

2012 Year-End Report

2011 – 2015 Action Plan for Water Sustainability



PROGRAM 1: GENERAL AND COMPREHENSIVE PLAN UPDATES

CIP #1 – #7: General and Comprehensive Plan Updates – Continuing

1. Analyze Infrastructure and Public Facilities Needs in Preparation for Updates to the Plans – CARRY OVER YEAR ONE
2. Update the Urban Form Elements of the Plans to Encourage Smart Growth and Sustainable Urban Form – 2013 START
3. Review and Update Water Elements in Plans to Ensure Consistency with City/County Water Study Recommendations and State Requirements – 2013 START
4. Explore Policy to Provide for Pre-Zoning in Growth Areas as part of Updates to the Plans – COMP PLAN 2013 - 2014
5. Identify and Designate Suitable Growth Areas in the Updates to the Plans – COMP PLAN 2013 – 2014
6. Identify and Designate Employment and Job Centers in the Updates to the Plans – COMP PLAN 2013 – 2014
7. Establish Infrastructure and Service Phasing Boundaries within Growth Areas Plans – COMP PLAN 2013 – 2014

The draft of Plan Tucson is currently in the public hearing process with the City's Planning Commission and is anticipated to go to the Mayor and Council in June. City staff reviewed the Water & Wastewater Study in the development of Plan Tucson, which encourages smart growth and sustainable urban form. The Water Resources section of Plan Tucson is consistent with the Water & Wastewater Study recommendations as well as state requirements. Specific infrastructure and public facilities needs have not been identified as yet but are anticipated to be addressed through the updating of specific plans that will follow the adoption of Plan Tucson. www.tucsonaz.gov/plantucson

Pima County is in the process of completing the Integrated Infrastructure Planning project for the sub-regions most likely to urbanize or suburbanize in preparation for an update to the Comprehensive Plan and future bond election. The update of the County's Comprehensive Plan will likely begin in February 2013.

During 2012, County staff inventoried infrastructure and services for twelve areas. The water resources component of the inventory includes an assessment of water supplies, water service providers and service areas. It also addresses potable and reclaimed infrastructure. Draft reports on Subareas 5 and 7 have been completed and draft reports on the remaining subareas 1, 2, 4, 6, 8, 9, 10, 11 and 12 are nearing completion.

2012 Year-End Report
2011 – 2015 Action Plan for Water Sustainability

REPORTS

SUBAREA	STATUS
1. Avra Valley	Completed
2. Tucson Mountains	Completed
4. Three Points	Nearing completion
6. Cienega/Highway 83	Nearing completion
8. Tucson Core	Nearing completion
9. Catalina Foothills/Rincon Foothills	Nearing completion
10. Rincon Valley	Nearing completion
11. Marana/Oro Valley	Nearing completion
12. Mt. Lemmon	Nearing completion

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

In August 2012, the City adopted the Main Gate District Overlay. This rezoning will facilitate greater density and encourage mixed use development near two streetcar stations west of the University main gate. The overlay rezoning of the area that will eliminate the need for private developers to go through a lengthy entitlement process, thereby making these properties “shovel ready” for development. Further, the City has begun a streetcar land use planning project along the 3.9 mile modern streetcar route. This planning project will make necessary adjustments to land use intensity along the line and attempt to both encourage historic preservation and transit-oriented uses. The end products may include land use plan amendments, rezoning and Unified Code text amendments as is necessary.

In April 2012, the Mayor and Council established the Downtown Gateway Redevelopment Area and Central Business District to allow for use of the GPLET (Government Property Lease Excise Tax), a financing tool to encourage development and re-development. Several downtown developments are currently moving forward because of this incentive.

2012 Year-End Report
2011 – 2015 Action Plan for Water Sustainability

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. Encourage growth in four (4) suitable growth areas/existing built environments as highest priority.

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 City is beginning a citizens' review process of the potential amendments resulting from the study. The amendments address such topics as urban agriculture, flexible renewable energy standards, mixed use design guidelines, and several minor amendments related to subjects such as shade, rainwater cisterns, and use of electric vehicles. The City expects to begin processing and eventually adopting these zoning amendments in mid and late 2013.

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

CIP #17: Fiscal Sustainability of New Development – NEW TO YEAR TWO

17. Develop a Fiscal Sustainability Model

Plan Tucson includes an element called Public Facilities, Infrastructure and Cost of Development which includes policies related to fiscal sustainability.

