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TO: C. H. Huckelberry, County Administrator
THRU: John M. Bernal, P.E., Deputy County Administrator - PW
FROM: Jackson Jenkins, Director
SUBJECT: **2013 Year End Progress Report**
Action Plan for Water Sustainability (2010-2015)

The Water and Wastewater Infrastructure, Supply and Planning Study (WISP) was completed in November 2010 with the Board of Supervisors' adoption of the Action Plan for Water Sustainability (Action Plan). Implementation of the WISP Action Plan began in March 2011. Two previous Year End progress reports were prepared for 2011 and 2012.

Attached is the 2013 Year End Progress Report on the WISP Action plan. This year, the City of Tucson decided to prepare a separate City-focused progress report, instead of collaborating on a joint City/County Report. Accordingly, the attached summarizes progress on County-lead action items.

Below are highlights of progress Pima County has made towards implementation of the WISP Action Plan.

- CIP 1-7: Development Services Department is in the process of preparing *Pima Prospers*. It will include water resources policy considerations and integration of water resources and land use.
- RFE 12: Pima County's incidental take permit associated with its MSCP was published in the Federal Register and the comment period is now closed.
- RFE 15: Buffelgrass efforts are being coordinated to improve management of public lands.
- RFE 21: NRPR completed the installation of over 100 trees on the Rillito River Park as part of the canopy enhancement project. The Rillito River Park incorporates water harvesting, green development, wildlife habitat and use of reclaimed water to support a valuable multi-purpose public amenity.

- RFE 23-26: RFCD and RWRD are conducting studies on the effects of reclaimed water quality upgrades in the Santa Cruz River and have established the Living River wetland technical committee. RFCD is preparing a pilot restoration concept plan and is conducting scenario planning to maintain and improve riparian and aquatic habitat along the Santa Cruz River.
- WS 10: RWRD completed the ROMP improvements ahead of schedule and under budget and the Agua Nueva WRF and Tres Ríos WRF facilities are operational. Improved water quality is expected to improve the riparian habitat in the Santa Cruz River and increase in-channel reclaimed water infiltration.
- WS 30: A draft drought vulnerability assessment has been completed by RWRD and has been presented to the Pima County Local Drought Impact Group. The assessment and draft response plan ordinance will be presented to the Board for approval in 2014.
- DM 7: RFCD completed a draft Neighborhood Water Harvesting Manual with funds from an EPA technical assistance grant. A low impact development working group has been established. RFCD's draft Detention-Retention Manual is completed and will be presented to the Board for approval in 2014. RFCD completed a Case Studies of Low Impact Development Green Infrastructure.

This report will be available on the WISP website. When the City's report is made available, it will be included on the website as well.

Should you have any questions, I am available at your convenience.

Enclosure: 2013 WISP Year-End Report

c: Kathleen Chavez, Water Policy Manager
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Comprehensive Integrated Planning 2013 Report

Within the Comprehensive Integrated Planning (CIP) subset of the Action Plan, five action plan items have been completed and one was initiated for the first time last year. A majority of the CIP items are still in various stages, one item is on hold and no information has been included for CIP #11, 12, 15 and 18.

City/County Action Plan Program Areas
General and Comprehensive Plan Updates
Smart Growth Tools and Regulations
Linking Water and Land Use Planning

Pima Prospers, the County's Comprehensive Plan update, constitutes a significant share of the County's responsibility in the Comprehensive Integrated Planning subset. Most of the inventory is complete, and more than a dozen public workshops have been held in addition to numerous stakeholder meetings. The purpose of all workshops and meetings thus far is to gain input into the plan. A website (www.PimaProspers.com) has been employed to gain further input. *Pima Prospers* water resource component will inventory water availability and demand, both now and in the future, in the context of the Action Plan's shared goals and the County's role in water resource management. Expected Board consideration is in May 2015.

County Programs
<i>Pima Prospers</i> Comprehensive Plan Update
Water Resource Element-Comprehensive Plan Urban Form Element
Southwest Infrastructure Plan (SWIP)
Conservation Land System (CLS)
Conservation Acquisition Program
Cluster Ordinance

Water service area boundaries facilitate or inhibit growth. A key action item in the CIP subset is the Tucson Water Service Area Policy. Refinements to the policy were accepted by Mayor and Council in July; thresholds of net developable land were established (20 acres residential, 50 acres commercial) and a requirement of abutting existing Tucson Water service on three sides. The policy will be reviewed annually and a denial of service can be appealed. However, the policy is not wholly inclusive of designated growth areas, such as SWIP. Successful wheeling agreements must fill the gap, as Metro Water extends service in the SWIP area in response to Tucson Water service denial.

