980
Cloudville (Horse Thief Lake)	Klickitat County	George Cloud P. O. Box 189 Lyle, WA 98635	4 homes	1 drilled well	none	Trust Property - most bacterial sample satisfactor
Cougar Creek Guard Station	Klickitat County	Tribe - BIA Facility Mgmt.	Guard Station	Creek	Chlorination?	Needs filtration.
Glenwood Ranger Station	Klickitat County	Dave L'Hommedieu	Ranger Station 6 residences 10 mobile home spaces	Glenwood Comm. system		364-3322
Mill Creek Guard Station	Yakima County	Tribe - BIA Facility Mgmt.	Guard Station	Surface Spring	None	Spring Enclosure Bacterial sample usually satisfact- ory.
Potato Hill Campground	Yakima County	Tribe - BIA Forestry	Campground	Sub-surface Spring	None	Infrequent Bact- erial samples were satisfactory.
Rock Creek Longhouse	Klickitat County	Tribe - BIA Facility Mgmt.	Longhouse	1 drilled well	None	Bacterial sample have been satis- factory. New Longhouse being constructed.
Cabin Longhouse	Yakima County Cook Road	Tribe - BIA Facility Mgmt.	4 houses Longhouse	1 drilled well	None	Needs above- ground tank storage. Bacterial satis- factory.

### Domestic Waste Disposal (Sewage)

The 1981 Indian Health Service Community Profile gives the following information on community liquid waste disposal systems. (See Figure II.)

No information is available on individual disposal systems.

### Solid Waste Storage and Disposal

The tribal government does have a plan for the disposal of solid wastes. Such wastes are not a problem on Yakima, although there is some unauthorized disposal in miscellaneous locations which eventually could become a problem. However, Yakima has 250 acres devoted to a community landfill. There is no tribal recycling initiative except for paper on the program level.

### Hazardous Waste Storage and Disposal

The tribal government does not have a plan for the disposal of hazardous wastes, although there could be a problem with hazardous wastes in the form of pesticides on the reservation. There are no abandoned hazardous waste storage sites on the reservation as far as is known by the tribal government.

### Nuclear Waste/Radiation

There is no problem with nuclear waste/radiation on the reservation, but within fifty miles of the reservation are the Purex uranium processing mill and the nuclear reactor for Washington Power Systems at the Hanford Federal Nuclear Reservation. Nuclear waste is also stored at this latter site. The reservation has not been selected as an area for a permanent nuclear waste disposal site, but it is unknown whether nuclear materials are transported through the reservation.

### Tribal Priorities

Yakima did not state its environmental priorities.

Figure II. Liquid Waste Disposal Systems (Community)

COMMON NAME OF SYSTEM	COMMUNITY SERVED	OWNERSHIP OF CONTACT PERSON*	NUMBER OF HOMES	TYPE OF TREATMENT	REMARKS
Billysville	same	Jim Wahchumwah P. O. Box 238A Goldendale, WA 98620	2 homes 1 Community Center 1 Senior Citizens building	Open pit (non- functional lagoon).	Probably septic tank overflow into rocky depression.
Georgeville	same	Tribe - BIA Housing - Frank Gehlen	15 homes 1 headstart 1 ANA Office	Septic tank and drainfield	Drainfield addition under construction Oct. 78.
Yakima Complex Tribal - BIA - PHS		Tribal BIA Management facility	Various Tribal, BIA and PHS buildings.		Community collection with treatment by City of Toppenish.
White Swan Community	same	Tribe Byron Kent		Serial lagoons	

Yakima Tribal Maintenance plans to take over operation and maintenance of all treatment systems.

## *ENVIRONMENTAL SURVEY*

### *VII. Additional Surveys and Other Data Received After June, 1986*

SOME OF THE MATERIALS WERE RECEIVED AFTER THE CUT-OFF DEADLINE :

*From the San Carlos Apache Tribe :*

- 1) Editorial comments on their narrative (attached).
- 2) San Carlos Apache Indian Reservation Community profile, Arizona Department of Commerce.

*From the Pueblo of Isleta :*

- 1) IHS community profiles.

