

*Jennifer Wellman is the Hydrologist and Water Resources Division Manager for the Pueblo of Santa Ana, Department of Natural Resources. Over the past two-and-a-half years she has conducted watershed monitoring and water resource planning with a technical application of hydrologic principles to projects that also require a broader understanding of issues and policy implications. Working for the Pueblo continues to be an interesting and diverse professional challenge. She previously worked for the New Mexico Environment Department and the USDA Forest Service. Jennifer's educational background is in watershed science, hydrology, and geography and her interests lie in community participation in water resource management and international water issues.*



## WATER RESOURCES PLANNING ON THE PUEBLO OF SANTA ANA

Jennifer Wellman  
Santa Ana Pueblo  
Department of Natural Resources  
02 Dove Road  
Santa Ana Pueblo, NM 87004

Good afternoon, I'm Jennifer Wellman. I manage the Water Resources Division of the Pueblo of Santa Ana Department of Resources. I want to thank you for attending this conference at the Hyatt Regency Tamaya Resort on the Pueblo of Santa Ana.

I would briefly like to cover a few Water Resource Planning initiatives as they relate to opportunities the Pueblo has taken in planning for its future. As you know, the technical elements of water planning are a companion to the legal and water policy framework

that others have discussed previously. The Pueblo of Santa Ana is at the forefront of actual implementation of water resource planning.

The Pueblo of Santa Ana's boundaries are depicted in Figure 1. Most of the population lies along the Rio Grande at the southern end and there is no longer water stored in the Jemez Reservoir along the Rio Jemez. Much of the Pueblo's land is undeveloped and provides beautiful open areas and a wildlife corridor into the Jemez mountains.

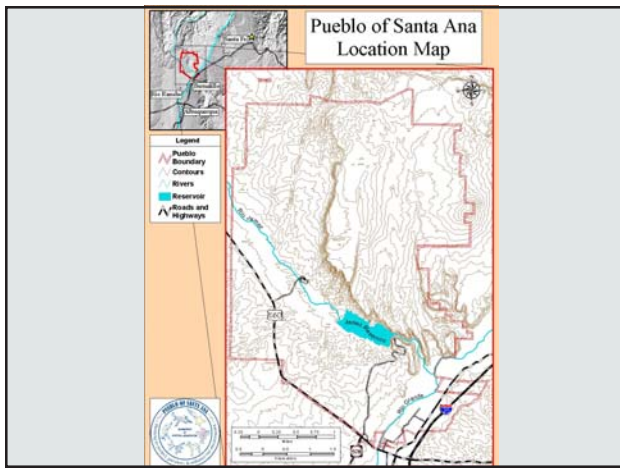


Figure 1. Boundaries of the Santa Ana Pueblo

The three topics I would like to focus on pertain to the Pueblo’s leadership initiatives with regard to Water Resource Planning: Bosque Restoration, Water and Wastewater System Improvements, and Community Outreach initiatives.

Bosque Restoration has been one of the most significant things the Pueblo has been involved with over the past 10 years (Figure 2). Figure 3 is an aerial photo of the Rio Grande taken in the 1950s when the channel was broad, braided and sediment rich. Later, with the implementation of reservoirs and levees on the Rio Grande, it became channelized and sediment starved, and then encroachment of exotic species in the bosque took over the landscape adjacent to the river. The Pueblo’s Bosque Restoration initiative involves several objectives that include the restoration of braided river channel characteristics, the re-establishment of cottonwood and willow species along the Rio Grande, and the restoration of the active floodplain to reconnect with the river.



Figure 2. Rio Grande at Santa Ana Pueblo in 1950



Figure 3. Rio Grande aerial view

Several years ago, if you went out the doors of the Hyatt and looked toward the mountains you would have seen a view similar to that shown in Figure 4 – a field of Russian Olive and saltcedar trees. Within the past several years, the Pueblo has been able to eradicate those species in this field and restore native grasses to complement the cottonwood bosque. Some native species such as New Mexico Olive have come back naturally. Also, many cottonwoods have resprouted along the channel, which thereby increase streambank stability and provide wildlife habitat.



Figure 4. Russian Olive and saltcedar at the Santa Ana Pueblo in the early 1990s before eradication

## Water Resources Planning on the Pueblo of Santa Ana

As part of the water planning process, the Pueblo is working on water and wastewater system improvements that increase effluent storage capacity and protect the entire water system (Fig. 5). We are also improving effluent reuse on the Pueblo's lands. (Fig. 6). We are increasing youth involvement in water resources through education and management activities, and incorporating Pueblo members into natural resource management. It is our goal to involve the local community and expand our outreach to the greater community to further develop our environmental education capacity.



Figure 5. Water and Wastewater System Facility



Figure 6. Improved effluent reuse for landscaping on the Pueblo of Santa Ana

I invite you all to attend one of the tours of the bosque that we offer down on the Rio Grande as part of the restoration project. You can actually tour by yourself and walk down along the bosque and enjoy the openness of the cottonwood forest there.

In conclusion, I want to highlight one of the most important elements of Water Resource Planning – the ability to obtain support from Tribal Council and mobilize resources from a number of funding sources, federal partners, and private funding agencies, including the Pueblo of Santa Ana, the U.S. Army Corps of Engineers, the Natural Resources Conservation Service, the Fish and Wildlife Service, the Bureau of Reclamation, the Bureau of Indian Affairs, and the Environmental Protection Agency. This is a critical component to on-the-ground implementation of any planning effort – and the Pueblo of Santa Ana has been very successful in this regard.

Thank you.