

2011 Year-End Report

2011 – 2015 Action Plan for Water Sustainability



PROGRAM 1: GENERAL AND COMPREHENSIVE PLAN UPDATES

CIP #1, #2 and #3: General and Comprehensive Plan Updates – Continuing

1. Analyze Infrastructure and Public Facilities Needs in Preparation for Updates to the Plans
2. Update the Urban Form Elements of the Plans to Encourage Smart Growth and Sustainable Urban Form
3. Review and Update Water Elements in Plans to Ensure Consistency with City/County Water Study Recommendations and State Requirements

The City of Tucson has been working for the past ten months on its update of the General Plan (called *Plan Tucson*) with the goal of taking the Plan to voters in November 2013. The update is being conducted by a team of City planners and is organized around three focus areas (Environmental Integrity, Socioeconomic Prosperity and Smart Growth) and seventeen elements.

The initial steps involved reviewing plans and policies developed since the adoption of the existing General Plan in 2001 (including the WISP study), preparing the Plan Tucson Public Participation Program and holding a series of introductory meetings for the general public.

The next steps have included intensive outreach, with a particular focus on agencies and organizations involved with creating and implementing policy, culminating in a series of Policy Working Groups.

A minimum of two Policy Working Groups are now being held for each of the seventeen elements where stakeholders share and discuss goal and policy ideas. Over twenty Policy Working Groups have been held to date. Simultaneously, the team has been making presentations and holding discussions upon request with interested stakeholder organizations.

Building on the policy ideas collected, the Plan Tucson Team, in conjunction with Policy Working Groups' participants and other stakeholders will draft new or refined policies keeping in mind existing policies adopted by Mayor and Council.

The County is moving forward with the Integrated Infrastructure Planning project in preparation for an update to the Comprehensive Plan and future bond election. The County's Comprehensive Plan Update start date has been pushed back to December 2012.

County staff inventoried infrastructure and services for twelve areas. The water resources component of the inventory will include a comprehensive assessment of water supplies, water service providers and service areas, and potable, reclaimed, and stormwater infrastructure. A draft report on Subarea 7 (southeast Tucson) has been completed and work is nearing completion on the draft for Subarea 5 (Sahuarita/Green Valley). Work has also begun on Subarea 8 (Central Tucson).

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Background:

State law requires an update to the City's General Plan that is approved by the voters by November 2015. The City's General Plan and the County's Comprehensive Plan provide overall policy direction for land, water and wastewater uses and many other governmental services and infrastructure.

Lead Jurisdiction: BOTH
City of Tucson Lead Department: Housing and Community Development Department
Pima County Lead Department: Development Services Department

PROGRAM 2: SMART GROWTH TOOLS AND INCENTIVES

CIP #10 and #16: Promote Mixed Use Development and Address Barriers to Infill – Continuing

- 10. Identify Opportunities to Promote Mixed Uses and Well-Designed Density
- 16. Identify and Address Barriers to Infill

The City is focused on several efforts to encourage mixed-use, transit oriented infill along the route of the future modern streetcar in the University and downtown areas.

The City recently completed an amendment to the West University Neighborhood Plan that will facilitate greater density and encourage development in the "transition area" west of the University main gate. The City is currently pursuing a comprehensive rezoning of the area that will eliminate the need for private developers to process entitlements, thereby making these properties "shovel ready" for development.

In addition, the City is pursuing the establishment of a Central Business District in the downtown area that will allow the use of the GPLET (Government Property Lease Excise Tax), a financing tool to encourage development and re-development.

Background:

Promote more efficient development patterns characterized by infill, density, mixed use and transit-orientation/walkability for more efficient use of water and wastewater infrastructure and resources.

Lead Jurisdiction: CITY of TUCSON
City of Tucson Lead Department: Planning and Development Services Department
Pima County Lead Department: Development Services Department

CIP #14: Land Use Code Sustainability Audit – Continuing

- 14. Conduct a Land Use Code Sustainability Audit to Identify Opportunities to Encourage Sustainable Urban Forms

Through a grant received by the US Department of Energy, the City conducted a sustainability audit of its Land Use Code to identify changes to encourage more environmentally friendly building and development practices. The first bundle of recommendations that address urban agriculture and other sustainable practices are being reviewed by the Planning Commission in January.

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The County did not receive grant funding to conduct its own audit, County staff did receive a technical assistance grant from Smart Growth America for one day of audit assistance sometime in the 3rd or 4th Quarter FY 2011-12. The County is also reviewing changes made by the City to see if they can also be applied to the County's code.

Background:

An assessment of the Land Use Code Sustainability to encourage more environmentally friendly building and development practices.

Lead Jurisdiction: CITY of TUCSON
City of Tucson Lead Department: Planning and Development Services Department
Pima County Lead Department: Development Services Department

PROGRAM 3: LINKING WATER AND LAND USE PLANNING

CIP #19: Wheeling Agreements – Completed/Continuing

19. Continue Wheeling Negotiations between Tucson Water and other Water Providers to Deliver more Renewable Supplies to the Region

Tucson Water staff has entered into and continues to enter into wheeling agreements with other providers to deliver renewable wet water resources to areas that currently rely on groundwater. As reported in the mid-year update, in the past six months, potable water wheeling agreements have been successfully negotiated with Oro Valley and with the Pascua Yaqui Tribe. That means that these entities will begin delivering their CAP allocations to customers rather than relying solely on groundwater. Similar agreements are being negotiated and/or explored with Metro Water and Vail Water Company.