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

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

2012 Year-End Report
2011 – 2015 Action Plan for Water Sustainability

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. Currently, wheeling agreements are in place with Oro Valley and the Pascua Yaqui Tribe which enable these entities to utilize their CAP allocations to serve their customers rather than relying solely on groundwater. Negotiations are ongoing for similar wheeling agreements with Metropolitan Domestic Water Improvement District 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 and design/construction activities are presently taking place to enable effluent wheeling in 2013.

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 met throughout 2012 to discuss the preparation of the Fourth Management Plan and sustainable attainment of safe yield by 2025. An ad hoc group that includes Tucson Water has formed to work with ADWR to refine the predictive groundwater model to develop a more accurate look at the projected impact on the Tucson Active Management Area's (TAMA) aquifers to the year 2025. This effort will provide ADWR and TAMA constituents a better tool for managing local water level declines and to develop regional strategies to address safe yield. Pima County updated tables showing the use of CAP and effluent water resources in the Tucson Active Management Area. Full use of these water resources will advance the safe yield goal. An enhanced aquifer management proposal is under consideration that would promote underground water storage.

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

2012 Year-End Report
2011 – 2015 Action Plan for Water Sustainability

21. Implement Tucson Water Service Area Policy and Annual Water Resource “Checkbook Balance” Review

The Mayor and Council are expected to consider nine refinements to the Water Service Area Policy in May, related to ensuring water resource policies are aligned with economic goals.

On December 5, 2012, the updated water “Checkbook Balance” was presented to CWAC which showed a slight 1% reduction in the potable balance, primarily due to additional water held in reserve as a result of water assurance letters that are now valid for a period of two years, and an 8% decrease in effluent balance as lower potable demands mean less is produced and available. On December 10, 2012, the memorandum outlining the 2011 water “Checkbook Balance” was forwarded to Mayor and Council for their situational awareness.

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

Pima County continues to review water demand and require Integrated Water Management Plans to provide indoor and outdoor water conservation, including sustainable Low Impact Development (LID) water harvesting for any new, approved land use zoning changes. Pima County is continuing to lend expertise and guidance to the Green Valley water users (USCPUG) to encourage direct use and local recharge of Central Arizona Project water to help reduce the overdraft conditions in the area. The Lee Moore Wash (southeast area) Basin Management Plan has development criteria that include water harvesting for flood control, water quality and use for landscape demand.

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

CIP #23: Conduct Comprehensive Water Resource Planning Outside the Obligated Service Area – ON HOLD

23. Conduct a Pilot Study of Integrated Water Resource Planning in the Southwest Area

2012 Year-End Report
2011 – 2015 Action Plan for Water Sustainability

On hold pending direction and adoption of City revisions to Tucson Water Service Area Policy. Tucson Water has been working with Metro Water on a wheeling agreement to help Metro expand their water service area in the southwest.

Lead Jurisdiction:	PIMA COUNTY
Pima County Lead Department:	DSD
City of Tucson Lead Department:	N/A

2012 Year-End Report
2011 – 2015 Action Plan for Water Sustainability



PROGRAM 1: COLLABORATION FOR ENVIRONMENTAL RESTORATION

RFE #1: Conservation Effluent Pool – Completed

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

The Regional Restoration Working Group is on hold due to staffing limitations.

7. Participate in the Conserve to Enhance (C2E) Program to Develop a Funding Source to Acquire Water Supplies for Environmental Restoration

The City of Tucson Office of Conservation and Sustainable Development (OCSD) continues to participate on the board.

The Tucson Conserve to Enhance (C2E) program links water conservation efforts with watershed restoration and enhancement to ensure that water conservation will translate into benefits for the environment. Participants conserve water, track the money saved through water conservation practices and then donate their savings to C2E. The funds generated by program participants are overseen by a community advisory board, which chooses the beneficiary river or wash enhancement projects within the Tucson community. Funds donated will go directly to the environment, to protect and restore desert rivers, create instream flows needed for a healthy ecosystem and increase groundwater levels.

During 2012, C2E completed its first C2E funded enhancement project at Atturbury Wash. The next round of C2E provided funds are available for neighborhood green infrastructure and wash restoration. Applications have been made available to neighborhood groups through an informational grant workshop. The C2E Board includes staff from both the City of Tucson and Pima County.

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.

