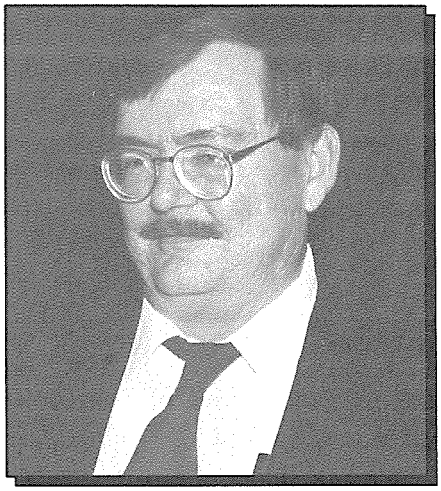
Jim Piatt is a native New Mexican and feels fortunate that he's been able to spend most of his professional career in, or near, New Mexico. For more than a decade prior to working for the New Mexico Environment Department, Jim had his own environmental consulting company. He has been with NMED for over nine years and for the last four years has been the Bureau Chief of the Department's Surface Water Quality Bureau. When not working, Jim can normally be found fishing on one of the state's trout streams. Jim has a B.S. in Biology, an M.S. in Physiological Plant Ecology and a Ph.D. in Systems Ecology.



Blane Sanchez is the Water Quality Control Officer and a member of the Pueblo of Isleta. He is developing a water quality program to monitor surface water quality and implement Isleta's water quality standards as well as developing the Pueblo's environmental infrastructure to address management and enforcement. Blane received a B.S. in Agriculture from NMSU and is now pursuing an M.S. in Water Resources Administration at UNM. Blane's work experience includes range management, soil conservation, fish and wildlife management, land reclamation, water development and water quality issues on tribal lands of the nine southern pueblos of the Middle Rio Grande. He was employed by the federal government for 13 years with the Bureau of Indian Affairs in Natural Resources Management.

WATER QUALITY: PERSPECTIVES FROM TWO STATES

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New Mexico is one of the driest states in the nation. The New Mexico Environment Department (NMED) estimates that New Mexico has approximately 6,000 miles of perennial rivers and streams, and 167 publicly owned freshwater lakes totaling 144,954 acres.

Of the 6,000 river miles, we have adequate information to make a determination on the attainment of historically existing uses on roughly 4,200 miles. Of these 4,200 miles, 3,625 miles, or 86 percent, were found to have been impaired to the extent that the uses were not fully supported. Such

concerns were found on 145 streams or rivers and in 49 of the 66 designated stream segments.

Of the 144,954 acres of publicly owned or managed lakes in New Mexico, 90 percent are impaired. Of the 167 lakes, only 19 fully support their designated uses while 24 lakes have been so polluted by man's activities that at least one of their historical uses is now precluded.

The most significant causes of the impairment are:

	River miles	Lake acres
Habitat Alteration	2,605	-
Reduction of Riparian Vegetation	2,455	29,893
Bank destabilization	2,225	29,816
Siltation	2,189	4,923
Metals	1,017	65,700
Turbidity	1,024	2,429
Un-ionized ammonia + chlorine	494	65,700

The most significant sources of concern include:

	River miles	Lake acres
Farming	2,956	-
Rangelands	2,901	101,387
Hydromodification	716	196
Recreation	675	94,542
Resources extraction	344	98
Unknown	143	56,540
Point Sources	135	0
Natural	123	56,540

Over 93 percent of all stream impairment and 100 percent of lake pollution is due to nonpoint sources of pollution. Nonpoint source contamination is caused by diffuse sources such as large numbers of septic tanks in a given area, residual minerals from evapotranspiration, urban runoff or widespread application of agricultural chemicals.

Looking at the Albuquerque reach of the Rio Grande, which is the focus of this conference, we find that from the Isleta Diversion Dam to the mouth of the Jemez River (38.3 miles), Limited Warmwater Fisheries Use, Secondary Recreation Use and Irrigation Use are not fully supported.

The causes of the nonattainment in this river reach include metals (aluminum and mercury), unionized ammonia, chlorine, pathogens, siltation and habitat alteration. Pollution sources include the Albuquerque wastewater treatment system, urban runoff, spills and hydromodification.

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Good afternoon. Thank you for inviting me to be here at your annual water conference. I will talk about water quality from a pueblo's perspective. I will try to describe Isleta Pueblo's and other area pueblos' perspective on water quality related primarily to surface water but, in essence, to all bodies of water, surface and groundwater.

For those of you unfamiliar with Isleta Pueblo, we are the southernmost community of the regional pueblos along the Rio Grande (Figure 1). The size of our pueblo is approximately nine miles north to south and 40 miles east to west and contains about 211,000 acres. Our current tribal population is about 4,500. As depicted in Figure 1, an aerial view of the Middle Rio Grande Valley, Albuquerque and the surrounding area, the Rio Grande travels down the center of the state and the shaded areas are pueblo lands. You can see the physical connection the pueblos have with the river.

