

## SOUTHWESTERN INDIAN WATER RESOURCES MANAGEMENT: ISSUES AND STRATEGIES FOR ASSURING CLEAN WATER

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### INTRODUCTION

Southwestern Indian water quality management is a complex subject encompassing many ideas. It includes: (1) identification of ground and surface water resources; (2) measurement and recording of water quality information; (3) development of water laws or codes for the establishment of water quality standards; (4) issuance of permits to control water use, quality, and quantity; (5) eventual creation of an Indian water management body to administer codes and participate in their enforcement; and (6) identification and utilization of federal, state, and local assistance and funding sources along with the creation of Indian funding sources.

In 1970, the federal government announced a national policy of self-determination for Indian tribes and in 1975, the commitment was signed into law as the Indian Self-determination and Education Assistance Act. Indian self-determination applies to tribal self-government and to the actions or states of a tribe as determined by that tribe without interference from the U.S. government. To ensure a clean and safe water resource, the tribes must begin to understand their water quality information, problems, needs and goals, and then begin to develop a water management body. The U.S. Bureau of Indian Affairs (BIA) and Indian Health Service (IHS) will provide water quality data, water resources inventories, and cooperative studies to assist the tribes in self-management. The Environmental Protection Agency (EPA) will also provide assistance as directed in the Safe Drinking Water Act and Clean Water Act. The EPA assistance includes programs in cooperation with state, local, tribal and other agencies to promote research, training, investigations, funding, and regulatory guidance to understand causes, effects, extent, prevention, reduction, or abatement of water pollution in protection of tribal water quality. Additional assistance is provided from other federal, state, tribal and local sources.

The U.S. Congress recently passed two amendments, one to the Safe Drinking Water Act (SDWA) in 1986, and one to the Clean Water Act (CWA) in 1987. These amendments include provisions to allow recognized U.S. Indian tribes to participate as states in the acts and obtain assistance and funding from the EPA for the management of their water

resources. A tribe applying for state status must be recognized by the federal government; the tribe must have a federally recognized governing body carrying out substantial governmental duties and powers over federally reserved lands.

The BIA is directed by statute to protect the water resources on Indian trust lands. However, Congress did not require the BIA to protect Indian water resources in either the Clean Water Act or the Safe Drinking Water Act. Therefore, the BIA has recognized its unique role in the management of tribal water resources to protect Indian water in the following ways: (1) assist tribes in attaining management capabilities in accordance with the federal trust responsibility to protect Indian water resources from loss; (2) utilize limited budget for tribal water resources management planning; (3) encourage tribes to work with the federal agencies charged with the responsibility of addressing the water quality management and protection issues; (4) encourage and aid tribes in forming cooperative agreements among tribes, EPA, BIA, IHS and other agencies; (5) where cooperative agreements obligate tribes to co-manage water resources under special water codes, the BIA will consider approval of such codes on a reservation-by-reservation basis; (6) with respect to a tribe's primary enforcement responsibilities, the BIA will support tribal efforts to establish apolitical forums for resolution of violations of the CWA and SDWA and for other primary enforcement responsibilities which the tribe seeks to achieve with EPA guidance; and (7) support tribal participation in all technical operations required by the EPA in its enforcement of the CWA and SDWA. The BIA supports the goal of Indian self-determination of the management of tribal water resources and will not attempt to speak for tribes or assume their role as managers of their water resources, if the tribes have established the capability to act on their own behalf.

Southwestern Indian water management also means identifying the role players who will aid the establishment and development of a comprehensive tribal water quality (and quantity) management plan. These role players include talented tribal personnel, technical and legal consultants, state and local water agencies, regional water groups who may share the same aquifer or ground water basin, and the federal agencies whose trust responsibility to the Indian tribes includes the protection of their water resources until full Indian self-determination of the water quality protection scheme is achieved.

#### Federal Trust Responsibility

The federal government views its trust responsibility to Indian tribes as the management, protection, and development of the tribe's natural resources until tribal participation and administration of programs is achieved. The BIA Albuquerque Area Office (one of 12 BIA regional offices with an administrative area which includes New

Mexico, parts of Arizona, Colorado and Texas) and other federal agencies have developed a basic understanding of major southwestern tribal water quality management issues because they have assumed their trust responsibilities and have assisted the tribes in solving many water quality problems. The water problems dealt with in this area office usually involve contamination of a ground water resource used for irrigation, livestock or domestic use.