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

2012 Year-End Report
2011 – 2015 Action Plan for Water Sustainability

RFE #3: RIPARIAN RESTORATION INVENTORY – NEW TO YEAR TWO

3. Inventory City and County Lands to Identify Properties Suitable for Riparian Restoration

County identified regional restoration priorities as part of the Sonoran Desert Conservation Plan. In 2012, Pima County participated with the Corps of Engineers in reviewing proposals for the Clean Water Act in-lieu fee projects. In 2012, the District began reviewing and selecting specific properties suitable for protection and restoration activities under Clean Water Act mitigation guidelines. This work will be completed in 2013.

Background:

Identify needs and opportunities for future restoration, develop regional policies on regulatory compliance projects, collaborate regionally on riparian restoration and work with ADEQ on water quality standards for habitat restoration.

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

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

This project is on hold, pending the receipt of grant funds to support the development of the program. It is unknown whether Audubon is actually pursuing grant funds for this program at this time.

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 –

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

Pima County has submitted a prospectus to the U. S. Corps of Engineers for their review and consideration. When the proposal is acceptable, the Pima County RFCD will enter into negotiations with the Corps on an agreement delineating specific responsibilities and duties necessary to utilize in-lieu fees for riparian habitat preservation, enhancement and mitigation activities.

Background:

2012 Year-End Report
2011 – 2015 Action Plan for Water Sustainability

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

RFE #9: Riparian Habitat Mitigation Guidelines – Completed

RFE #11: WELL USE DATA – NEW TO YEAR TWO

11. Identify Ways to Improve Data Sharing between the City and County and Develop Annual Monitoring Reports that Address Threats within Shallow Groundwater Areas

Pima Association of Governments (PAG) updated their monitoring of pumping in shallow groundwater areas. The report is posted on their website at www.pagnet.org In most areas, pumping and the number of wells have increased. There is no requirement to report pumping outside AMAs, so only the number and approximate location of exempt and non-exempt wells can be monitored. Pima County provided funding to PAG for this study.

Background:

Address non-exempt wells and surface water diversions affecting riparian areas.

Lead Jurisdiction: PIMA COUNTY
Pima County Lead Department: Office of Sustainability and Conservation and
Pima Association of Governments (PAG)

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's Draft Environmental Statement (DEIS) and the Multi-Species Conservation Plan (MSCP) were published in the Federal Register in December 2012. A public comment period will commence Dec. 7, 2012 and run through March 15, 2013.

Background:

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

2012 Year-End Report
2011 – 2015 Action Plan for Water Sustainability

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

Work on the Southlands Habitat Conservation Plan is continuing under a fourth grant from the U.S. Fish and Wildlife Service. During this phase the conservation program is being refined, and a long-term management and monitoring program is being developed and incorporated into the plan. This work will be completed by June 30, 2013. No additional grant funds are being sought at this time.

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

PROGRAM 2: PRESERVATION AND PROTECTION OF RIPARIAN AREAS

RFE #14: Inventory Riparian Areas and Develop a Database – NEW TO YEAR TWO

14. Inventory High-Value Riparian Areas and Develop a Monitoring/Management Database

The County's inventory of High-Value Riparian Areas is underway and is scheduled to be completed in 2013.

Background:

Continue preservation through acquisition, regulation, education and outreach.

Lead Jurisdiction: CITY OF TUCSON
City of Tucson Lead Department: Office of Conservation and Sustainable Development
Pima County Lead Department: Regional Flood Control District

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 ongoing activities have focused on the existing inventory of County-owned open space lands for bat caves and public hazards. The newly acquired habitat area near Kino and 36th Street, and Canoa Ranch both got major clean-ups in preparation for public access. A U.S. Fish and Wildlife Service grant facilitated the removal of fountain grass, tamarisk and buffel grass near Starr Pass biological corridors. Buffel grass was also removed along the CAP canal.

2012 Year-End Report
2011 – 2015 Action Plan for Water Sustainability

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

Pima County provided U.S. Forest Service and Arizona Department of Environmental Quality recommendations on environmental monitoring. Pima County provided U.S. Forest Service, Rosemont, U.S. Army Corps of Engineers, and U.S. Fish and Wildlife Service recommendations on mitigation. Pima County requested a Supplemental EIS to provide for adequate review of new information and environmental monitoring proposals made by Rosemont and the U.S. Forest Service.

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

No additional work has been done. Some components of the U of A Landscape Architects guidance were used in design of the Kolb Rd Detention Basin retrofit. At this point, there are no plans to submit recommended guidance documents to the Planning and Zoning commission or the Board of Supervisors.

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

2012 Year-End Report
2011 – 2015 Action Plan for Water Sustainability

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

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

RFE #21: LOOP-RIVER ENHANCEMENT PROJECT – NEW TO YEAR TWO

21. Develop a guidance document for multi-purpose design of parks including water harvesting, green development and wildlife habitat to compliment the recreational features and reduce future maintenance costs.