On November 22, 2011, the Tucson Mayor and Council adopted an IGA with Metro Water to wheel effluent to their service area.

In February 2012, a dedication ceremony will be held when Oro Valley begins delivery of its CAP supply to residents for the first time, made possible by the wheeling agreement with Tucson Water.

Background:

Entering into wheeling agreements with other water providers to deliver renewable wet water resources to areas currently relying on groundwater will aid in the safe yield goal of the Tucson Active Management Area (TAMA).

Lead Jurisdiction: CITY of TUCSON
City of Tucson Lead Department: Tucson Water
Pima County Lead Department: N/A

CIP #20: Safe Yield Task Force – Completed/Continuing

20. Participate in Safe Yield Task Force to Address Pumping Recharge Disconnect

The Safe Yield Task Force (SYTF) met throughout 2011 to identify issues that will further attainment of the safe yield goal. The Safe Yield Task Force prepared a status report that was submitted to the

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Tucson Active Management Area Groundwater Users Advisory Council in May 2011. Priority issues presented were:

- Safe yield versus sustainable water management
- Achieve full CAP utilization
- Reach optimum utilization and comprehensive management of effluent
- Generate the revenue necessary to fund safe yield attainment
- Facilitate matching water use to the water source with willing parties
- Ask industrial and agricultural sectors what they are willing to do to get the region to safe yield
- The need for a regional public education campaign

The Safe Yield Task Force is working with ADWR (Arizona Department of Water Resources) to use a portion of groundwater withdrawal fees generated in the Tucson Active Management Area (TAMA) to update ADWR's groundwater model to project groundwater levels into the future. This information would be used to identify problem areas in the TAMA. <http://sawua.org/SYTF/SYTF.htm>

A recommendation was given to the Groundwater Users Advisory Council (GUAC) in November 2011 regarding the use of 4-cent pump tax money collected in the Tucson AMA. SYTF recommended using those monies to fund ADWR to update and develop a predictive Tucson AMA flow model.

Background:

To achieve Safe Yield in the Tucson Management Area, better integration of land use and water resources planning is necessary to work toward regional solutions addressing hydrological, pumping and recharge disconnects.

Lead Jurisdiction: BOTH
City of Tucson Lead Department: Tucson Water
Pima County Lead Department: Regional Wastewater Reclamation Department

CIP #13 and #21: Water Service Area Policy – Completed/Continuing

13. Work with TREO to Advance Public/Private Collaboration Toward Economic Base Job Creation (employment with a multiplier effect) and Urban Revitalization, including Ensuring that Water Resource policies are Aligned with Economic Goals
21. Implement Tucson Water Service Area Policy and Annual Water Resource "Checkbook Balance" Review

The Citizen's Water Advisory Committee (CWAC) voted on December 7, 2011, to forward nine recommended revisions to the water policy to the Mayor and Council in order to clarify existing provisions within the current policy. The Mayor and Council will review and/or decide if these nine policy refinements should be included in the current water policy in early 2012. <http://cms3.tucsonaz.gov/files/clerks/uploads/bccfiles/9886.pdf>

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Background:

A Water Service Area for Tucson Water is a critical element in a sustainable water future because it defines where water resources and infrastructure will be directed based on social, economic and environmental criteria.

Lead Jurisdiction: CITY OF TUCSON
City of Tucson Lead Department: Planning and Development Services Department
Pima County Lead Department: N/A

CIP #22: Develop/Update Consistent Water Efficiency Standards – Continuing

22. Implement Pima County Water Resource Element to Assess Water Resource Impacts of New Development

Following the adoption of the March 2010 Site Analysis Requirements by the Board of Supervisors all new land use zoning changes are being reviewed for water consumption and conservation measures. County staff is currently working on infrastructure and resources needs assessment for each sub region of the Pima County Comprehensive Plan (Comp Plan), this work includes evaluation of water resources and water supply. The information from the sub regional studies will then be used in the future development of the update to the Comp Plan. Sub regional studies have been developed for the Southeast and Green Valley areas.

Background:

A key element for Pima County to accomplishing water efficiency standards is the Water Resources Element of the Comprehensive Plan.

Lead Jurisdiction: PIMA COUNTY
Pima County Lead Department: Regional Flood Control District
City of Tucson Lead Department: Office of Conservation and Sustainable Development

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PROGRAM 1: COLLABORATION FOR ENVIRONMENTAL RESTORATION

RFE #1: Conservation Effluent Pool – Completed

1. Finalize the Conservation Effluent Pool (CEP) Implementing Agreement, Establish City/County CEP Administrators and Implement the CEP Program

The agreement has been completed. No additional action will be taken until an application for use of effluent from the pool is received.

Background:

Develop a water supply for the environment and when necessary, establish administrative procedures for implementing the Conservation Effluent Pool program.

Lead Jurisdiction: BOTH
City of Tucson Lead Department: City of Tucson's Attorney's Office
Pima County Lead Department: Pima County's Attorney's Office

RFE #2 and #7: Conserve to Enhance (C2E) – Completed/Continuing

2. Establish a Regional Restoration Working Group to Inventory Existing and Potential Resources, Develop a List of Criteria for Prioritizing and Selecting Restoration Projects and Identify an Initial List of Projects that Meet These Criteria
7. Participate in the Conserve to Enhance (C2E) Program to Develop a Funding Source to Acquire Water Supplies for Environmental Restoration

The C2E Tucson pilot program was established in 2010 to encourage residential water conservation that links water savings and resulting financial savings with environmental enhancement in the Tucson area. The Program is managed by the Sonoran Institute, the Watershed Management Group and the University of Arizona Water Resources Research Center with support and decision-making from an eleven member Advisory Board.