#### Tribal Water Quality Management Issues

Due to the recent amendments to the Clean Water Act and Safe Drinking Water Act, the BIA believes tribal development of water management programs will require federal assistance from agencies including BIA, IHS, EPA and U.S. Geological Survey (USGS). In some cases, the complex regulatory programs must be developed and operational within a few years. The BIA Albuquerque Area Office has identified several Indian water quality management concerns including: (1) the small populations of the New Mexican Pueblos and other Indian bands and communities; (2) the sometimes very small tribal economic base; and (3) the lack of hydrologists, geologists, and engineers within some of the Indian nations.

However, by necessity, the pueblos and reservations are training water managers and technicians as water pollution problems threaten their water supplies. Many of the New Mexican Pueblos situated along the Rio Grande are dependent upon the Rio Grande as an irrigation resource and upon ground water as their major domestic source. An exception to this demographical and geographical set includes the Navajo Nation which has a comprehensive water code, a substantial annual income, dependency primarily on ground water, and use of their own native engineers, water managers and scientists. The Jicarilla and Mescalero Apache tribes of New Mexico are also distant from the Great River (Rio Grande), but utilize some surface water sources as well as their primary source of ground water. These tribes also have somewhat larger populations than the Rio Grande Pueblos, and depend heavily on natural resources development and/or tourism for economic stability. Other tribes not dependent on the Rio Grande include the Pueblos of Acoma, Laguna, Zuni, Jemez, Zia, Tesuque, Nambe, Pojoaque and Picuris. These Pueblos depend primarily on ground water for domestic and other uses. In contrast, the Southern Ute and Ute Mountain Ute Tribes in northwestern New Mexico and southwestern Colorado depend primarily on surface water sources for domestic and other uses.

Another important issue is that nearly all Indian lands administered through the BIA Albuquerque Area Office are experiencing some water quality problems. Federal standards for obtaining and ensuring the quality of surface and ground water are just now being

implemented. A complex addition to the water quality problem is the water quantity problem; New Mexico's ground and surface water rights are being quantified through adjudication. The Albuquerque Area Office is preparing at least six adjudications involving New Mexico's designated basins defined by surface water sources.

#### Indian Water Codes

When a southwestern Indian tribe wishes to develop a water code it must (1) have knowledge of its tribal water rights including amount of water quantified, if available; (2) determine present and projected water needs; and (3) identify and understand its local economic base, and the base of competing water users. A tribe also must gather ground and surface water quality data, determine areas that need to be sampled, and develop a sampling program. The water code must be developed on the basis of current legal requirements including (1) determination of tribal water rights; (2) development of the code through the tribal legislative process; (3) identification of relevant CWA and SDWA conflict-of-interest issues; and (4) development of an independent water agency to enforce programs if conflict-of-interest is determined. The creation of an independent tribal water agency is encouraged as it would enable tribes to master management skills, avoid certain conflict-of-interest situations related to tribal enforcement of programs, and administer programs without being affected by tribal elections.

Some tribes may not have the structure or population to form a non-political water agency or may wish to administer programs but not enforce them. The BIA suggests that these tribes may work under a memorandum of understanding with the EPA for EPA enforcement or serve on federal boards which could be charged with civil violation enforcement responsibilities.

Costs associated with administrative, regulatory, and enforcement duties should be considered when developing a water code. It must be realized that very little income, except for permit and license fees, will be received to support the water program. The tribal water agency should identify and apply to federal clean water programs that provide funding. Furthermore, the agency should utilize services provided by the IHS and BIA. The IHS develops, operates and maintains the tribal public water supplies and waste treatment systems. The BIA is a source of historical water data, including quantity, quality, and water use data, and data concerning current water development systems.

#### The Clean Water Act and Safe Drinking Water Act, Issues and Strategies

The aforementioned has provided information on southwestern Indian water management issues stemming from the basic tribal need to manage their own valuable water resources. Programs within the CWA and SDWA provide national water quality manage-

ment goals and the steps to achieve them. For example, the acts provide for cooperative agreements among various groups that play a role in helping tribes maintain clean water.

The goal of the Clean Water Act is to restore and maintain the chemical, physical and biological integrity of the nation's surface and ground waters. The act provides water management schemes in the form of surface water and effluent standards as part of the protection of surface water quality. The goal of the Safe Drinking Water Act is to develop and enforce monitoring and reporting requirements to restore and maintain safe drinking water, and to protect surface water and ground water that are or potentially may be used as drinking water supplies.