Pima County's River Park System is an integrating factor of the various communities and has the potential to be an important economic development asset. During 2012, the River Park Enhancement and Expansion Initiative evaluated the river park system to identify improvements to the river park system. The initiative includes the following enhancement categories:

- landscaping
- irrigation with reclaimed water
- pathways
- neighborhood connections/nodal park development
- bridges and park-oriented development

When completed, it will consist of a 110-mile system of multi-use paths that will connect the Rillito River Park, Santa Cruz River Park and Pantano River Park with Julian Wash and the Harrison Greenway.

The PC NRP&R Department recently formed a committee to develop a guidance document for multi-purpose park designs and for updating NRP&R's design and construction standards. NRP&R will review the City of Tucson's Water Harvesting Manual and the Santa Cruz County Water Harvesting Manual along with other sources of information. NRP&R will solicit input from other departments such as PC RFCD in developing this new guidance document. The goal is to have this document completed in time for next year's (Year 3) annual report.

Background:

Pursue multi-benefit public projects using reclaimed water.

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

2012 Year-End Report
2011 – 2015 Action Plan for Water Sustainability

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.

2012 Progress:

23. The Tres Rio del Norte (TRDN) is approaching conclusion and is expected to be completed by the end of 2013. Ongoing work to be completed includes internal reviews with the Corps of Engineers, public meetings, value engineering and completion of the Environmental Impact Statement.
24. As part of the 'Reviving River' project, Pima County has assembled a group of experts in wetlands to suggest methods for monitoring wetlands quality. One aspect of this study is a review of the loss data (infiltration and evapotranspiration) on the effluent-dependent Santa Cruz River. During 2012, RFCD staff collected historical data, analyzed the data and modeled infiltration on the effluent-dependent Santa Cruz which will be presented in the '*Historical Conditions Report*' to this Technical Committee of wetland experts. A draft of this report will be ready for review in January 2013.

In addition, RFCD has funded Tyson Swetnam from the University of Arizona to do an analysis of vegetation structure for the effluent-dependent Santa Cruz River using the high-density Light Detection and Ranging (LiDAR) data collected in 2011. As part of this analysis, Mr. Swetnam will develop spatial estimates of biomass and Leaf Area Index (LAI) which will be useful for deriving plant water use estimates for the effluent-dependent Santa Cruz.

The final version of the *Historical Conditions Report* will incorporate both analysis on infiltration and evapotranspiration including the analysis performed by the University of Arizona. The expert panel will have the opportunity to weigh-in on the draft report in January 2013 and final version of the report is due by June 2013.

26. During 2012, RFCD spoke with Tucson Water and the Bureau of Reclamation (BOR) about their plans for the effluent in the Santa Cruz River and developed five different scenarios of future water availability in the Santa Cruz River out to 2030. Tucson Water and the Bureau own the rights to most of the effluent in the Santa Cruz River. In addition, as part of the Reviving River project, we expect to generate improved estimates of plant water use (as described in RFE 24). Knowing the availability and plant water demand will provide a basis for developing a plan for maintaining and improving habitat along the River.

Additionally, we anticipate that the ROMP upgrades will result in improved infiltration because of an anticipated reduction in the extent of the clogging layer currently in the River. When the Nogales International Treatment plant was upgraded in 2009, infiltration increased and the effluent did not flow as far downstream. In Las Vegas Wash, there is virtually no clogging layer.

As such, we have developed estimates of future water availability in the River and are in the process of improving estimates of plant water use in the effluent-dependent Santa Cruz. It is expected that infiltration rates will increase following the ROMP upgrades which will increase the availability of water to vegetation closer to the treatment plants and reduce the availability

2012 Year-End Report
2011 – 2015 Action Plan for Water Sustainability

of water further away. The future scenarios will be described in the Reviving River *Historical Conditions Report*.

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

2012 Year-End Report
2011 – 2015 Action Plan for Water Sustainability



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 of the Stakeholder Coalition with members from Municipal, Industrial and Agricultural interests continue to meet to discuss a new ADD Water Program proposal.