*From the Tule River Indian Reservation :*

- 1) Their survey response form.

*These materials will be included in the next stage of the data base's development.*

San Carlos Apache Reservation, Arizona

Ned Anderson, Chairman  
San Carlos Apache Tribe  
P.O. Box 0  
San Carlos, Arizona 85550  
(602) 475-2361

#### Introduction

The population break down is not available.

#### Tribal Government

Yes, the Chairman does makeup the nine member governing body.

Yes, the terms are staggered.

#### Tribal Environmental Protection Infrastructure

Currently there is not an environmental protection program.

FEMA stands for ?

#### Other Environmental Background Information

Soil Analysis has not been completed.

#### Water Quality

Half of the systems are also treated for quality fluoridation and chlorination.

Just Indian homes.

#### General Water Quality

More Information not available.

## ENVIRONMENTAL SURVEY

### IX Resource List

## ENVIRONMENTAL DATA BASE RESOURCE LIST

### ENVIRONMENTAL CONCERNS

1. Air Quality Analysis, April 1985
2. 4th Annual Tribal Air Quality Workshop, 1985
3. Coeur D'Alene Environmental Baseline Analysis, Oct. 1984
4. Environmental Assesment of the Chemehuevi Reservation, Jan. 1984
5. Environmental Status Report for New Jersey, March 1983
6. Environmental Status Report for New York, March 1983
7. Environmental Status Report for Puerto Rico, March 1983
8. Environmental Status Report for U.S. Virgin Islands, March 1983
9. EPA Policy for Administration of Environmental Programs on Indian Reservations, Nov. 8, 1984
10. Inventory of Hazardous Waste Generators and Sites on Selected Indian Reservations, July 1985
11. Inventory of Injection Wells on Indian Land in New Mexico and Oklahoma, Nov. 1984
12. National Priorities List, Dec. 1984
13. Summary of Reservation Environment, (Current)
14. Tribal Environmental Programs Briefing Material, April 1985
15. Tribal Enviornmental Review Process, Dec. 1982
16. Umatilla Indian Reservation High-Level Nuclear Waste Study, August 1984

### EPA MATERIALS

1. The Amicus Journal, Clear Water Act: Special Report 1982
2. CERT Testimony for the Appropriation Subcommittee on HUD-Independent Agencies, 1986
3. Clean Water Act, May 8, 1985
4. EPA Activities on Indian Reservations, Nov. 1985
5. EPA Journal, Vol. 12, #1, Jan./Feb. 1986
6. EPA Needs to Improve the Navajo Indian Safe Drinking Water Program, Sept. 10, 1980
7. The Environmental Task Force's Resources, Vol. 1, #2, Jan. 1986
8. Interim-Strategy for Implementation of the EPA Indian Policy, Nov. 1985
9. Land Capability Classifications Handbook, #210
10. Merle L. Garcia Appeal to Senate Appropriations Subcommittee, May 1, 1985
11. The Navajo Nation, May 1985
12. New Mexico Air Quality Standards and Air Quality Control Regulations, Jan. 23, 1970
13. New Mexico Health and Environment Department Annual Report, Environmental Improvement Division 1981-82
14. Resource Regions and Areas of the U.S., 1982 Agri. Handbook #296
15. Sense, Inc., Testimony, April 30, 1985