A general description of the Clean Water Act sections which apply to recognized Indian tribes is given in section 518 of the 1987 CWA amendments. The Clean Water Act programs that include tribal participation are water quality management planning (Title I), construction of wastewater treatment works (Title II), adoption and enforcement of water quality standards and protection of water from point and non-point source pollution (Title III), and the National Pollutant Discharge Elimination System (NPDES) permit program (Title IV). This new policy for involvement of Indian tribes firmly establishes the congressional and federal agencies' intent to assume their trust responsibilities and assist Indian tribes in the prevention, reduction, and elimination of water pollution. The United States goal for Indian water management is to promote Indian self-determination by gradually withdrawing from each water quality management program as the tribe acquires the expertise to manage its water resources and implement protection schemes.

Specific sections of the CWA allowing involvement of recognized tribes include the following: Section 104 and 106 of Title I define the CWA goals and policy, all of Title II explains the grant process for construction of water treatment works, Sections 303, 305, 308, 309, 314 and 319 of Title III describe stream standards and other water quality standards and methods of enforcement, and Sections 401, 402 (NPDES permits), and 404 describe different permits and licenses for actions that may alter the natural environment but which should be utilized to protect affected water quality.

#### Clean Water Act Programs

Section 518 of the new amendments emphasizes several important ideas described in more detail within Titles I, II, III, and IV. These concepts include a discussion of the EPA and IHS programs for the assessment of waste treatment management programs, the reservation of specific funds for Indian programs, cooperative agreements, and the definition of the "treatment as states" concept. Section 518 defines an Indian tribe as

any tribe, band, group or community recognized by the Secretary of the Interior, and which also exercises governmental authority over federally reserved Indian lands.

The EPA and IHS are assessing tribal needs and obstacles concerning sewage treatment works. Also being reviewed is the possibility of funding under Section 205 and/or for inclusion on priority lists under Title II, Section 216. The EPA must submit an assessment by February, 1988, to Congress with recommendations regarding (1) EPA assistance to develop waste treatment management plans to construct treatment works, and (2) methods to involve the Indian tribes in the administration of Title II programs.

The EPA will be reserving funds specifically for Indian water quality management programs. Half of one percent of the sums appropriated under Section 207 and described in Section 205 (funds development and implementation of waste treatment management programs) is authorized for Indian tribes. This section reserves funds for grants only for the development of waste treatment management plans and for the construction of sewage treatment works for use by the Indian tribes.

Another important concept in CWA Section 518 is the discussion of cooperative agreements between the state(s) and tribe(s) for purposes of the CWA programs which regulate surface water quality. The EPA encourages cooperative management programs and will intervene when disagreements occur over such matters as different methods of determining stream standards, and different stream standards for shared water bodies.

The "treatment as states" concept discussed in Section 518 states that Indian tribes may be treated as states under the noted CWA sections if they meet the following requirements: (1) the Indian tribe must be recognized by the Secretary of the Interior and exercise governmental authority over the federal Indian reservation or pueblo, (2) the structure of the tribal governing body or the governing body itself has substantial duties and powers, (3) the Indian tribe exercises its functions within the borders of its lands, and (4) EPA judges the tribe to be reasonably capable of carrying out the duties set out in the CWA. The BIA has most of the documentation to aid the EPA in its determination of the tribes' capabilities for participation in the CWA programs.

#### Funding Under the Clean Water Act

Funds will be allotted for use by recognized Indian tribes for treatment as states under Sections 106, 205, and 319 of the CWA. Section 106 provides tribal requirements including the development of water quality management programs allowing the EPA to make allotments based on tribal pollution control programs. The tribes must meet other requirements, including the reporting of (1) a water quality inventory, (2) pollution sources, (3) a summary of their pollution control program and (4) information on tribal

water treatment works for determining priority funding. The EPA is discouraging tribes from contracting out management services under any of the CWA or SDWA programs. Therefore, the BIA has commented to the EPA several times regarding the scarcity of tribal technical staff including engineers, hydrologists, geologists, and chemists. Although smaller pueblos often have experienced water managers, technical experts may need to be hired.

The BIA has assisted tribes in the northwestern United States and Great Lakes area in their development of cooperative tribal fisheries commissions for management of fisheries resources within a shared watershed. These commissions have facilitated the concentration of technical expertise and allowed the represented tribes to share interests and views in program planning and implementation. These successes in fisheries management may be translated to water quality management and become models for water quality management planning in the southwest.

The BIA has presented another strategy for developing increased funding by citing draft SDWA regulations which allow for an increase in the federal share, and a decrease in the tribal share for funding certain SDWA programs. An eligible tribe must demonstrate that it does not have adequate funds before it can apply for and receive the increased federal share. The BIA is encouraging the EPA to provide similar funding flexibility to CWA regulations.