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

Pursuant to Intergovernmental Agreement, the City, County and the U.S. Bureau of Reclamation (BOR) are joint permittees to a managed underground storage facility, the Lower Santa Cruz River Managed Recharge Project (LSCMRP), which uses the Santa Cruz Channel to recharge effluent owned by the permittees. Other permittees recharging their effluent in the LSCMRP are the Town of Oro Valley, Metropolitan Domestic Water Improvement District (Metro Water), Flowing Wells Irrigation District (FWID), Avra Valley Irrigation and Drainage District, the Town of Marana, Cortaro-Marana Irrigation District (CMID, the facility operator), and Spanish Trail Water Company. The LSCMRP occupies a 17-mile stretch of the Santa Cruz River between Ina Road and Trico Road. Storage credits in the facility are assigned at 50% of the calculated recharge, as prescribed for "managed" facilities; participants to "constructed" facilities are credited 95% to 100% of calculated recharge.

The Enhanced Recharge Demonstration Project (ERDP) was installed within the LSCMRP facility on a 5.6-acre gravel bar adjacent to the main channel. The completed project consisted of a partial barrier diversion, two dug channels and flumes to measure flow using a combination of LSCMRP funds and in-kind contributions of labor and equipment from BOR, Tucson Water, Pima County RWRD, Metro Water and FWID. 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 created channels.

2012 Year-End Report
2011 – 2015 Action Plan for Water Sustainability

BOR managed the ERDP and published a final project report, which can be found at <http://www.usbr.gov/lc/phoenix/reports/santacruz/iterrscr.pdf> The ERDP report provides information for planning low-cost effective ways to achieve constructed recharge projects that qualify for 100% recharge credit in the Santa Cruz River.

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 update to the Tucson Water Plan 2050 is currently in the final stages. All aspects of the Plan deal with contingencies for drought both locally and on the Colorado River (since Tucson currently imports most of its potable supply from the Colorado River).

The *Water Plan* was updated in 2008 and a second update is scheduled to be completed in calendar year 2013. 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 2013 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

WS #3: Water Quality Updates – 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 provides 1,4-dioxane information to the Mayor and Council. 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

1,4-dioxane updates to M&C:

January 24, 2012
February 22, 2012
March 27, 2012
April 17, 2012
May 22, 2012
December 4, 2012

2012 Year-End Report
2011 – 2015 Action Plan for Water Sustainability

Advanced Oxidation Process (AOP) Treatment Facility Groundbreaking:
July 18, 2012

CWAC Technical, Planning and Policy Sub-Committee:
December 10, 2012 – provided information concerning “Water softeners in the Tucson Basin”

Throughout 2012, the Regional Wastewater Reclamation Advisory Committee (RWRAC) received several updates on the department’s water quality activities. Highlights of these activities include:

- Regular updates on the construction activities of the Regional Optimization Master Plan
- Functions of the Compliance Regulatory Affairs Office and the laboratory facilities at the Water Energy Sustainability Center
- Updates on the Dispose-A-Med Program and collection events and their importance in keeping pharmaceuticals out of the treatment system
- Presentation of RWRD’s Public Outreach Program including constituency outreach and advocacy, public service announcements and public education events
- Field trip tour of the construction of the Ina Road Upgrade and Expansion project that will improve the water quality of the effluent discharge
- Presentation on the Biosolids/Biogas Master Plan that will address the management of the biosolids/biogas that will be processed at Ina Road when the ROMP improvements are complete

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
Pima County Lead Department: Regional Wastewater Reclamation Department

WS #4: CAP Order – Continuing

The City’s full allocation was ordered again in 2012 for delivery in 2013. This will continue in future years.

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 Groundwater Replenishment Uses into Tucson Water’s Recycled Water Master Plan
8. Expand Sweetwater Recharge Facility

2012 Year-End Report
2011 – 2015 Action Plan for Water Sustainability

11. Maximize Beneficial Use of City's Recycled Water and Assess the Potential to convey other Party's Effluent Entitlements to Enable Beneficial Use Region-Wide through Tucson Water's Recycled Water 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 Recycled Water Master Plan
15. Assess the Possibility of Creating Price Incentives to Encourage Expanded Reclaimed Water Use in the Preparation of the Tucson Water Recycled Water Master Plan
16. Increase Reclaimed Water System Efficiencies through Preparation of the Tucson Water Recycled Water 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 2013.

Background:

The renamed Recycled Water Master Plan's purpose is to fully 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) – 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, drilling and infiltration rate testing. The site chosen has proved sufficient to meet

2012 Year-End Report
2011 – 2015 Action Plan for Water Sustainability

the recharge goal of up to 4000 AF/y. An RFQ will be advertised in January 2013 for a design and permitting consultant. Design and permitting work will begin along with monitor well installation in the calendar year 2013.