POPULATION CENSUS AND TRIBAL ACCOUNTS

1. Frank Allen, "An 'Insane Obsession'"
2. Briefing Papers, Feb. 11, 1982
3. Billings Area: Bureau of Indian Affairs, 1980
4. Census 1980 U.S. Department of Commerce
5. CERCLA: Comprehensive Environmental Response, Compensational Liability Act, Dec. 20, 1985 (Hobbs, Straus, Dean & Wilder Law Offices)
6. Cheyenne River Agency (Current)
7. Colville Reservation (Current)
8. Coughattu Indian Community (Maps)
9. U.S. Department of the Interior, June 12, 1981 (Dick Hardwick)
10. Devils Lake Sioux Tribe (Current)
11. Fort Berthold Reservation, North Dakota (Current)
12. Indian Health Services, Dec. 12, 1985
13. Inform Special Lunches, Feb. 30, 1986
14. Jicarilla Apache Tribal Council, 1984, and Written Testimony from U.S. Senate, June 1, 1981
15. Mescalero Apache Tribe (1982)
16. Mississippi Band of Choctaw Indians (Current)
17. Native American Working Group Annual Report, 1985
18. Oglala Sioux Tribe (Current)
19. The Pueblo Tribes (Current)
20. Quinault Reservation (Current)
21. Sanitation - Annual Report for 1983 (Includes Maps)
22. Southern Ute Tribe (Current)
23. Spokane Reservation (Current)
24. Standing Rock Indian Community (Current)
25. Tribal Profiles of Arizona, Utah and Nevada, 1981
26. Umatilla Reservation (Current)
27. Village of Laruna (Current)
28. Warm Springs (Current)
29. The Western Shoshone People and Land Association, 1984
30. WYE Resource Paper; The Governance of Environmental Affairs-Consensus 1982
31. Yakima Reservation (Current)

THE DUE

U.S. Environmental Protection Agency  
Region V, Library  
230 South Dearborn Street  
Chicago, Illinois 60604