C2E has successfully implemented a "check box" for the environment on Tucson Water bills, conceptually awarded seed money for the Atturbury Wash improvement project and launched a pilot program where homeowners will track monthly water bill savings after installing water-harvesting systems. Participants will donate these savings to a fund dedicated to the restoration of local riparian areas.

Background:

Conserve to Enhance (C2E) is a voluntary municipal water conservation program that encourages participants to implement water conservation techniques, track their monthly water bill savings and then donate some or all of those savings to a fund for environmental enhancement.

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Lead Jurisdiction: BOTH
City of Tucson Lead Department: Tucson Water
Office of Conservation and Sustainable Development
Pima County Lead Department: Office of Conservation and Sustainability
Regional Wastewater Reclamation Department

RFE #4: Tucson Audubon Stewardship Program – On Hold

4. Coordinate Development of a Volunteer-based Stewardship Program through a Grant Awarded to Tucson Audubon Society

Anticipated grant for this program was not realized.

Background:

Inventory high-value riparian areas and develop a monitoring/management database

Lead Jurisdiction: CITY OF TUCSON
City of Tucson Lead Department: Office of Conservation and Sustainable Development
Pima County Lead Department: Office of Conservation and Sustainability

RFE #5: Joint 404 Mitigation Plan – On Hold

5. Continue to Work with Tucson Audubon Society and the Army Corps of Engineers on a Watershed-Based Approach to Utilizing Audubon's (and potentially other entities') 404 In-Lieu Mitigation Fees/Funds

This project is on hold until the Army Corps of Engineers develops guidelines for mitigation banking and use of in-lieu fee. The draft guidance document is expected to be issued in October 2012.

Background:

Establish regional policies and regulatory compliances projects identifying needs and opportunities for future environmental restoration. Regional Flood Control District along with the Corps, Audubon and other interested parties are evaluating in-lieu fee mitigation banks, specifically the Financial Assurances and Conservation Easements.

Lead Jurisdiction: PIMA COUNTY
Pima County Lead Department: Regional Flood Control District
City of Tucson Lead Department: Office of Conservation and Sustainable Development

PROGRAM 2: PRESERVATION AND PROTECTION OF RIPARIAN AREAS

RFE #8: Lee Moore Wash Study – Completed

8. Adopt and Implement Lee Moore Basin Management Plan to Protect Riparian Habitat in a Future Growth Area

The Pima County Regional Flood Control District, in concert with the Town of Sahuarita, Pima County and the City of Tucson completed the Lee Moore Wash Basin Management Study identifying flood

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hazards, developed floodplain management protocols and provided a comprehensive flood control protection program for this 198 square mile watershed in Pima County.

The Pima County Board of Supervisors and the City of Tucson Mayor and Council have adopted the Plan. Policies in the Plan have already been integrated into the County's Comprehensive Plan and will be integrated into the City of Tucson's General Plan.

Background:

Provide a comprehensive flood control protection program for the 198 square mile Lee Moore Wash watershed, an implementation plan and development criteria to be used as a guide for development in the surrounding areas. Make the information and guidance available for the regulatory authority to foster appropriate development in the region.

Lead Jurisdiction: PIMA COUNTY
Pima County Lead Department: Regional Flood Control District
City of Tucson Lead Department: Office of Conservation and Sustainable Development

RFE #9: Riparian Habitat Mitigation Guidelines – Completed

9. Adopt Revised County Riparian Mitigation Guidelines Associated with their Riparian Habitat Preservation Ordinance

The mitigation guidelines are directly related to the provisions of the Pima County Code passed by the Board of Supervisors in 2005. The updated guidelines, resulting from staff working with a large number of stakeholders, were approved by the Board of Supervisors, November 15, 2011.

Background:

Revise standards and guidelines for mitigating and protecting riparian habitat in Pima County.

Lead Jurisdiction: PIMA COUNTY
Pima County Lead Department: Office of Sustainability and Conservation
City of Tucson Lead Department: Office of Conservation and Sustainable Development

RFE #12: Coordinate Final Multi Species Conservation Plan and Environmental Impact Statement – Continuing

12. Apply for a County Incidental Take Permit Associated with their Multi-Species Habitat Conservation Plan and Implement the Conservation Land System and Associated Guidelines

Pima County has been meeting with stakeholders regarding optional coverage for private sector development while waiting for the U. S. Fish and Wildlife Service to complete their review of the County's December 2010 application.

Background:

The Incidental Take Permit has been completed; the next step is the implementation effort to prepare the public draft Multi-Species Conservation Plan (MSCP) and coordinate the draft Environmental Impact Statement (DEIS).

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Lead Jurisdiction: PIMA COUNTY
Pima County Lead Department: Office of Sustainability and Conservation
City of Tucson Lead Department: Office of Conservation and Sustainable Development

RFE #13: Southlands Habitat Conservation Plan – Continuing

13. Continue to Develop the Southlands Habitat Conservation Plan

The fourth phase of work on the Habitat Conservation Plan (HCP) will conclude in June 2013 with a revised, and mostly complete, draft plan.