The design work to determine the size and location for the recharge basins is expected to begin in the first quarter of 2013.

Background:

Construct a joint recharge project in the City's southeast/Houghton Road area to store water for groundwater replenishment 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

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

In April of 2012, the US Bureau of Reclamation published the findings of the Enhanced Recharge Demonstration Project conducted in the Santa Cruz River (SCR). The City and County were cooperators in this demonstration project. Notable results and conclusions discussed in the report include:

- Spreading flows across the SCR channel bottom in this small stream segment, increased infiltration rates and recharge volumes by 88.8 acre feet (AF) over a period of 124 days
- Fine sediment from construction initially caused a low infiltration rate
- Recharge rates for this demonstration project were 0.28 AF per day for the first 60 days and, after channel maintenance to remove sediment, 1.13 AF per day during the last 64 days
- Constructing multiple flow channels in an area with small elevation differences from the SCR main flow channel requires minimal construction effort but results in a project that is susceptible to flood damage
- After washout, additional storm flow scour continues to augment flow in the excavated channels and enhanced recharge continues to occur
- Partners experienced increased communication and information sharing by collaborating on construction

The project showed that diverting flows from the incised SCR channel into adjacent abandoned flow channels is a viable option to increase infiltration and associated recharge. Based on project recharge rates (3.3 AF/mile/day), to fully utilize the SAWRSA effluent volume of 28,200 AFY, a constructed in-channel recharge project would require six 10-foot wide channels long enough to comprise approximately 4 miles of total flow length. It is likely that maintenance methods improved over those used in this demonstration project could increase infiltration rates and reduce the channel area required for this type of enhanced recharge.

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

2012 Year-End Report
2011 – 2015 Action Plan for Water Sustainability

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.

The results of this study were published by the Bureau of Reclamation.

<http://www.usbr.gov/lc/phoenix/reports/santacruz/iterrscr.pdf>

Background:

Pursuant to Intergovernmental Agreement, the City, County and the U.S. Bureau of Reclamation (BOR) are joint permittees to a managed underground storage facility, the Lower Santa Cruz River Managed Recharge Project (LSCMRP), which uses the Santa Cruz Channel to recharge effluent owned by the permittees. Other permittees recharging their effluent in the LSCMRP are the Town of Oro Valley, Metropolitan Domestic Water Improvement District (Metro Water), Flowing Wells Irrigation District (FWID), Avra Valley Irrigation and Drainage District, the Town of Marana, Cortaro-Marana Irrigation District (CMID, the facility operator), and Spanish Trail Water Company. The LSCMRP occupies a 17-mile stretch of the Santa Cruz River between Ina Road and Trico Road. Storage credits in the facility are assigned at 50% of the calculated recharge, as prescribed for “managed” facilities; participants to “constructed” facilities are credited 95% to 100% of calculated recharge.

The Enhanced Recharge Demonstration Project (ERDP) was installed within the LSCMRP facility on a 5.6-acre gravel bar adjacent to the main channel. The completed project consisted of a partial barrier diversion, two dug channels and flumes to measure flow using a combination of LSCMRP funds and in-kind contributions of labor and equipment from BOR, Tucson Water, Pima County RWRD, Metro Water and FWID. 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 created channels.

BOR managed the ERDP and published a final project report, which can be found at <http://www.usbr.gov/lc/phoenix/reports/santacruz/iterrscr.pdf> The ERDP report provides information for planning low-cost effective ways to achieve constructed recharge projects that qualify for 100% recharge credit in the Santa Cruz River.

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

WS #10: ROMP – Completed/Continuing

9. Implement Regional Optimization Master Plan (ROMP) Improvements to Pima County’s Metropolitan Wastewater Reclamation Facilities

Pima County entered into a lease agreement with the University of Arizona to construct a Laboratory Annex to be used for water quality and sustainability research purposes.

The new wastewater reclamation facility north of the Roger Road WRF is about 62% complete with completion slated for mid-2014.

2012 Year-End Report
2011 – 2015 Action Plan for Water Sustainability

The Ina upgrade project is about 75% complete with completion slated for late 2013. New Central Cooling and Heating Plant under construction as part of the Ina Road ROMP Expansion contract.

Biosolids and Biogas Master Plan has been completed and implementation of the recommendation will commence early 2013 with a Biogas cleaning facility forecasted to be operational in early 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

NRP&R has proposed that funding be included in the next County bond election to fund the extension of reclaimed water lines to priority County Parks that are in close proximity to Tucson Water's under capacity reclaimed water lines and to nearby Pima County RWRD wastewater plants at Roger and Ina Road.