Directly north of Isleta is Albuquerque and the surrounding metropolitan sprawl that accommodates over a half million people. It is not difficult to imagine all the potential pollution impacts that this area can generate.

Water is my pueblo's most valued resource. Our land base is limited and we do not have oil, gas, mineral deposits or other natural resources in great quantity, but we do have water. How much water we have is still unknown and that is another topic for discussion. Water will always be our center of existence. For us, water quality is just as important as water quantity.

Water quality means different things to each of us, especially for those of us who are intimately familiar with the resource. To farmers, water quality is necessary to nourish the crops being grown; to recreationists, it provides outdoor activities, such as swimming and fishing opportunities; to city dwellers, it means having a certain quality of life; to

pueblos, it means our cultural survival. Those of us who are intimate with the surface water resource know too well that maintaining or improving upon its quality does not come cheaply and is the basis of our survival and existence in this region of the southwest.

Do water quality perspectives really differ much between the Pueblo and State of New Mexico? Both entities reference water quality criteria developed by the U.S. Environmental Protection Agency. Both have established water quality standards to support the national goal to restore and maintain the physical and biological integrity of the nation's waters. Both have anti-degradation policies and both have similar designated uses.

Where designated uses differ is in the category of "primary contact ceremonial use" for which New Mexico does not have a similar use. This difference has been exemplified in Segment 2-105 (...head waters of Elephant Butte Reservoir upstream to Alameda Bridge...) of the Rio Grande. This segment of the river also flows through the jurisdictional boundaries of Isleta. Isleta recognizes primary contact ceremonial use, New Mexico does not. As a side note, the Water Quality Control Commission plans to include ceremonial use in its definition of primary contact in its revision of the state's water quality standards.

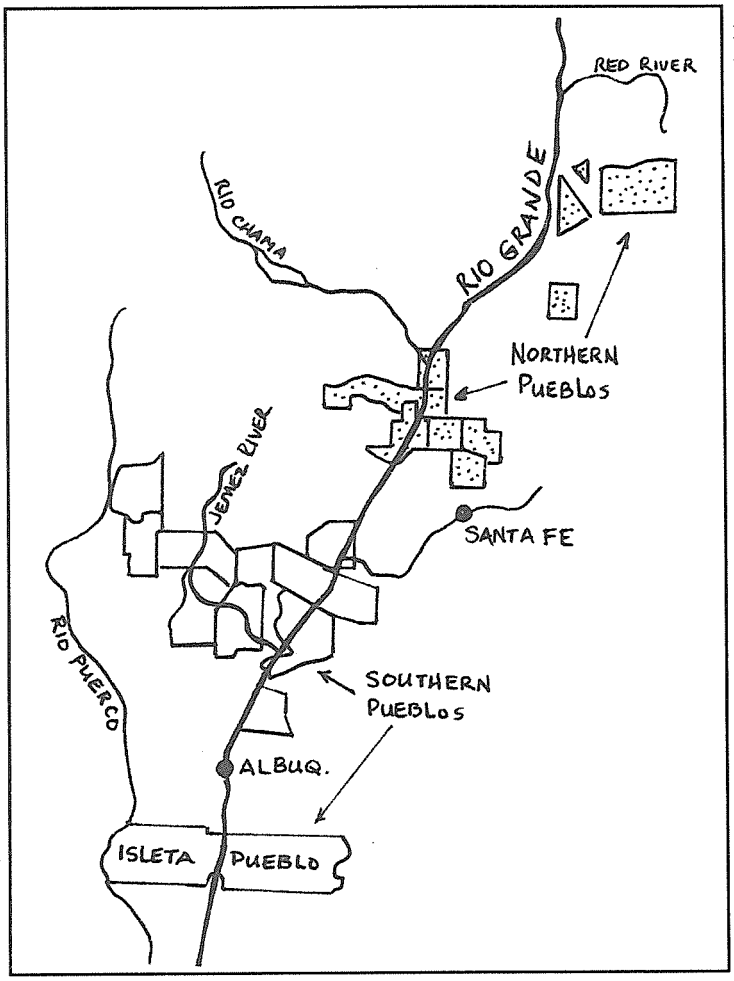

Figure 1. Map of Isleta Pueblo and surrounding area.

What is primary contact ceremonial use? As defined in Isleta's water quality standards, it is "the use of a stream, reach, lake or impoundment for religious or traditional purposes by the members of the Pueblo of Isleta. Such use involves immersion and intentional or incidental ingestion of water, and it requires protection of sensitive and valuable aquatic life and riparian habitat." New Mexico's definition of primary contact use, related to recreational use, reads as follows, "primary contact means recreational or other water use in which there is prolonged and intimate contact with the water such as swimming and water skiing involving considerable risk of ingesting of water in quantities sufficient to pose a significant health hazard." Those definitions read differently, but the bottom line of similarity is that they both provide an individual with a standard of protection. Protecting primary contact uses allows for immersion, whether briefly, such as ceremonial, or for an extended period of time, such as swimming. Ingestion of water whether occurring accidentally or purposefully will pose no threat to human health. From that interpretation and comparison, both New Mexico's and Isleta Pueblo's water quality standards provide protection in a similar manner for different but complimentary uses.

