

**Testimony  
Of  
Michael Gritzuk, P.E.  
Director, Pima County Wastewater Management Department  
Tucson, Arizona  
For  
The House Committee on Natural Resources  
Subcommittee on Water and Power  
Hearing on  
“H.R. 1503, The Avra/Black Wash Reclamation and Riparian Restoration Project”  
May 17, 2007**

Madam Chair and Members of the Subcommittee, Pima County, Arizona is submitting this testimony for the record to the House Committee on Natural Resources, Subcommittee on Water and Power on May 17, 2007, regarding "HR 1503, The Avra/Black Wash Reclamation and Riparian Restoration Project". My name is Michael Gritzuk and I am the Director of the Pima County Wastewater Management Department in Pima County, Arizona which is the lead agency for this Project.

Pima County, Arizona would like to solicit the support of the Committee for the establishment of the water reclamation and environmental restoration project contained in HR 1503 for the Avra Valley/Black Wash area of Pima County, a predominantly rural area with exceptional environmental values, which is also undergoing rapid population growth and corresponding wastewater infrastructure expansion. This project is located at the existing Pima County Avra Valley Wastewater Treatment Facility (WWTF) site, in the northerly portion of Avra Valley adjacent to the Black Wash riparian area. Project stakeholders consulted have included the U.S. Bureau of Reclamation, the Pima County Regional Flood Control District, U.S. Fish and Wildlife Service, Tucson Audubon Society, City of Tucson Water Department, Pima County Natural Resources, Parks and Recreation Department and the Pima County Wastewater Department.

### **Pima County, Arizona Background**

To understand the importance of this project, I would like to tell you about Pima County's environmental initiatives and the Department's efforts to meet the needs of our growing population in an environmentally sensitive manner. Pima County, Arizona, is located in the southernmost part of Arizona among the magnificent mountains and valleys of the Sonoran Desert. Pima County has a climate typical of the lower desert elevations in the American Southwest with only 8 -12 inches of annual rainfall.

Pima County includes a central metropolitan area containing the City of Tucson, City of South Tucson, Town of Oro Valley, Town of Marana and the Town of Sahuarita; a substantial urban population in the unincorporated areas of the County adjacent to these municipalities; significant

amounts of rural ranch and farm lands; and the Pascua Yaqui Tribe and the Tohono O'odham Nation (whose lands cover a large portion of western Pima County).

The population of Pima County reached one million in January 2007, and is projected to grow significantly over the next 20 years. Official growth projections are 9 percent between 2010 and 2015, 10 percent between 2015 and 2020, 10 percent between 2020 and 2025, and 9 percent between 2025 and 2030.

These significant projected increases in population demonstrate that Pima County is feeling the growth pressures which have made Arizona the fastest growing state in the Nation with significant statewide issues regarding water availability, local and regional transportation infrastructure, and wastewater conveyance and treatment capacity. In the mid-1980's, Arizona instituted the Active Management Area concept, which established a goal of safe yield for water demand and use within the major metropolitan areas. This concept is now being expanded to the rural areas of the State, an even more necessary measure during the significant drought conditions in the Southwest. In this water-scarce environment, reuse, recharge and environmental restoration have become important uses for high quality reclaimed water.

To manage the critical issues of accommodating a steadily increasing population and preserving environmentally sensitive areas for future generations to enjoy, Pima County has developed and has been implementing its award-winning Sonoran Desert Conservation Plan over the last decade.

### **Sonoran Desert Conservation Plan**

The Sonoran Desert Conservation Plan, which received the American Planning Association's 2002 Outstanding Planning Award, covers a 5.9 million-acre portion of the Sonoran Desert ecosystem in Pima County, Arizona. The Pima County Administrator and Board of Supervisors initiated the Plan in 1998 in response to the community's desire to conserve valuable habitat and to protect rare animal and plant species. The purpose of the Plan is to ensure the long-term protection of "the heritage and natural resources of the west in Pima County." The Sonoran Desert Conservation Plan contains several major areas of focus: Protection of Critical Habitat and Biological Corridors, Mountain Parks, Riparian Restoration, Historical and Cultural Preservation and Ranch Land Conservation. Over 205 reports have been produced, including a mapped conservation reserve design that prioritizes the protection of the region's biodiversity by applying the major areas of focus above.