It was determined this past year by Pima County's Urban Loop Committee, that the County has a number of potential opportunities to extend reclaimed lines to additional sections of the Santa Cruz River Park to Tucson Water's reclaimed system. Some areas may also be extended to the County's Roger or Ina Road Wastewater Reclaimed Facility.

Additionally, there could have been opportunities to extend reclaimed water lines from Tucson Water to the Julian Wash River Park. However, Pima County did not install an irrigation system designed for future reclaimed water use when the new section of the Julian Wash River Park was developed from Wilmot to Valencia Roads due to funding constraints and concern that no reclaimed water lines would be installed anytime soon in this area.

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

2012 Year-End Report
2011 – 2015 Action Plan for Water Sustainability

WS #20: Pima County Effluent Management Plan – Continuing

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

RWRD published its Effluent Generation and Utilization Report that summarizes the effluent generated at each of Pima County's wastewater reclamation facilities how the county's share of effluent was distributed for the previous year, 2011. The department also completed a Water Resources Assets Management Plan (WRAMP).

Pima County and the City of Tucson also approved revisions to Appendix A of the Wheeling Agreement. This revision lists the county sites that will receive reclaimed water at the wheeling rate for the coming year.

Using these documents Pima County will prepare a plan for its current and projected effluent use to be developed in the coming year.

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 GREYWATER

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

22. Advocate for Regulatory Changes that will expand the Use of Greywater through Participation in Blue Ribbon Panel
23. Advocate that Arizona Department of Environmental Quality (ADEQ) Recognize Rainwater Harvesting and Green Infrastructure as Stormwater Management Best Management Practices (BMP) 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

The State Legislature approved HB2363 that established a committee to study, analyze and evaluate issues arising from the collection and recovery of macro-harvested water. The committee will include representation from the City of Tucson and the Southern Arizona Water Users Association (SAWUA). SAWUA has asked a representative from Pima County to participate on the committee. Legislative appointments to the study committee are expected to be made early in 2013.

2012 Year-End Report
2011 – 2015 Action Plan for Water Sustainability

No specific action has occurred with ADEQ in regard to item 23. However, in October of 2011, EPA released a policy memorandum encouraging the use of green infrastructure in NPDES permits issued at the federal or state level. During 2012, EPA produced a series of fact sheets and guidelines to show how consideration of low impact development and green infrastructure could be incorporated into various surface water quality permit and compliance activities. EPA specifically identifies in “Factsheet #4: Stormwater” of the series, that rainwater harvesting in its various forms serves as a component of green infrastructure that can function as a valuable stormwater BMP.

http://water.epa.gov/infrastructure/greeninfrastructure/gi_regulatory.cfm#permittingseries

Additional efforts are contingent on the State Legislature. No further action has taken place on Blue Ribbon Panel recommendations by ADEQ or ADWR. Some of the recommendations were into the Water Resources Development Commission (WRDC). Legislation will be submitted to the 2013 State Legislative Session regarding several recommendations from the 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 #28 and #29: Integrated Drought/Climate Change Preparedness Program – Completed

- 28. Update Tucson Water Plan 2050 to Include Multi-pronged Approach for Drought Preparedness
- 29. Update City of Tucson Water Department Drought Preparedness and Response Plan

The Tucson Water Drought Preparedness and Response Plan was updated at the end of 2011. The updated Plan incorporates work that the Utility has done to prepare for Climate Change. Since Tucson Water is in the unique position of having two supplies for potable water (CAP and local groundwater) the Plan considers both drought conditions on the Colorado River as well as locally.

WS #30: Update Pima County’s Drought Management Plan – NEW TO YEAR TWO

- 30. Drought Management Plan

More than five years have passed since Pima County’s Drought Response Plan and Water Wasting Ordinance were adopted by the Board of Supervisors in 2006. As Pima County and the desert southwest are now in its second decade of drought, a review of the drought management plan and water wasting ordinance will be completed in 2013. Modifications will be presented to the County Administrator and the Board of Supervisors for review.

2012 Year-End Report
2011 – 2015 Action Plan for Water Sustainability

Background:

Preparation to address continuing drought impacts.