Background:

Complete the Southlands Habitat Conservation Plan (HCP) to protect environmental habitat and species in anticipation of growth and development in the southlands area. This project is grant-funded.

Lead Jurisdiction: CITY OF TUCSON
City of Tucson Lead Department: Office of Conservation and Sustainable Development
Pima County Lead Department: Office of Sustainability and Conservation

RFE #15: Public Lands Field Assessments and Remediation – Continuing

15. Improve Management of Public Lands through Field Assessments and where Necessary Implement Remediation to Address such things as Trespassing and Cleanup Needs

Pima County's Office of Sustainability and Conservation (OSC) is working with Natural Resources, Parks and Recreation (NRPR) and Information Technology (IT) on database needs for inventory and monitoring. In Summer 2011, OSC completed field surveys of unaugmented wildlife watering sites on County lands and relayed the findings to land, water and wildlife managers. OSC is also working with U. S. Forest Service to address remediation at a remote site in the San Pedro watershed. NRPR staff is updating records on ranch infrastructure, including fencing.

Background:

Through coordinated policymaking, regulations and outreach, preserve existing riparian areas in the City and County. Establish baseline conditions and document possible stressors.

Lead Jurisdiction: PIMA COUNTY
Pima County Lead Department: Office of Sustainability and Conservation
City of Tucson Lead Department: Office of Conservation and Sustainable Development

RFE #16: Rosemont Environmental Monitoring – Continuing

16. Develop Response/Management Guidelines, including Responsible Agency, Notification and Response Requirements and Follow-Up needed to Address Threats to Publicly Owned Lands

The County provided comments on the Administrative Draft Environmental Impact State (DEIS) under its Cooperative Agreement with the Forest Service in June 2011.

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An additional thirty-day comment period was granted and Pima County submitted supplementary comments on the economics, transportation costs, economic benefit of pit backfilling, economic impact of groundwater pumping, environmental justice, groundwater quality and biological resources. These additional comments with the original submittal in June show that the ADEIS was not complete.

Staff continued to prepare comments to the “public” DEIS showing that despite the passage of three years, basic data about some of the affected resources is either missing or not considered by the Forest Service or Rosemont Mine and there is a need for a Supplemental EIS.

Pima County is collecting and analyzing hydrological and geological information to support upcoming public comment periods.

Background:

Monitor and comment on impacts to groundwater and surface water, riparian areas, water quality, etc., with regard to new mining proposals and the City/County’s positive stewardship of riparian areas.

Lead Jurisdiction: PIMA COUNTY
Pima County Lead Department: Office of Sustainability and Conservation
City of Tucson Lead Department: Office of Conservation and Sustainable Development

PROGRAM 3: INCORPORATION OF MULTIPLE BENEFIT FEATURES INTO CAPITAL IMPROVEMENT PROJECTS

RFE #19: Standards Development: Detention Basin Retrofits – Continuing

19. Develop a Guidance Document for Retrofitting Detention Basins and Develop a List of Basins that Offer Opportunities for Habit Restoration and/or Recreation

A draft guidance position paper, written by a U of A landscape architecture student is undergoing review. Once the position paper has been decided upon, opportunities for public comments and stakeholder review will be provided through the Planning and Zoning meetings and the Board of Supervisors meetings.

Background:

Develop standards for retrofitting detention basins ensuring these public projects are multi-beneficial.

Lead Jurisdiction: PIMA COUNTY
Pima County Lead Department: Regional Flood Control District
City of Tucson Lead Department: N/A

RFE #20: Retrofit Kolb Road Detention Basin Project – Completed

20. Retrofit Kolb Road Detention Basin for Environmental Restoration using Stormwater as a Demonstration Project

The Kolb Road Detention is scheduled to be completed in January 2012.

Background:

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Construct a demonstration project retrofitting the Kolb Road detention basin for environmental restoration using stormwater.

Lead Jurisdiction: PIMA COUNTY
Pima County Lead Department: Regional Flood Control District
City of Tucson Lead Department: N/A

PROGRAM 4: REFINEMENT OF LOWER SANTA CRUZ RIVER MANAGEMENT PLAN

RFE #23 - #26: Corazon Planning Phase – Continuing

23. Finalize Tres Rios del Norte (TRDN) Feasibility Study that will Provide a Broad Concept for Restoration along the Santa Cruz River, and then Review the Various Alternatives with the Restoration Working Group to Identify Local Priority Projects for Further Evaluation
24. Develop Refined Estimates of Evapotranspiration and Infiltration along the Effluent Dominated Reach of the Santa Cruz River
25. Construct an Environmental Restoration Project in a Former Gravel Pit using Effluent Flowing in the River from Roger Road, as well as Tributary Stormwater Flows, to Evaluate how to Best Manage Habitat to Transition from Effluent Dependent to using Stormwater Harvesting as a Water Source
26. Conduct Scenario Planning to Evaluate, under Different Effluent Flow Scenarios, Options for Maintaining Riparian and Aquatic Habitat along the River

Development of concept plans and water resources management plans with a focus on the Santa Cruz River confluence area, El Corazon, is underway. Regional Flood Control Staff will lead pilot demonstration restoration and recharge projects in two locations – recharge at the gravel bar road upstream of Sanders Road and an environmental restoration at a former sand and gravel pit upstream of Ina Road.