Departments and Organizations
Pima County Development Services
Department (DSD), Regional Wastewater Reclamation Department (RWRD), Regional Flood Control District (RFCD)
City of Tucson Housing and Community Development, Planning and Development Services, Office of Conservation and Sustainable Development, Tucson Water (TW)
TREO, Metro Water, Safe Yield Task Force, Upper Santa Cruz Providers and Users Group

Goals	Recommendations	Action Plan Items
<p>1.0 Encourage sustainable urban forms</p> <p>Ensure that the form of growth enhances beneficial water/energy, environment, economic and social outcomes through inclusion of diverse housing types and compact, environmentally sensitive and walkable communities.</p>	<p>1.1 Require and encourage smart growth principles</p>	<p>CIP 2, 3, 10, 11, 14, 15</p>
<p>2.0 Direct growth to suitable growth areas</p> <p>Direct future growth away from environmentally sensitive areas and closer to existing infrastructure through infrastructure investments, regulation, policies, and open space acquisitions.</p>	<p>2.1 Encourage growth in four (4) suitable growth areas/existing built environment as highest priority</p> <p>2.2 Link capital planning and land use planning/direct investment to desired growth areas</p> <p>2.3 Acquire open space to define desired growth areas</p> <p>2.4 Conduct regional growth scenario modeling</p>	<p>CIP 1, 4, 5, 6, 7, 8, 9, 12, 13, 16, 18</p>
<p>3.0 Integrate land use and water resources planning</p> <p>Enhance efforts to link land use and water resources planning to foster increased use of renewable water resources in new development and to balance economic, environmental and human needs for water.</p>	<p>3.1 Conduct comprehensive water resource planning outside of the obligated service area</p> <p>3.2 Consider obligated service area expansion based on above analysis and additional criteria</p> <p>3.3 Continue to track resources for new development/County Water Element, City Water Checkbook</p> <p>3.4 Pursue wheeling and recharge agreements</p> <p>3.5 Work toward regional solutions to address hydrological pumping/recharge disconnect</p>	<p>CIP 19, 20, 21, 22, 23</p>
<p>4.0 Growth should pay for itself over time and be financially sustainable</p> <p>Ensure that the full cost of new development is considered and that growth related costs for water and wastewater are recovered.</p>	<p>4.1 Put mechanisms in place to ensure fiscal sustainability of new development</p> <p>4.2 Continue to ensure "growth pays for growth" in Water and Wastewater financial planning</p>	<p>CIP 17</p>

Program 1: General and Comprehensive Plan Updates

Lead Jurisdiction	Action Plan Item	Status
COT/PC	CIP 1: Analyze infrastructure and public facilities needs in preparation for updates to the Plans. (2.1)	Carry-Over from 2011 CONTINUING. Dual lead. Part of County's <i>Pima Prospers</i> efforts, water resource component of plan includes water infrastructure inventory. City's <i>Plan Tucson</i> adopted 2013.
COT/PC	CIP 2: Update the Urban Form elements of the Plans to encourage smart growth and sustainable urban form. (1.1)	Carry-Over from 2011 CONTINUING. Dual lead. To be addressed in County <i>Pima Prospers</i> efforts.
COT/PC	CIP 3: Review and update Water Elements in Plans to ensure consistency with the City/County Water Study recommendations and state requirements. (1.1)	Carry-Over from 2011 CONTINUING. Dual lead. Part of County's <i>Pima Prospers</i> efforts. City's <i>Plan Tucson</i> adopted 2013
COT/PC	CIP 4: Explore policy to provide for pre-zoning in growth areas as part of updates to the Plans. (2.1)	Carry-Over from 2012 CONTINUING. Dual lead. Part of County's <i>Pima Prospers</i> efforts. City's <i>Plan Tucson</i> adopted 2013
COT/PC	CIP 5: Identify and designate suitable growth areas in the updates to the Plans. (2.1)	Carry-Over from 2012 CONTINUING. Dual lead. Part of County's <i>Pima Prospers</i> efforts. City's <i>Plan Tucson</i> adopted 2013.
COT/PC	CIP 6: Identify and designate employment and job centers in the updates to the Plans. (2.1)	Carry-Over from 2012 CONTINUING. Dual lead. Part of County's <i>Pima Prospers</i> efforts. City's <i>Plan Tucson</i> adopted 2013
COT/PC	CIP 7: Establish infrastructure and service phasing boundaries within growth areas. (2.2)	Carry-Over from 2012 CONTINUING. Dual lead. Part of County's <i>Pima Prospers</i> efforts. City's <i>Plan Tucson</i> adopted 2013
COT/PC	CIP 8: Develop an implementation component for each of the Plans. (2.2)	New to 2013 CONTINUING. Dual lead. Part of County's <i>Pima Prospers</i> efforts. City's <i>Plan Tucson</i> adopted 2013

Lead Jurisdiction	Action Plan Item	Status
COT/PC	CIP 9: Link County Conservation Acquisition Program with updated Plans. (2.3)	New to 2013 CONTINUING. Dual lead. Since 2011, DSD completed summaries of inventory and deficiencies to be used in updating County Comp Plan and for informing future Bond election packages.