17

18

19

20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65  
66  
67  
68  
69  
70  
71  
72  
73  
74  
75  
76  
77  
78  
79  
80  
81  
82  
83  
84  
85  
86  
87  
88  
89  
90  
91  
92  
93  
94  
95  
96  
97  
98  
99  
100  
101  
102  
103  
104  
105  
106  
107  
108  
109  
110  
111  
112  
113  
114  
115  
116  
117  
118  
119  
120  
121  
122  
123  
124  
125  
126  
127  
128  
129  
130  
131  
132  
133  
134  
135  
136  
137  
138  
139  
140  
141  
142  
143  
144  
145  
146  
147  
148  
149  
150  
151  
152  
153  
154  
155  
156  
157  
158  
159  
160  
161  
162  
163  
164  
165  
166  
167  
168  
169  
170  
171  
172  
173  
174  
175  
176  
177  
178  
179  
180  
181  
182  
183  
184  
185  
186  
187  
188  
189  
190  
191  
192  
193  
194  
195  
196  
197  
198  
199  
200  
201  
202  
203  
204  
205  
206  
207  
208  
209  
210  
211  
212  
213  
214  
215  
216  
217  
218  
219  
220  
221  
222  
223  
224  
225  
226  
227  
228  
229  
230  
231  
232  
233  
234  
235  
236  
237  
238  
239  
240  
241  
242  
243  
244  
245  
246  
247  
248  
249  
250  
251  
252  
253  
254  
255  
256  
257  
258  
259  
260  
261  
262  
263  
264  
265  
266  
267  
268  
269  
270  
271  
272  
273  
274  
275  
276  
277  
278  
279  
280  
281  
282  
283  
284  
285  
286  
287  
288  
289  
290  
291  
292  
293  
294  
295  
296  
297  
298  
299  
300  
301  
302  
303  
304  
305  
306  
307  
308  
309  
310  
311  
312  
313  
314  
315  
316  
317  
318  
319  
320  
321  
322  
323  
324  
325  
326  
327  
328  
329  
330  
331  
332  
333  
334  
335  
336  
337  
338  
339  
340  
341  
342  
343  
344  
345  
346  
347  
348  
349  
350  
351  
352  
353  
354  
355  
356  
357  
358  
359  
360  
361  
362  
363  
364  
365  
366  
367  
368  
369  
370  
371  
372  
373  
374  
375  
376  
377  
378  
379  
380  
381  
382  
383  
384  
385  
386  
387  
388  
389  
390  
391  
392  
393  
394  
395  
396  
397  
398  
399  
400  
401  
402  
403  
404  
405  
406  
407  
408  
409  
410  
411  
412  
413  
414  
415  
416  
417  
418  
419  
420  
421  
422  
423  
424  
425  
426  
427  
428  
429  
430  
431  
432  
433  
434  
435  
436  
437  
438  
439  
440  
441  
442  
443  
444  
445  
446  
447  
448  
449  
450  
451  
452  
453  
454  
455  
456  
457  
458  
459  
460  
461  
462  
463  
464  
465  
466  
467  
468  
469  
470  
471  
472  
473  
474  
475  
476  
477  
478  
479  
480  
481  
482  
483  
484  
485  
486  
487  
488  
489  
490  
491  
492  
493  
494  
495  
496  
497  
498  
499  
500  
501  
502  
503  
504  
505  
506  
507  
508  
509  
510  
511  
512  
513  
514  
515  
516  
517  
518  
519  
520  
521  
522  
523  
524  
525  
526  
527  
528  
529  
530  
531  
532  
533  
534  
535  
536  
537  
538  
539  
540  
541  
542  
543  
544  
545  
546  
547  
548  
549  
550  
551  
552  
553  
554  
555  
556  
557  
558  
559  
560  
561  
562  
563  
564  
565  
566  
567  
568  
569  
570  
571  
572  
573  
574  
575  
576  
577  
578  
579  
580  
581  
582  
583  
584  
585  
586  
587  
588  
589  
590  
591  
592  
593  
594  
595  
596  
597  
598  
599  
600  
601  
602  
603  
604  
605  
606  
607  
608  
609  
610  
611  
612  
613  
614  
615  
616  
617  
618  
619  
620  
621  
622  
623  
624  
625  
626  
627  
628  
629  
630  
631  
632  
633  
634  
635  
636  
637  
638  
639  
640  
641  
642  
643  
644  
645  
646  
647  
648  
649  
650  
651  
652  
653  
654  
655  