Background:

Develop a concept plan and water resource management plan for the Santa Cruz River building on the Tres Rios del Norte Feasibility Study with a focus on the confluence area, El Corazon.

Lead Jurisdiction: PIMA COUNTY
Pima County Lead Department: Regional Flood Control District
City of Tucson Lead Department: N/A

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PROGRAM 1: WATER SUPPLY AND WATER QUALITY

WS #1: Project ADD Water – Continuing

1. Acquire New Water Supplies through Project ADD Water

Central Arizona Project (CAP) has finalized their Project ADD Water proposal; however, this proposal was not acceptable in its entirety to the stakeholders. U. S. Bureau of Reclamation and the CAP Board are supportive of a continued process for developing an ADD Water Program. Meetings will continue in the future.

Background:

The Program is intended to provide a mechanism for the acquisition, development and delivery of new water supplies for water users located in CAP's three-county service area. Tucson Water is working with Pima County (through the Southern Arizona Water Users Association [SAWUA], Maricopa and Pinal counties) to ensure the state's Project ADD Water will succeed in meeting the three-county area's future needs. Legal acquisition to ADD Water supplies and development and financing for the necessary delivery infrastructure will be a future phase of this item.

Lead Jurisdiction: CITY of TUCSON
City of Tucson Lead Department: Tucson Water
Pima County Lead Department: Regional Wastewater Reclamation Department

WS #2 and #28: Tucson Water 2050 Long Range Plan Update – Continuing

2. Identify Future Water Needs for Tucson Water in the 2050 Tucson Water Plan
28. Update Tucson Water Plan 2050 to Include Multi-Pronged Approach for Drought Preparedness (Program 4: Drought Preparedness)

The *Water Plan* was updated in 2008 and a second update is scheduled to be completed in calendar year 2012. The Drought Preparedness and Response Plan is complete and progress is being made on the Recycled Water Master Plan, both of which will feed information into the 2012 Update of *Water Plan: 2000-2050*.

Background:

Maximize Tucson Water's *2050 Long Range Plan* update to increase its ability to adapt to future uncertainties.

Lead Jurisdiction: CITY of TUCSON
City of Tucson Lead Department: Tucson Water
Pima County Lead Department: N/A

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WS #3: Water Quality Updates – Completed/Continuing

3. Provide Updates to Mayor and Council, Board of Supervisors, Citizens' Water Advisory Committee and Regional Wastewater Reclamation Advisory Committee on Research and Regulation Related to Water Quality

Tucson Water prepares an annual Water Quality Report for its customers. The latest report was released in June and is posted to the Tucson Water website. Tucson Water staff provided 1,4-dioxane information to the Mayor and Council on November 22, 2011. Information included the costs for a treatment facility to remove 1,4-dioxane, current public outreach activities and updates on discussions with the Air Force on reimbursement for the costs of 1,4-dioxane treatment. www.tucsonaz.gov/water/annual_wq_reports

Throughout 2011, the Regional Wastewater Reclamation Advisory Committee (RWRAC) received several updates on the department's water quality activities. Highlights of these activities include:

- In March, the Compliance Regulatory Affairs Office (CRAO) advised the RWRAC that Pima County began negotiations with the University of Arizona to lease out additional space at the new lab complex for advanced water and wastewater research.
- In May, staff presented an update on Treatment Operations noting that the facilities throughout Pima County are consistently awarded for high standards and have maintained or improved their standing over the last year. There are metrics in the Treatment Division with which successes are measured and areas in need of improvement are identified. Environmental compliance with water quality standards is one of those metrics. In addition, Regional Wastewater Reclamation Department (RWRD) received National Association of Clean Water Agencies awards for meeting water quality standards at the Platinum Level for Avra Valley and Green Valley Wastewater Reclamation Facilities (WRF); at the Gold Level for Marana, Mt. Lemmon and Roger WRFs; and at the Silver Level for the Ina Road WRF.
- Staff also reported that the Dispose-A-Med Program is represented by over 50 agencies including law enforcement, health care providers, fire departments and pharmacies. A free newsletter was created and distributed to make the public aware of properly disposing unused medications through this program.
- In September, the 2010 Effluent Generation and Utilization Report was presented to the RWRAC providing additional water quality information.
- In November, the RWRAC was informed that RWRD is continuing to work with Tucson Water and the University of Arizona to monitor emerging contaminants and the quality of water from selected sample well locations.

Background:

Provide water quality updates on several programs in the County and City, including trace organics, unregulated contaminant monitoring, ROMP, total dissolved solids in the Clearwater Blend, 1,4-dioxane, etc.

Lead Jurisdiction: BOTH
City of Tucson Lead Department: Tucson Water

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Pima County Lead Department: Regional Wastewater Reclamation Department

WS #4: CAP Order – Completed

4. City Purchases full City of Tucson CAP Allocation and Increases Recharge

The City’s full allocation of Colorado River water, 144,172 acre-feet, will soon be delivered to Tucson for beneficial use in Tucson Water’s obligated service area. The order for the full allocation was placed on October 1, 2011 for delivery to Tucson recharge facilities in 2012.

Background:

Financing for and delivery of Tucson Water’s full CAP allocation.