The Pima County Board of Supervisors has led this effort, coordinating with 12 major government land managers and about 40 community groups. In December 2001, Pima County incorporated the Sonoran Desert Conservation Plan into its comprehensive land use plan. The comprehensive land use plan addresses many problems caused by urban sprawl, such as a declining tax base, land consumption, water availability, and a loss of cultural identity. It prescribes the Sonoran Desert Conservation Plan to address natural and cultural resources protection and incorporates the conservation reserve design into a Conservation Lands System categorizing future land use in all unincorporated lands in the planning area. The land use categories in the Conservation Lands System include: Important Riparian Areas, Biological Core

Areas, Scientific Research Management Areas, Multiple Use Management Areas, Recovery Management Areas, Agriculture within Recovery Management Areas and Critical Landscape Connections.

### **Ongoing Ecosystem Conservation Efforts**

The planning process for the Sonoran Desert Conservation Plan has generated a series of policy changes and conservation achievements. Over the years, a series of ordinances have been passed that seek to protect biological resources while promoting better quality urban design. Ordinances include buffer overlay zones around biological preserves, hillside development restrictions, riparian habitat mitigation, native plant protection, conservation subdivisions, big box store limitations and home design standards. More significantly to this project, the Sonoran Desert Conservation Plan also recommends effluent utilization for habitat restoration projects.

The Pima County Wastewater Management Department, as a self-sustaining utility enterprise of the County, has a dual mandate to provide wastewater conveyance and treatment facilities for the public health and welfare of the community and also to implement the environmental land use and conservation policies of the Sonoran Desert Conservation Plan. To accomplish these goals, the Department operates three major metropolitan wastewater treatment and reclamation facilities and eight smaller subregional facilities spread throughout the 2,500 square miles of Eastern Pima County which treat a total of 69 million gallons of wastewater per day. The Department also maintains a rigorous operations and maintenance and rehabilitation program for its 3,300 linear miles of sewer conveyance lines. The Department has been innovative and aggressive in confronting the challenges of protecting the public health and safety while producing a high quality reclaimed water product for multiple uses within the community, including reuse on parks and school grounds, recharge to the aquifer and restoration of environmentally sensitive areas.

As part of its innovative program, the Department has also managed the Arid West Water Quality Research Project (a 12-year cooperative regional approach to water quality issues in the Arid West funded by the U.S. Environmental Protection Agency), constructed the Kino Ecosystem Restoration Project in cooperation with the U.S. Army Corps of Engineers (which captures and harvests storm water for use on the turf facilities of the spring training complex for the Arizona Diamondbacks, Colorado Rockies and Chicago White Sox), and is currently implementing (in coordination with the Arizona Department of Environmental Quality) a \$500 million+ program to optimize advanced treatment at its major metropolitan treatment facilities, including the construction of a new 32 million gallon per day (MGD) water reclamation campus. This will be in addition to the existing community reclamation system which provides irrigation for 16 local golf courses, city and county parks and street medians. The new water reclamation campus will provide reclaimed water for environmental enhancement features along the normally dry Santa Cruz River and for a proposed major community sports and park complex (which would include multiple softball, baseball and soccer fields, as well as park facilities and ecosystem enhancement and trails) to be constructed adjacent to the Santa Cruz River.

In addition to these accomplishments, the Department faces continuing challenges in expanding and upgrading its rural treatment facilities to provide needed sewer capacity in time to meet the

demands of growth while providing a sustainable environment for these facilities and the surrounding area.

The Department recently upgraded the subregional Green Valley Wastewater Treatment Facility, which serves a major retirement community south of the Tucson metropolitan area. The existing facility now produces Class A+ effluent which is then sold for reuse to an adjacent golf course resort complex. This integrated and sustainable approach to water reclamation has enabled the community to conserve 2 million gallons per day of groundwater resources while providing a valuable recreational amenity to the Green Valley community.