A question arises in who should set the standard. In the past it was the state, but with the passage of the Clean Water Act in 1987, Indian tribes were also given the power and responsibility to set water quality standards within their jurisdictions. Dischargers upstream, though not under Isleta's jurisdiction, nonetheless must take into account and meet those standards when treated effluent is the

majority of the flow in the river. Respecting Isleta's water quality standards is no different than Colorado recognizing New Mexico's and New Mexico recognizing Texas' standards. The State of New Mexico has been very cooperative with the Pueblo of Isleta in respecting those standards and both parties are continuing to build a very cooperative working relationship. The problem has not been with the State but rather with the City of Albuquerque meeting the NPDES requirements reflecting Isleta's and New Mexico's standards. This opposition, in my opinion, is based on the fact that it is an Indian tribe setting water quality standards that must be recognized. The Isleta Pueblo, and other pueblos, have always used the river for ceremonial and traditional purposes long before the establishment of the Clean Water Act and long before Europeans immigrated to this continent. This was possible because the quality of the environment and water allowed us to do so. Unknowingly, or perhaps knowingly, the federal government amended the Clean Water Act to provide a mechanism that allows Indian tribes to protect traditional uses as a means of supporting a national goal.

In one instance, the ceremonial use of water for the pueblo can be thought of as parallel to water used for baptismal purposes. For those of you in the audience who are associated with a particular denomination that can relate to baptisms, put yourself in this position. How would you react if your baptisms or religious services could not be held because the holy water was of a quality below acceptable standards and posed a health risk? No longer could babies, children or anyone else participate or be inducted into your faith. No longer could you go to church on Sundays. How would a change in such a time honored tradition affect you, your culture and your way of life? I would think not very well. When you pray in church it is for oneself, for one's family or even for humanity. When Indians partake in their ceremonies and dance, it is done also in the same context. We dance to benefit all that surrounds us, such as when we ask for the rain that benefits us all.

There was a recent sewage-system overflow that occurred in the middle of September. A sewer line broke and an estimated 10 million gallons of untreated effluent overflowed into Tijeras Arroyo and down into the Rio Grande. The quantity that reached the river is unknown but fecal coliform analysis of the river after the sewage-system overflow indicated elevated fecal numbers. In fact, Isleta's water quality standards for fecal coliform were in violation for a single sampling at that time. The reason I mention this occurrence is that around this time the Pueblo was getting ready for a traditional ceremony that is held during that time of the year. The quality of the water in the river at that time is of utmost importance. Due to untimely events that occurred on the Pueblo, those ceremonies were canceled. Ceremonial use of the river would have coincided with this untimely sewage-system overflow and degraded river water quality. If the ceremonials had taken place and the river water was of a dangerous quality, those ceremonies would have been adversely affected. How would you compensate the Pueblo for not being able to use the water for those traditional purposes? Sure, there is monetary compensation, but money is not the answer when the importance of holding such ceremonies goes much deeper and connects you with the meaning of life. No ceremonies, no dancing, no water in our area. Every amount of water that we receive is important, and again, the purpose of ceremonies benefits not only the pueblo, but everyone here.

An argument is made that our water quality standards are too stringent, that they are unattainable and that if fully imposed would cause economic hardship. Well, now you know how it feels from the Indian perspective. In defense of Isleta's water quality standards being so stringent, the Pueblo must also live by these standards and face the necessary hardships to meet those standards in the future. Economic development endeavors that may have a potential to create some type of waste effluent will have to meet those stringent levels as well. Thus, the Isleta Pueblo must live by those standards also.

It has been repeatedly reported that Isleta wants effluent discharge into the river to be of drinking water quality. This is not the case because drinking water quality standards are covered under the Safe Drinking Water Act and are not applicable here. However, it is interesting that Albuquerque is examining the idea of using treated effluent to help recharge the aquifer in its efforts to augment its water supply to support future growth. So in

essence, are not these costs associated with upgrading the treatment facility to meet Isleta's water quality requirement a step in this direction anyway? It appears to me that Isleta is only helping the City recognize a reality that it must confront to support the growth it desires and envisions for the future.

As the Middle Rio Grande Basin continues to experience growth, you and I must understand and adhere to the limitations imposed upon us by our environment. Both surface and groundwater is in limited supply, especially given the way the majority of the population abuses it. Because of that limitation, the majority of this region's society must live within these constraints. You must be willing to accept the costs associated to maintain a quality of life to which you have become accustomed. Most important however, is that you recognize and respect the uses of the river that have long been established.