Lead Jurisdiction: CITY of TUCSON
City of Tucson Lead Department: Tucson Water
Pima County Lead Department: N/A

PROGRAM 2: EFFLUENT MANAGEMENT

WS #6, #8, #11, #13 and #15 – #17, #19 and #21: Recycled Water Master Plan – Continuing

6. Incorporate Reclaimed, Environmental and Aquifer Recharge Uses into Tucson Water’s Effluent Master Plan
8. Expand Sweetwater Recharge Facility
11. Maximize Beneficial Use of City’s Effluent and Assess the Potential to Convey other Party’s Effluent Entitlements to Enable Beneficial Use Region-Wide through Tucson Water’s Effluent Master Plan Efforts
13. Identify and Assess a Range of Practical Incentives, including Improved Water Quality to Encourage More Customers to Hookup to the City’s Reclaimed Water System in the Preparation of the Effluent Master Plan
15. Assess the Possibility of Creating Price Incentives to Encourage Expanded Reclaimed Water Use in the Preparation of the Tucson Water Effluent Master Plan
16. Increase Reclaimed Water System Efficiencies through Preparation of the Tucson Water Effluent Master Plan
17. Consider Reclaimed Water in New Developments through Updating of the General Plan and Comprehensive Plans
19. Evaluate the Feasibility of Extending the Reclaimed Infrastructure to City Parks
21. Identify Additional Reclaimed Water Customers

Tucson Water’s Effluent Master Plan has been renamed the “Recycled Water Master Plan.” The purpose of the plan is to use the City’s effluent resources to maximize wet-water supply benefits and overall water resource reliability for Tucson Water customers. A secondary emphasis may include but not be limited to assessing system capabilities to wheel effluent entitlements of other parties and to use the conveyance network for other potential uses. The development of the Recycled Water Master Plan is underway and will include a review of other communities’ best practices as well as independent third party review by a National Water Research Institute Panel. The Plan is expected to be completed in June 2012.

Background:

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The renamed Recycled Water Master Plan's purpose is to use Tucson's effluent (recycled water) resources including a secondary emphasis on assessing capabilities to wheel recycled water entitlements for other entities.

Lead Jurisdiction: CITY of TUCSON
City of Tucson Lead Department: Tucson Water
Pima County Lead Department: Regional Wastewater Reclamation Department

WS #7: SE Houghton Area Recharge Project (SHARP) – Completed/Continuing

7. Develop a Joint Recharge Project in the Southeast Area – SHARP

The Southeast Houghton Area Recharge Project (commonly known as SHARP) is a joint construction project between the City and County to build a mutually beneficial recharge facility. The agreement for the project was approved by the County Board of Supervisors in February 2011; the City of Tucson Mayor and Council approved the project in April 2011.

The estimated seven-year design and construction project will have a targeted minimum recharge capacity of approximately 4,000-acre feet per year when completed. The City and County will both contribute up to 2,000-acre feet per year. The project is supervised by a Joint Recharge Oversight Committee (JROC) comprised of both City and County employees.

Various locations for the facility were evaluated and a site was selected in the vicinity of Irvington and Houghton. This location is undergoing further evaluations with geophysical testing and an archeological survey. Further feasibility testing will include test-hole drilling and sampling to determine infiltration rate. A decision on the location for the recharge project is expected to be reached in June 2012 if all tests performed at the site return with favorable results.

Background:

Construct a joint recharge project in Pima County's southeast/Houghton Road area to store water for replenishment of the aquifer and potential future use.

Lead Jurisdiction: BOTH
City of Tucson Lead Department: Tucson Water
Pima County Lead Department: Regional Wastewater Reclamation Department

WS #9: Cooperate with the Bureau of Reclamation to Develop Demonstration Recharge Projects I the Santa Cruz River – Completed/Continuing

9. Cooperate with the Bureau of Reclamation to Develop Demonstration Recharge Projects in the Santa Cruz

Background:

The completed project consisted of a partial barrier diversion, two dug channels and flumes to measure flow using in-kind contributions of labor and equipment from the participants – U.S. Bureau of Reclamation, Tucson Water, Pima County, Oro Valley, Metropolitan Domestic Irrigation District and Flowing Wells Irrigation District. The project operated until it was inundated with sediment by river storm flow events during the first week of July. Although the flumes and barrier were destroyed, there remains some river flow through the created channels.

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The Bureau of Reclamation has produced a draft final report on the activity, which is currently under review by participants. Affect of the project on annual recharge volume for the LSCMRP will be evaluated when the 2011 annual report for the project is completed in March 2012. Information from the Enhanced Recharge Demonstration project will be used for planning low-cost effective ways to achieve constructed recharge projects that will qualify for 100% recharge credit in the Santa Cruz River.

Background:

The Enhanced Recharge Demonstration project was built in the Santa Cruz River along a narrow 17-mile stretch, to spread river flows across a broad, 5.6-acre gravel bar to increase infiltration and allow testing of in-channel recharge methods.

Lead Jurisdiction: BOTH
City of Tucson Lead Department: Tucson Water
Pima County Lead Department: Regional Wastewater Reclamation Department

WS #10: ROMP – Completed/Continuing

10. Implement Regional Optimization Master Plan (ROMP) Improvements to Pima County's Metropolitan Wastewater Reclamation Facilities
 - The Plant Interconnect sewer construction was completed in December 2010
 - The Laboratory/training center building was completed in late 2011
 - The Ina upgrade project is about 50% complete with completion slated for late 2013
 - The new wastewater reclamation facility north of the Roger Road WRF is about 25% complete with completion slated for mid 2014

Background:

ROMP's major components are the upgrade of the Ina Road Wastewater Reclamation Facility (WRF), the construction of a replacement facility near the Roger Road WRF, the construction of an interconnect sewer between the two facilities and a new laboratory/training center.