### **Avra/Black Wash Reclamation and Riparian Restoration Project**

A similar opportunity exists to the northwest of Green Valley and 12-miles west of downtown Tucson in the Avra Valley/Black Wash area. Formerly a highly rural and ranching area, this valley is bordered on the east by the Tucson Mountain Regional Park (which includes the famous Old Tucson movie set and the internationally recognized Arizona-Sonora Desert Museum) and the Saguaro National Monument, and on the southern and western boundaries by ranch lands, grasslands, the Tohono O'odham Nation and the Pascua Yaqui Tribal lands.

The Department presently operates a small wastewater treatment facility utilizing percolation and evaporation ponds in the Avra Valley/Black Wash area. The Pima County Board of Supervisors has developed the Southwest Area Infrastructure Plan which accommodates the rapid growth in this area by designating urban densities in the center of Avra Valley while maintaining the rural character and open space on the Valley's perimeters, thus preserving the magnificent panoramas of the rugged Sonoran Desert landscape for future generations.

To accomplish the wastewater functions of this Plan, the Department intends to upgrade and expand the existing Avra Valley WWTF, currently permitted for 1.6 MGD, to a 4.0 MGD facility with advanced ultra-violet disinfection and filtration which will produce a very high quality Class A+ water - suitable for reuse, recharge and environmental restoration. In addition, the percolation ponds required for the expanded facility will be designed to enhance the habitat and environmental benefit to the area.

In its present configuration, the Avra Valley Wastewater Treatment Facility is already famous throughout the regional and national birding community due to its unique juxtaposition of desert upland habitat and ample surface water in the percolation ponds and its proximity to the Black Wash riparian area. Sonoran Desert bird species, such as the Roadrunner, Gambel's Quail, Cactus Wren, Curved-bill Thrasher, White-Wing Doves and Red-tailed Hawk can be seen on and adjacent to the Avra Valley Facility. Priority vulnerable species using the area include the Bell's Vireo, Rufous-winged Sparrow, and Abert's Towhee. Shorebirds and waterfowl including herons, egrets, sandpipers, Black-necked Stilts, and other migratory birds are found in and around the ponds (as well the occasional pelican or seagull blown off course by the summer monsoon storms). In addition to the bird species, the adjacent Black Wash area also provides valuable habitat for jack rabbits, javelina, and mule deer as well as snakes, lizards, and Gila monsters.

HR 1503 would help Pima County continue and enhance the environmental benefits of the existing Facility. In addition, the expanded facility would create a multi-purpose facility incorporating wastewater treatment and watershed reclamation, habitat conservation, education and recreation, including wildlife watching and interpretative and hiking trails. This will establish the area as an educational site for the sustainable use of water resources, habitat conservation and restoration that is consistent with the Sonoran Desert Conservation Plan. The existing percolation ponds would be rehabilitated to better perform their technical function while still retaining their usefulness as habitats for waterfowl and shorebirds.

As noted previously, the Department will also create additional percolation basins which would be designed in a more natural pond-like configuration with trails for birders and hikers to provide year-round access. Thus, the expansion of the habitat will be coupled with an expansion of the viewing opportunities for visitors and yet maintain the functional benefit of the ponds for the Avra Valley WWTF. Further, advanced treatment with ultra-violet disinfection and filtration facilities will be installed for the 4.0 MGD expansion which will continue to keep the effluent quality and value consistently high. Additional features for visitors will include a public restroom and kiosks along the birding trails for wildlife education and information. In addition to these features, environmental restoration is proposed around the perimeter of the Facility as well as a continuing effort to preserve and enhance the riparian environment in the Black Wash which runs along the western edge of the Facility.

At this point, the total Project costs for the 4.0 MGD water reclamation and environmental restoration project are now estimated at \$56 million (2007 dollars). The federal support of \$14 million (25% of total project costs) requested in HR 1503 would be utilized for these environmental features and water quality treatment processes. All the water resources utilized for this project are under the control of Pima County as an integral part of the wastewater treatment process.

On behalf of Pima County, I thank the Chair and the Committee for the opportunity to provide testimony.