656  
657  
658  
659  
660  
661  
662  
663  
664  
665  
666  
667  
668  
669  
670  
671  
672  
673  
674  
675  
676  
677  
678  
679  
680  
681  
682  
683  
684  
685  
686  
687  
688  
689  
690  
691  
692  
693  
694  
695  
696  
697  
698  
699  
700  
701  
702  
703  
704  
705  
706  
707  
708  
709  
710  
711  
712  
713  
714  
715  
716  
717  
718  
719  
720  
721  
722  
723  
724  
725  
726  
727  
728  
729  
730  
731  
732  
733  
734  
735  
736  
737  
738  
739  
740  
741  
742  
743  
744  
745  
746  
747  
748  
749  
750  
751  
752  
753  
754  
755  
756  
757  
758  
759  
760  
761  
762  
763  
764  
765  
766  
767  
768  
769  
770  
771  
772  
773  
774  
775  
776  
777  
778  
779  
780  
781  
782  
783  
784  
785  
786  
787  
788  
789  
790  
791  
792  
793  
794  
795  
796  
797  
798  
799  
800  
801  
802  
803  
804  
805  
806  
807  
808  
809  
810  
811  
812  
813  
814  
815  
816  
817  
818  
819  
820  
821  
822  
823  
824  
825  
826  
827  
828  
829  
830  
831  
832  
833  
834  
835  
836  
837  
838  
839  
840  
841  
842  
843  
844  
845  
846  
847  
848  
849  
850  
851  
852  
853  
854  
855  
856  
857  
858  
859  
860  
861  
862  
863  
864  
865  
866  
867  
868  
869  
870  
871  
872  
873  
874  
875  
876  
877  
878  
879  
880  
881  
882  
883  
884  
885  
886  
887  
888  
889  
890  
891  
892  
893  
894  
895  
896  
897  
898  
899  
900  
901  
902  
903  
904  
905  
906  
907  
908  
909  
910  
911  
912  
913  
914  
915  
916  
917  
918  
919  
920  
921  
922  
923  
924  
925  
926  
927  
928  
929  
930  
931  
932  
933  
934  
935  
936  
937  
938  
939  
940  
941  
942  
943  
944  
945  
946  
947  
948  
949  
950  
951  
952  
953  
954  
955  
956  
957  
958  
959  
960  
961  
962  
963  
964  
965  
966  
967  
968  
969  
970  
971  
972  
973  
974  
975  
976  
977  
978  
979  
980  
981  
982  
983  
984  
985  
986  
987  
988  
989  
990  
991  
992  
993  
994  
995  
996  
997  
998  
999  
1000  
1001  
1002  
1003  
1004  
1005  
1006  
1007  
1008  
1009  
1010  
1011  
1012  
1013  
1014  
1015  
1016  
1017  
1018  
1019  
1020  
1021  
1022  
1023  
1024  
1025  
1026  
1027  
1028  
1029  
1030  
1031  
1032  
1033  
1034  
1035  
1036  
1037  
1038  
1039  
1040  
1041  
1042  
1043  
1044  
1045  
1046  
1047  
1048  
1049  
1050  
1051  
1052  
1053  
1054  
1055  
1056  
1057  
1058  
1059  
1060  
1061  
1062  
1063  
1064  
1065  
1066  
1067  
1068  
1069  
1070  
1071  
1072  
1073  
1074  
1075  
1076  
1077  
1078  
1079  
1080  
1081  
1082  
1083  
1084  
1085  
1086  
1087  
1088  
1089  
1090  
1091  
1092  
1093  
1094  
1095  
1096  
1097  
1098  
1099  
1100  
1101  
1102  
1103  
1104  
1105  
1106  
1107  
1108  
1109  
1110  
1111  
1112  
1113  
1114  
1115  
1116  
1117  
1118  
1119  
1120  
1121  
1122  
1123  
1124  
1125  
1126  
1127  
1128  
1129  
1130  
1131  
1132  
1133  
1134  
1135  
1136  
1137  
1138  
1139  
1140  
1141  
1142  
1143  
1144  
1145  
1146  
1147  
1148  
1149  
1150  
1151  
1152  
1153  
1154  
1155  
1156  
1157  
1158  
1159  
1160  
1161  
1162  
1163  
1164  
1165  
1166  
1167  
1168  
1169  
1170  
1171  
1172  
1173  
1174  
1175  
1176  
1177  
1178  
1179  
1180  
1181  
1182  
1183  
1184  
1185  
1186  
1187  
1188  
1189  
1190  
1191  
1192  
1193  
1194  
1195  
1196  
1197  
1198  
1199  
1200  
1201  
1202  
1203  
1204  
1205  
1206  
1207  
1208  
1209  
1210  
1211  
1212  
1213  
1214  
1215  