Lead Jurisdiction: PIMA COUNTY
Pima County Lead Department: Regional Wastewater Reclamation Department
City of Tucson Lead Department: N/A

WS #14 and #18: Extend Reclaimed Infrastructure to County Parks and Pursue Bond Funding – Continuing

14. Pursue Bond Funding for Reclaimed Water System Expansion Benefiting Public Use Projects
18. Evaluate the Feasibility of Extending the Reclaimed Infrastructure to County Parks

NRPR has proposed that funding be included in the next County bond election to fund the extension of reclaimed water lines to priority County parks based on Tucson Water's current reclaimed system

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and their capacity modeling currently underway. Connections to the reclaimed system will also be evaluated as upgrades to outdated and inefficient ball field irrigation systems are completed.

Because of capacity limitations in Tucson Water and Metro Water's reclaimed system, Metro Water can only provide reclaimed water to the Christina Taylor Green CDO River Park and the Northwest Community Park, from the Magee Road reclaimed water line extension in the winter months when water use is at a minimum. Pima County is considering capping off lines to these parks until the transmission, booster and reservoir capacity has increased and year round reclaimed water can be provided.

The Bond Committee will provide a forum for public participation on this effort.

Background:

Increase the use of reclaimed water through expanded financing options and uses of reclaimed (recycled) water for municipal and environmental water supply needs.

Lead Jurisdiction: PIMA COUNTY
Pima County Lead Department: Natural Resources, Parks and Recreation
City of Tucson Lead Department: Tucson Water

WS #20: Pima County Effluent Management Plan – Continuing

20. Prepare Effluent Plan for Use of County Share of Effluent

Three efforts were conducted in 2011 that will form the basis for the Effluent Management Plan. The *2010 Effluent Generation and Utilization Report* documents the effluent generated at each of Pima County's wastewater reclamation facilities and shows the manner in which Pima County's share of effluent was distributed. A draft *Water Resources Assets Management Plan* was completed that includes effluent management strategies for Pima County's share of effluent. In 2011, Pima County also researched its reclaimed water accounts to confirm and account for its reclaimed water that is delivered via the Tucson Water Reclaimed System. These three documents will form the basis for the effluent management plan. The target completion is 2014.

Background:

Develop an Effluent Plan for the County's share of an estimated 4,000 acre-feet/year of effluent.

Lead Jurisdiction: PIMA COUNTY
Pima County Lead Department: Regional Wastewater Reclamation Department
City of Tucson Lead Department: N/A

PROGRAM 3: REGULATORY/POLICY ADVOCACY FOR EFFLUENT/RECLAIMED WATER, STORMWATER AND GRAYWATER

WS #22 - #27: State's Blue Ribbon Panel on Water Sustainability – Completed/Continuing

22. Advocate for Regulatory Changes that will Expand the Use of Graywater through Participation in Blue Ribbon Panel

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23. Advocate that Arizona Department of Environmental Quality (ADEQ) Recognize Rainwater Harvesting and Green Infrastructure as Stormwater Management Best Management Practices through Participation in Blue Ribbon Panel
24. Advocate for Change in Arizona Department of Water Resources (ADWR) to Provide Groundwater Savings Facilities Credits for Turf Irrigation through Participation in Blue Ribbon Panel
25. Advocate for Numeric rather than Technology-based Standards for Reclaimed Water through Participation in Blue Ribbon Panel
26. Seek Flexibility in Water Quality Standards and Permitting for Riparian Enhancement and Environmental Restoration Projects using Reclaimed Water through Participation in Blue Ribbon Panel
27. Advocate for Change in Regulations to Allow Remediated Groundwater in Reclaimed water System through Participation in Blue Ribbon Panel

Additional efforts are contingent on the State legislature. Other unresolved issues moved into the Water Resources Development Commission (WRDC).

Background:

In August of 2009, the Blue Ribbon Panel (BRP) on Water Sustainability was formed. In June 2011, the state released an Implementation Plan for their recommendations. The BRP included five issues that are related to goals established in the WISP plan.

http://www.azwater.gov/AzDWR/waterManagement/documents/BRP_Final_Report-12-1-10.pdf

Lead Jurisdiction: BOTH
City of Tucson Lead Department: Tucson Water
Pima County Lead Department: Regional Wastewater Reclamation Department

PROGRAM 4: DROUGHT PREPAREDNESS

WS #29: Integrated Drought/Climate Change Preparedness Program – Completed

29. Update City of Tucson Water Department Drought Preparedness and Response Plan

Tucson Water Drought Preparedness and Response Plan has been completed.

Background:

The City's Drought Response Plan provides a mechanism for evaluating and updating needed responses to long-term drought and climate change. Climate change may affect water supply and water demand.

Lead Jurisdiction: CITY of TUCSON
City of Tucson Lead Department: Tucson Water
Pima County Lead Department: N/A

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PROGRAM 1: PLANNING AND EVALUATION

DM #1: Evaluation of Post 2000 Residential Housing Water Use – Continuing

1. Collect Data on Current Conditions to Provide a Foundation for Assessing Potential to Reduce the Water/Energy Footprint of New Development and Work with Regional Water Utilities to Identify Opportunities for Uniform Data Collection

Prepared *Household Water Use Study* – a “big picture” story about how household water use differs between homes built before 2000 and homes built after that year.

