



Environmental Integrity Focus Area Water Element

Prepared for the Environmental Integrity Working Group Meeting on August 19, 2011, by the Plan Tucson Team, Planning and Community Development Division, City of Tucson Housing and Community Development Department, **Note:** *This is a working document that may be further refined as Plan Tucson proceeds and additional information and input is obtained.*

I. Introduction

This working document presents background information for the discussion of water policy for Plan Tucson, the City of Tucson's General Plan now underway.

II. Background and City Role

Water is a vital resource for human life and a healthy environment and economy. Since settlement of the Old Pueblo began, inhabitants of the Tucson region have depended on the same underground water resource. Regional growth and development have resulted in a significant lowering of the water table, with economic and environmental consequences. Competition for limited groundwater among agriculture, Native American Tribes, mines, private and municipal water companies, and private well owners has necessitated finding new water resources and has resulted in water management guidelines. One of the important water goals of the community is attainment of safe yield, when no more water is withdrawn from the aquifer than is replenished. While new water supplies, including water from the Central Arizona Project (CAP), and community-wide water conservation initiatives are necessary to achieve this goal, maintenance of a dependable supply of good quality groundwater will continue to be an essential factor in defining Tucson's future health and prosperity. As the largest municipal water provider in the area, the City, through its water utility, Tucson Water plays an important role in assuring the supply and quality of Tucson's water resources.

III. A Sustainable Future

From the 2009 Phase 2 Final Report: Water & Wastewater Infrastructure, Supply & Planning Study:

"Since the 1860s, the paradigm for water resource planning in the Tucson basin has been: *'Let the people come, we guarantee to provide enough water.'* Land use planning and water resource planning have been unconnected, both institutionally and conceptually. Local land use planners assumed—and water resource managers guaranteed—that there would be water available to satisfy continued growth. But, during the last century, we overwhelmed the capacity of the Santa Cruz River as a water source; we over-drafted the Santa Cruz River basin aquifer; perennial surface flows in the Santa Cruz River near Tucson ended; and our region currently depends heavily on imported water from the Colorado River."

"Defining a sustainable water future for this community will require large scale changes and paradigm shifts in how we approach water supply management on a municipal and regional scale. It will require new financial models for operating water utilities, political will to recommend full-cost pricing of water, and considerable education and outreach to the



community. It will also require unprecedented regional cooperation in management of water supplies.”

“The **new paradigm** for water resource planning and management:

- recognizes scarcity and uncertainty
- puts the environment at the table where water is distributed
- balances water supply and demand management
- builds upon the crucial link between urban form and water resources
- elevates public dialogue to a central position in future”

“The three principal pillars of this paradigm are:

- aggressive demand management
- new water supplies
- guiding the coming growth increment in terms of urban form/density and location”

Water Use Sectors in New Paradigm



IV. Recent Water Initiatives

While the City of Tucson's 2001 General Plan includes a Water Element, there are recent initiatives and studies that have direct impact on future City of Tucson water policy. These initiatives are presented below. The 2001 General Plan can be found on the City website, cms3.tucsonaz.gov/hcd/plans.

Recent City of Tucson Initiatives Related to Water

Document	Year	Policies & Recommendations (web links)
Phase 2 Final Report: Water & Wastewater Infrastructure, Supply & Planning Study	2009	http://www.tucsonpimawaterstudy.com/Reports/Phase2FinalReport/PHASE2_Report_12.09.pdf
Final Action Plan for Water Sustainability	2010	http://www.tucsonpimawaterstudy.com/AP/index_FAP.html
Water Plan: 2000 – 2050	2004,	http://cms3.tucsonaz.gov/water/waterplan
Water Plan: 2000-2050 Update	2008	
Water Efficiency: Water Conservation Program Recommendations for Tucson Water’s Future	2006	http://cms3.tucsonaz.gov/files/water/docs/cctf-finalreport.pdf
Drought Response and Preparedness Plan	2006	http://cms3.tucsonaz.gov/files/water/docs/droughtplan.pdf
Storm water Ordinance No. 10209	2005	http://cms3.tucsonaz.gov/files/transportation/StormwaterOrd10209.pdf
Storm water Annual Report	2010	http://cms3.tucsonaz.gov/transportation/stormwater-annual-report

Commercial Rainwater Harvesting Ordinance No. 10597	2008	http://www.tucsonaz.gov/ocsd/docs/CMS1_035088.pdf
Residential Gray Water Ordinance	2008	http://cms3.tucsonaz.gov/files/agdocs/20080923/sept23-08-527a.pdf

V. Definitions

Ground water: (1) water that flows or seeps downward and saturates soil or rock, supplying springs and wells. The upper surface of the saturate zone is called the water table. (2) Water stored underground in rock crevices and in the pores of geologic materials that make up the Earth's crust. *(USGS Water Science Glossary)*

Surface water: Water that is on the Earth's surface, such as in a stream, river, lake, or reservoir. *(USGS Water Science Glossary)*

Reclaimed water: Treated effluent that is used for turf irrigation and certain industrial uses. *(Definition from Tucson Water's Water Plan: 2000-2050)*

Storm water: Rainfall that accumulates in natural or artificial systems after heavy rain; surface runoff or water sent to (storm water) drains during heavy rain. *(USGS Water Science Glossary)*

Water sustainability: Responsibility to assure that water demands do not outstrip water supplies which must support the current population of users (including the environment), newcomers, and the generations to follow. *(Water & Wastewater Infrastructure, Supply & Planning Final Report, 2009)*

Drought: Sustained, natural reduction in precipitation that results in negative impacts to the environment and human activity *(Tucson Water Drought Preparedness and Response Plan, 2006)*