1216  
1217  
1218  
1219  
1220  
1221  
1222  
1223  
1224  
1225  
1226  
1227  
1228  
1229  
1230  
1231  
1232  
1233  
1234  
1235  
1236  
1237  
1238  
1239  
1240  
1241  
1242  
1243  
1244  
1245  
1246  
1247  
1248  
1249  
1250  
1251  
1252  
1253  
1254  
1255  
1256  
1257  
1258  
1259  
1260  
1261  
1262  
1263  
1264  
1265  
1266  
1267  
1268  
1269  
1270  
1271  
1272  
1273  
1274  
1275  
1276  
1277  
1278  
1279  
1280  
1281  
1282  
1283  
1284  
1285  
1286  
1287  
1288  
1289  
1290  
1291  
1292  
1293  
1294  
1295  
1296  
1297  
1298  
1299  
1300  
1301  
1302  
1303  
1304  
1305  
1306  
1307  
1308  
1309  
1310  
1311  
1312  
1313  
1314  
1315  
1316  
1317  
1318  
1319  
1320  
1321  
1322  
1323  
1324  
1325  
1326  
1327  
1328  
1329  
1330  
1331  
1332  
1333  
1334  
1335  
1336  
1337  
1338  
1339  
1340  
1341  
1342  
1343  
1344  
1345  
1346  
1347  
1348  
1349  
1350  
1351  
1352  
1353  
1354  
1355  
1356  
1357  
1358  
1359  
1360  
1361  
1362  
1363  
1364  
1365  
1366  
1367  
1368  
1369  
1370  
1371  
1372  
1373  
1374  
1375  
1376  
1377  
1378  
1379  
1380  
1381  
1382  
1383  
1384  
1385  
1386  
1387  
1388  
1389  
1390  
1391  
1392  
1393  
1394  
1395  
1396  
1397  
1398  
1399  
1400  
1401  
1402  
1403  
1404  
1405  
1406  
1407  
1408  
1409  
1410  
1411  
1412  
1413  
1414  
1415  
1416  
1417  
1418  
1419  
1420  
1421  
1422  
1423  
1424  
1425  
1426  
1427  
1428  
1429  
1430  
1431  
1432  
1433  
1434  
1435  
1436  
1437  
1438  
1439  
1440  
1441  
1442  
1443  
1444  
1445  
1446  
1447  
1448  
1449  
1450  
1451  
1452  
1453  
1454  
1455  
1456  
1457  
1458  
1459  
1460  
1461  
1462  
1463  
1464  
1465  
1466  
1467  
1468  
1469  
1470  
1471  
1472  
1473  
1474  
1475  
1476  
1477  
1478  
1479  
1480  
1481  
1482  
1483  
1484  
1485  
1486  
1487  
1488  
1489  
1490  
1491  
1492  
1493  
1494  
1495  
1496  
1497  
1498  
1499  
1500  
1501  
1502  
1503  
1504  
1505  
1506  
1507  
1508  
1509  
1510  
1511  
1512  
1513  
1514  
1515  
1516  
1517  
1518  
1519  
1520  
1521  
1522  
1523  
1524  
1525  
1526  
1527  
1528  
1529  
1530  
1531  
1532  
1533  
1534  
1535  
1536  
1537  
1538  
1539  
1540  
1541  
1542  
1543  
1544  
1545  
1546  
1547  
1548  
1549  
1550  
1551  
1552  
1553  
1554  
1555  
1556  
1557  
1558  
1559  
1560  
1561  
1562  
1563  
1564  
1565  
1566  
1567  
1568  
1569  
1570  
1571  
1572  
1573  
1574  
1575  
1576  
1577  
1578  
1579  
1580  
1581  
1582  
1583  
1584  
1585  
1586  
1587  
1588  
1589  
1590  
1591  
1592  
1593  
1594  
1595  
1596  
1597  
1598  
1599  
1600  
1601  
1602  
1603  
1604  
1605  
1606  
1607  
1608  
1609  
1610  
1611  
1612  
1613  
1614  
1615  
1616  
1617  
1618  
1619  
1620  
1621  
1622  
1623  
1624  
1625  
1626  
1627  
1628  
1629  
1630  
1631  
1632  
1633  
1634  
1635  
1636  
1637  
1638  
1639  
1640  
1641  
1642  
1643  
1644  
1645  
1646  
1647  
1648  
1649  
1650  
1651  
1652  
1653  
1654  
1655  
1656  
1657  
1658  
1659  
1660  
1661  
1662  
1663  
1664  
1665  
1666  
1667  
1668  
1669  
1670  
1671  
1672  
1673  
1674  
1675  
1676  
1677  
1678  
1679  
1680  
1681  
1682  
1683  
1684  
1685  
1686  
1687  
1688  
1689  
1690  
1691  
1692  
1693  
1694  
1695  
1696  
1697  
1698  
1699  
1700  
1701  
1702  
1703  
1704  
1705  
1706  
1707  
1708  
1709  
1710  
1711  
1712  
1713  
1714  
1715  
1716  
1717  
1718  
1719  
1720  
1721  
1722  
1723  
1724  
1725  
1726  