Prepared *The Per-Capita Water Use Study* – ties in the census data and describes some of the nuances in water use and some of the surprising findings (water use in “green” subdivisions is actually a little higher).

Prepared the *Subdivision Water Use Study* – a look at larger trends seen spatially by subdivision characteristics

Background:

Increase the effectiveness of conservation programming through coordinated planning and evaluation.

Lead Jurisdiction: CITY of TUCSON
City of Tucson Lead Department: Tucson Water
Pima County Lead Department: Regional Flood Control District

PROGRAM 2: CONSISTENT STANDARDS AND GUIDELINES

DM #5: Net-Zero Energy Building Code – Continuing

5. Develop a model City/County Building Code to Reduce the Water/Energy Footprint in New and Renovated Buildings

The draft of the code was distributed to stakeholders for review in September 2011. Presentations to stakeholder groups occurred in October and November. Comments were incorporated into a final draft. This final draft will be submitted to the joint City-County Code Review Committee as an amendment to the 2012 International Energy Conservation Code. The Net-Zero Energy Building Code will be a voluntary alternative compliance path for meeting the requirements of the 2012 International Energy Conservation Code. Following are the elements of the code that specifically reduce the water footprint of new construction and renovation.

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Domestic Solar Hot Water (DSHW) (Mandatory)	<p>21.1.1. Install high efficiency domestic solar hot water heater with a solar fraction ≥ 75. The solar fraction is calculated as follows:</p> $\text{Solar Fraction} = \frac{1 - \text{Energy Factor}_{\text{back up}}(\text{EF})}{\text{Solar Energy Fraction (SEF)}}$ <p>A solar fraction calculator is located at: http://www.pimaxpress.com/Documents/Green/Solar%20Fraction%20Calculator%20for%20Solar%20Hot%20Water%20Systems.xls</p> <p>21.1.2 Backup hot water heating equipment if installed, shall be energy star qualified.</p>
Hot water distribution (Mandatory)	<p>All domestic hot water piping, including sub-slab pipes, shall have R-4 insulation. Insulation shall be properly installed on all piping elbows to insulate adequately the 90-degree bend. Recirculating pumps, if installed, shall be demand controlled.</p>
Plumbing Fixtures (Mandatory)	<p>21.3.1. Lavatory Faucets: Each faucet or faucet aerator shall be WaterSense Certified and meet an average rated flow volume of ≤ 1.25 gallons per minute (gpm) across all lavatory faucets.</p> <p>21.3.2. Showerheads: Each fixture/fitting shall be WaterSense Certified and meet an average rated flow volume of ≤ 1.75 gallons per minute (gpm) per shower compartment.</p> <p>21.3.3. Toilets: Each fixture/fitting shall be WaterSense Certified and meet an average rated flush volume of ≤ 1.1 gallons per flush (gpf) across all toilets.</p> <p>21.3.4. Clothes Washer: Each clothes washer shall be Energy Star qualified with a water factor [6.0.</p>
Pools and Spas	<p>If a pool and/or spa is to be installed, the following requirements shall be met.</p> <p>406.1.1.1. Provide cover to prevent evaporation per Pima County amendment to the IRC Appendix G section AG 101.</p>

Background:

Develop a “Net-Zero” Building Code as an alternative pate for compliance with the adopted energy code.

Lead Jurisdiction: PIMA COUNTY
 Pima County Lead Department: Development Services Department
 City of Tucson Lead Departments: Planning and Development Services Department
 Office of Conservation and Sustainable Development

DM #6: Graywater Education – Completed/Continuing

6. Expand City’s Ordinance-Related Graywater Education Program to Include Guidelines and Education on Use of Graywater Outdoors

In addition to the 2-hour seminar that Tucson Water conducts several times per year, an informational video providing education about graywater use has been produced and is available on the Tucson Water website.

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Background:

New Tucson Water Graywater rebate program for designed specifically for residential water customers installing permanent graywater irrigation systems.

Lead Jurisdiction: CITY OF TUCSON
City of Tucson Lead Departments: Tucson Water
Pima County Lead Department: Regional Wastewater Reclamation Department

DM #7: Develop Design Guidelines for Neighborhood Stormwater Harvesting to Encourage the Creation of Habitat and Water Efficient Landscapes – Continuing

7. Develop Design Guidelines for Neighborhood Stormwater Harvesting to Encourage the Creation of Habitat and Water Efficient Landscapes

Regional Flood Control District (RFCD) has prepared a draft Detention-Retention manual that incorporates the effects of water harvesting that is being reviewed.

RFCD and the Office of Conservation and Sustainable Development have been working with Stantec on a Neighborhood Water Harvesting Manual that is anticipated to be in draft form by the end of March.

The LID (low impact development) Working Group, a stakeholder group, has been developing a series of examples to use in an LID Case Studies Catalog.

Background

Create a Neighborhood Stormwater Harvesting Manual to provide consistent standards for all regulator agencies in the City and Pima County.

Lead Jurisdiction: PIMA COUNTY
Pima County Lead Department: Regional Flood Control District
City of Tucson Lead Departments: Office of Conservation and Sustainable Development