#### Section 106

Section 106 states that tribes must develop a water pollution control program within a two-year period. However, this two-year period may be too short considering the small population, economic base, and potentially large point and non-point pollution problems facing some of the pueblos. To meet the deadline, the BIA and the IHS may assist in the identification, characterization, and inventorying of water resources data, as well as point and non-point sources of pollution. Additional EPA assistance is described in the EPA Indian Policy Statement of 1984 which details EPA intent to aid the tribes in achieving the federal goal of Indian self-determination (and in this case the development and management of a water pollution control program). Assistance may also come from other pueblos or reservations that share a common watershed or an aquifer. These tribes may wish to join together and develop a cooperative water pollution control program.

#### Section 205

The EPA and IHS program for assessment of the need for sewage treatment works on Indian lands is discussed in Sections 518 and 205 of the CWA. The BIA Albuquerque Area Office is encouraging Indian tribes in the area to submit comments to BIA, IHS, and EPA

on their sewage treatment needs. The BIA, IHS, and EPA assistance is vital in determining cost-effective measures, since these agencies have been responsible for some of the assistance for protection of water quality, and may have determined alternate measures for successfully maintaining good water quality.

#### Section 319

Section 319 is a new section to the CWA, and describes non-point source management programs. Indians submit a management program to the EPA for approval. The program must include a comprehensive non-point source assessment, targeting of specific waters with non-point source contamination, and development of a management plan. Part of the management plan should include identification of management practices for various types of non-point source pollution control.

For the purpose of assisting the tribe in implementing a management program, the EPA awards grants to a tribe after approving the tribe's assessment report and management program. Grants may also be authorized to tribes to carry out ground water quality protection activities as a part of the non-point source management programs.

Some Indian tribes may not have access to non-point source information required for Section 319 funding. These tribes may be able to obtain existing information from the BIA and IHS. The BIA has helped to complete Environmental Impact Statements (EISs), which define best management practices (BMPs) for restoring surface and ground water quality which had been polluted by point or non-point sources. To identify BMPs, the BIA utilizes procedures described in the National Environmental Policy Act (NEPA), Department of Interior (DOI) departmental manual on environmental quality, and BIA supplements to the DOI manual, as well as procedures defined in other environmental acts.

Due to their small size and lack of native technical personnel, some of the smaller pueblos may obtain technical research and reporting assistance as required in Section 319 by hiring consultants, cooperating with other tribes or states, and utilizing BIA, IHS, EPA and other agencies' technical assistance. The tribes' abilities to conduct research, demonstration programs, and training programs as outlined in Section 319 are generally limited without some initial direction and training from government or private agencies.

#### Safe Drinking Water Act Programs

The goal of the Safe Drinking Water Act is to develop and enforce monitoring and reporting requirements to restore and maintain safe drinking water. The basic Indian program under the SDWA is outlined in Section 1451 and includes reference to EPA's policy and treatment of the Indian tribes as states. The EPA policy considers two programs, the Underground Injection Control program (UIC), and the Public Water Systems



program (PWS), for which recognized tribes may request and be delegated primary enforcement responsibility. Tribes must meet the criteria for recognition as states, in the same manner as for CWA programs. The EPA and the IHS are currently conducting a survey of drinking water on Indian lands, identifying problems, and the need for alternate drinking water sources. Other SDWA programs in which tribes may participate include the Sole Source Aquifer Protection program, and the Wellhead Protection Program.

Proposed rules have been published regarding Indian participation in the UIC and PWS programs. Due to the complexity of the SDWA and requests by some of the southwestern tribes for explanations, the BIA suggests that cooperative work groups could be created to decipher regulations and use past experiences to produce a realistic approach to the Indian regulatory structure. Tribes also emphasized that the EPA work groups should include representation from southwestern tribes, as well as from the BIA, IHS, and EPA. Management and identification of PWS or UIC problems have justified Memorandums of Understanding (MOUs) between tribes and federal agencies. The MOUs are an important link in creating water management bodies on tribal lands, providing data, and leading to the tribal formulation of a water code. MOUs may also be important for allowing the EPA to retain primary enforcement on Indian lands for programs which may result in conflict-of-interest situations including tribal criminal enforcement responsibilities. Under the PWS or UIC program, a tribe that obtained primary enforcement responsibility would be directed to enforce water quality standards for public water systems. The conflict-of-interest situation results when the tribe owns the municipal systems and would be policing itself. The EPA needs to consider that application for the PWS or UIC programs often indicates that the tribe itself is the owner or operator of a PWS or UIC well or system of wells.