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

2012 Year-End Report
2011 – 2015 Action Plan for Water Sustainability



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

The three analysis, as well as a recommended method for collecting uniform data were presented in a report *'Water Use by Single-Family Residences in the Tucson Water Service Area in 2009 & 2010,'* (April, 2012), which has been placed on the WISP web page:

http://www.tucsonpimawaterstudy.com/PDF/WISP%20Water%20Use%20Report_4.12.pdf

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

DM #2: Water Harvesting – NEW TO YEAR TWO

2. Analyze the Effectiveness of City of Tucson Water Harvesting Ordinance as well as the Overall Potential for Expanded Water and Stormwater Harvesting

It has been three years since the commercial ordinance went into effect and it takes a minimum of three growing seasons before an accurate assessment of the impact on landscape water use can be done. Additionally, a sufficient number of properties are required for a proper evaluation. Water staff has been working with Development Services and IT staff to refine the list of commercial permit applications. This will allow staff to contact current owners of properties developed under this ordinance to begin the process of collecting and analyzing water use data.

In addition, during the current year, Tucson Water implemented residential rainwater harvesting financial incentives. The initial response to the incentives has been strong.

Background:

Analyze expanded water and stormwater harvesting potential and benefits.

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

2012 Year-End Report
2011 – 2015 Action Plan for Water Sustainability

DM #3: Water Efficiency Goals – NEW TO YEAR TWO

3. Conduct a Benchmark Study of Water Efficiency Goals, Success Indicators and Best Management Practices to Inform Regional Dialogue 2.1

Given multiple competing priorities for Tucson Water Conservation Program, work has not yet started on this action item. Conservation program staff focused on attempting to improve participation in existing rebate programs, and to develop a residential rainwater harvesting rebate program. In addition, several new rainwater harvesting demonstration sites have been developed. The Annual Conservation report to Mayor and Council can be found at the following link:

<http://www.tucsonaz.gov/sirepub/agdocs.aspx?doctype=agenda&itemid=27318>

To date, no County programs have been initiated for this goal.

Background:

Establish regional, measurable water efficiency and conservation goals.

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

DM #4: Landscape Code and Plant List - NEW TO YEAR TWO

4. Evaluate Outdoor Water Use Requirements, Water Budgeting Methods, Drought Tolerant Plant Lists and Appropriate Watering Practices for Urban Desert Landscapes, and Use Results to Inform Development of More Efficient and Consistent Outdoor Water Use Standards and Practices

Research was conducted on updating Landscape Code in County Zoning ordinance, but did not progress further due to staff resources. Current goal for County is to work on Landscape Design Manual and updating plant list second quarter of FY14. Code changes may wait until after the Comprehensive Plan Update which would be FY 2015.

Background:

Review development regulations for consistency and improved potable water conservation.

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

PROGRAM 2: CONSISTENT STANDARDS AND GUIDELINES

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

DM #6: Greywater Education – Completed/Continuing

2012 Year-End Report
2011 – 2015 Action Plan for Water Sustainability

6. Expand City's Ordinance-Related Greywater Education Program to include Guidelines and Education on Use of Greywater Outdoor

The Greywater Rebate program is in its second year of operation. Tucson Water continues its Greywater Education Program to include workshops to qualify customers for a Greywater Program Rebate. During FY 2012, 5 workshops were conducted, with a total of 70 persons in attending. To date, 10 rebates have been issued. Staff proposes that the rebate amount be increased from \$200 to \$1000 to encourage greater participation. Past workshop participants will be notified of the increase in the incentive payment. In addition, consideration will be given to making modifications to the existing workshop.

Background:

New Tucson Water Greywater rebate program for designed specifically for residential water customers installing permanent greywater 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 (RFCFD) has prepared a draft Detention-Retention manual that incorporates the effects of water harvesting that is being reviewed.

RFCFD 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

DM #9: Work with Regional Water Utilities – NEW TO YEAR TWO

9. Work with Regional Water Utilities to Develop Coordinated and Consistent Demand Management Strategies, Practices, Surveys and Messages

2012 Year-End Report
2011 – 2015 Action Plan for Water Sustainability

Given multiple competing priorities for Tucson Water Conservation Program, work has not yet started on this action item. Conservation program staff focused on attempting to improve participation in existing rebate programs, and to develop a residential rainwater harvesting rebate program. In addition, several new rainwater harvesting demonstration sites have been developed. The Annual Conservation report to Mayor and Council can be found at the following link:

<http://www.tucsonaz.gov/sirepub/aqdocs.aspx?doctype=agenda&itemid=27318>

Background:

Establish regional, measurable water efficiency and conservation goals, gather public input regarding quality of life trade-offs associated with water efficiency and advance a regional approach to conservation education, communication, pilot projects and training.

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