1727  
1728  
1729  
1730  
1731  
1732  
1733  
1734  
1735  
1736  
1737  
1738  
1739  
1740  
1741  
1742  
1743  
1744  
1745  
1746  
1747  
1748  
1749  
1750  
1751  
1752  
1753  
1754  
1755  
1756  
1757  
1758  
1759  
1760  
1761  
1762  
1763  
1764  
1765  
1766  
1767  
1768  
1769  
1770  
1771  
1772  
1773  
1774  
1775  
1776  
1777  
1778  
1779  
1780  
1781  
1782  
1783  
1784  
1785  
1786  
1787  
1788  
1789  
1790  
1791  
1792  
1793  
1794  
1795  
1796  
1797  
1798  
1799  
1800  
1801  
1802  
1803  
1804  
1805  
1806  
1807  
1808  
1809  
1810  
1811  
1812  
1813  
1814  
1815  
1816  
1817  
1818  
1819  
1820  
1821  
1822  
1823  
1824  
1825  
1826  
1827  
1828  
1829  
1830  
1831  
1832  
1833  
1834  
1835  
1836  
1837  
1838  
1839  
1840  
1841  
1842  
1843  
1844  
1845  
1846  
1847  
1848  
1849  
1850  
1851  
1852  
1853  
1854  
1855  
1856  
1857  
1858  
1859  
1860  
1861  
1862  
1863  
1864  
1865  
1866  
1867  
1868  
1869  
1870  
1871  
1872  
1873  
1874  
1875  
1876  
1877  
1878  
1879  
1880  
1881  
1882  
1883  
1884  
1885  
1886  
1887  
1888  
1889  
1890  
1891  
1892  
1893  
1894  
1895  
1896  
1897  
1898  
1899  
1900  
1901  
1902  
1903  
1904  
1905  
1906  
1907  
1908  
1909  
1910  
1911  
1912  
1913  
1914  
1915  
1916  
1917  
1918  
1919  
1920  
1921  
1922  
1923  
1924  
1925  
1926  
1927  
1928  
1929  
1930  
1931  
1932  
1933  
1934  
1935  
1936  
1937  
1938  
1939  
1940  
1941  
1942  
1943  
1944  
1945  
1946  
1947  
1948  
1949  
1950  
1951  
1952  
1953  
1954  
1955  
1956  
1957  
1958  
1959  
1960  
1961  
1962  
1963  
1964  
1965  
1966  
1967  
1968  
1969  
1970  
1971  
1972  
1973  
1974  
1975  
1976  
1977  
1978  
1979  
1980  
1981  
1982  
1983  
1984  
1985  
1986  
1987  
1988  
1989  
1990  
1991  
1992  
1993  
1994  
1995  
1996  
1997  
1998  
1999  
2000  
2001  
2002  
2003  
2004  
2005  
2006  
2007  
2008  
2009  
2010  
2011  
2012  
2013  
2014  
2015  
2016  
2017  
2018  
2019  
2020  
2021  
2022  
2023  
2024  
2025  
2026  
2027  
2028  
2029  
2030  
2031  
2032  
2033  
2034  
2035  
2036  
2037  
2038  
2039  
2040  
2041  
2042  
2043  
2044  
2045  
2046  
2047  
2048  
2049  
2050  
2051  
2052  
2053  
2054  
2055  
2056  
2057  
2058  
2059  
2060  
2061  
2062  
2063  
2064  
2065  
2066  
2067  
2068  
2069  
2070  
2071  
2072  
2073  
2074  
2075  
2076  
2077  
2078  
2079  
2080  
2081  
2082  
2083  
2084  
2085  
2086  
2087  
2088  
2089  
2090  
2091  
2092  
2093  
2094  
2095  
2096  
2097  
2098  
2099  
2100  
2101  
2102  
2103  
2104  
2105  
2106  
2107  
2108  
2109  
2110  
2111  
2112  
2113  
2114  
2115  
2116  
2117  
2118  
2119  
2120  
2121  
2122  
2123  
2124  
2125  
2126  
2127  
2128  
2129  
2130  
2131  
2132  
2133  
2134  
2135  
2136  
2137  
2138  
2139  
2140  
2141  
2142  
2143  
2144  
2145  
2146  
2147  
2148  
2149  
2150  
2151  
2152  
2153  
2154  
2155  
2156  
2157  
2158  
2159  
2160  
2161  
2162  
2163  
2164  
2165  
2166  
2167  
2168  
2169  
2170  
2171  
2172  
2173  
2174  
2175  
2176  
2177  
2178  
2179  
2180  
2181  
2182  
2183  
2184  
2185  
2186  
2187  
2188  
2189  
2190  
2191  
2192  
2193  
2194  
2195  
2196  
2197  
2198  
2199  
2200  
2201  
2202  
2203  
2204  
2205  
2206  
2207  
2208  
2209  
2210  
2211  
2212  
2213  
2214  
2215  
2216  
2217  
2218  
2219  
2220  
2221  
2222  
2223  
2224  
2225  
2226  
2227  
2228  
2229  
2230  
2231  
2232  
2233  
2234  
2235  
2236  
2237  
223