The EPA suggests (in its draft regulations) that interested tribes establish an independent tribal commission or agency to manage the programs and thus avoid conflict-of-interest situations. Some of the New Mexico pueblos may not have the governmental structure, population, or economic status to form a non-political commission, and may wish to be involved only in administering programs and not enforcing them. Within the new SDWA proposed regulations, the EPA has developed some strategies to administer the SDWA programs in an efficient manner by not requiring the tribes to create and run their own certified labs, but, instead, to allow state or EPA certified laboratories to perform water analyses. A small tribal population or economic base could preclude the tribe from establishing such a program.

### Role Players in the Tribal Involvement in the Clean and Safe Drinking Water Acts

Tribes often are the first to identify potential water pollution and may choose to take the responsibility, as set out in the CWA and SDWA amendments, for attaining or maintaining water quality within EPA standards for their uses, including domestic, religious, fishery, agricultural, industrial and other uses. If the tribe has primary enforcement responsibility, it must be able to monitor and understand water quality standards and the effects and control of discharges. The tribes may create a tribal water agency composed of nonpolitical or appointed staff that could overcome potential conflict-of-interest situations arising from tribal enforcement of some of the CWA or SDWA programs, and would provide continuity to the water management system.

A secondary role may be played by the federal government as trust officers for the protection of the Indians' natural resources. Federal agencies other than the EPA, IHS and BIA also may supply water quality data, provide training, or participate in tribal water management programs. For example, the U.S. Fish and Wildlife Service (FWS) has entered into a Memorandum of Understanding with some of the Rio Grande Pueblos and the BIA to share fish, sediment and water sampling work and analyses at stations along the Rio Grande.

The federal government may provide assistance at some point in the water management program for (1) identification and classification of aquifers by quality, quantity, use and source; (2) control of contamination sources including non-point and point discharges; (3) development and enforcement of numeric and narrative ground water or surface water standards; (4) control of land use (facility siting), with emphasis on the protection of recharge areas; and (5) a legal definition of tribal water resources. Due to possible pollution problems and by tribal request, the BIA has begun intensive ground and surface water quality sampling programs at some of the New Mexico Pueblos. The EPA, through federal regulations, encourages participation by state, federal and local agencies in order to save money, develop a common understanding of water quality goals, and provide expert information for the tribes.

The southwestern state governments may play a tertiary role in the development of CWA and SDWA programs on Indian lands. State responsibilities as outlined in the CWA and SDWA, are similar to those the tribes are striving to meet. The states' programs with the EPA include assessment of surface water quality based on stream uses, and those assessments of upstream and downstream reaches of rivers which may cross tribal land. State ground water protection may be achieved by monitoring and prescribing discharge plans, underground injection controls, and limiting land use which may contaminate or

otherwise impair another existing water supply. Tribal and state water quality programs may include an exchange of data to help provide assessments necessary to maintain both the state and tribal water quality standards. Knowledge of the programs utilized by adjacent states or tribes, and general agreement on water quality criteria is essential. The EPA assumes the role of arbitrator if disagreements between the state(s) and tribe(s) occur. Local governments may have a role in Indian water quality management that is similar to the state role.

Consulting scientists, engineers, and attorneys will probably play a vital role in southwestern Indian water management. Though the EPA discourages contracting out for water quality management services, the tribes may not have the technical or legal staff necessary to operate a successful program. Experts may be utilized efficiently if tribes with common water quality interests form intertribal water commissions as part of their management planning.

#### Summary

The concepts of Indian water quality management include the identification of ground and surface water sources; the measurement and recording of water quality information; establishment of water quality standards; issuance of permits to control water uses, quantity and quality; development of water codes; creation of an Indian water management agency to administer codes and participate in their enforcement; and identification of funding and assistance from tribal, federal, state, and local sources. The CWA and SDWA amendments have created an avenue whereby recognized Indian tribes can participate in their own water management, thus achieving some self-determination. But the acts do not recognize the variety of Indian nations and unique governmental structures that are different from most state governments. The EPA is recognizing these tribal issues now and developing regulations which provide some flexibility. Strategies have been developed by the EPA and are recognized as the CWA and SDWA regulations are published. Strategies have also been developed by the IHS and BIA, whose trust responsibilities have included data gathering and data management for a wide variety of water quality issues, and by other government agencies in their willingness to share data and technical expertise. The new regulations, federal funding and assistance, state and local assistance, and the tribes' developed water management programs (perhaps with an Indian water management agency) will result in the eventual tribal self-determination of their water management programs.