Program 2: Smart Growth Tools and Regulations

Lead Jurisdiction	Action Plan Item	Status
COT	CIP 10: Identify opportunities to promote mixed uses and well-designed density. (1.1)	CITY LEAD
PC	CIP 11: Revise County's Cluster Ordinance to improve water efficiency of new development. (1.1)	This will likely be captured in policy and implementation action through County's <i>Pima Prospers</i> .
COT/PC	CIP 12: Evaluate improvement districts as a tool to purchase natural areas/riparian habitat. (2.3)	NO REPORT.
COT	CIP 13: Work with TREO on public/private collaboration, base job creation (multiplier) and urban revitalization- water policy aligned with economic goals. (2.1)	Carry-Over from 2011 CITY LEAD
COT	CIP 14: Conduct a Land Use Code sustainability audit to identify opportunities to encourage sustainable urban forms. (1.1)	Carry-Over from 2011 COMPLETED/CONTINUING.CITY LEAD
COT/PC	CIP 15: Explore conservation subdivision requirement in Conservation Land System (CLS) to better integrate new development into environmentally sensitive areas. (1.1)	NO REPORT.
COT/PC	CIP 16: Identify and address barriers to infill. (2.1)	Carry-Over from 2011 CONTINUING. CITY LEAD

Lead Jurisdiction	Action Plan Item	Status
COT	CIP 17: Develop a fiscal sustainability model. (4.1)	Carry-Over from 2012. CITY LEAD
COT	CIP 18: Explore City transfer of development rights to help direct growth to suitable growth areas. (2.1)	Starts 2014 CITY LEAD

Program 3: Linking Water and Land Use Planning

Lead Jurisdiction	Action Plan Item	Status
COT	CIP 19: Continue wheeling negotiations between Tucson Water and other water providers to deliver more renewable supplies to the region. (3.4)	COMPLETED/CONTINUING. CITY LEAD
COT/PC	CIP 20: Participate in the Safe Yield Task Force to address pumping recharge disconnect. (3.5)	Carry-Over from 2011 COMPLETED/CONTINUING. The Task Force continues to meet to strategize Safe Yield by 2025 and develop Fourth Management Plan. City of Tucson and Pima County staff are participating.
COT	CIP 21: Implement Tucson Water Service Area Policy and annual water resource "checkbook balance" review. (3.2)	COMPLETED/CONTINUING. CITY LEAD
PC	CIP 22: Implement Pima County Water Resource Element to assess water resource impacts of new development. (3.3)	CONTINUING. County Lead. DSD and RFCD are assessing water resource impacts in Comprehensive Plan Amendments and in Rezoning requests as required in the Water Resources Element. Integrated Water Management Plans address conservation and low impact development water harvesting in land use zoning changes.
PC	CIP 23: Conduct a pilot study of integrated water resource planning in the Southwest area. (3.1)	ON HOLD. County Lead. Previously on hold pending Tucson Water policy changes approved by Mayor & Council on July 9 and September 10, 2013. Collaboration

Lead Jurisdiction	Action Plan Item	Status
		with Tucson Water and Metro Water addresses most parcels in the Southwest Area for build out over the next 20 to 25 years based on guidance from SWIP. Pima Prosperers will further SWIP and guide build out. Other areas may be impacted by City's policy

Respect for Environment 2013 Report

Within the Respect for Environment (RFE) subset of the Action Plan, five action plan items have not been reported and one put on hold at last report. A majority of items are still in various stages while seven have been completed and three were initiated last year. No information has been included for RFE #6, 10, 17, 18 and 22.

Conservation efforts are progressing. The Conserve to Enhance (C2E) program accepted applications, crafted a review process and announced a project selection list, successfully completing their goal of linking water savings to environmental enhancement projects. The Conservation Effluent Pool (CEP) Task Force is developing selection guidelines and candidate projects to employ the 10,000 AF of effluent/reclaimed water available to invest in habitat protection. The Multispecies Conservation Plan, as part of the Sonoran Desert Conservation Plan, continues through the federal process after its publication on the Federal Register.

As effluent conditions change, as a result of Regional Optimization Management Plan and increased utilization, impacts to the Santa Cruz River are expected. No management plan for the river has been drafted but several reports will help inform the development of such, specifically the EPA-funded "Living River" series and RFCD's Historical Conditions report.

City/County Action Plan Program Areas
Collaboration for Environmental Restoration
Preservation and Protection of Riparian Areas
Incorporation of Multiple Benefit Features into Capital Improvement Projects
Development of a Lower Santa Cruz River Management Plan

County Programs
• Sonoran Desert Conservation Plan (SDCP)
• Multi-Species Conservation Plan (MSCP)
• Conservation Land System (CLS)
• Conservation Effluent Pool (CEP)
• County Bond Program
• Capital Improvement Program (CIP)
• Riparian Habitat Mitigation Plan (RHMP)
• Regional Optimization Management Plan (ROMP)

Departments and Organizations
Pima County Regional Wastewater Reclamation Department, Regional Flood Control District, Natural Resources Parks and Recreation, Office of Conservation and Sustainability, County Attorney's Office
City of Tucson Office of Conservation and Sustainable Development, Tucson Water, City Attorney's Office
Pima Association of Governments, Army Corp of Engineers, Audubon Society

Goals	Recommendations	Action Plan Items
<p>1.0 Preserve existing riparian areas through coordinated regulation, policy and outreach</p> <p>Pursue a coordinated approach to preserving existing riparian areas and foster increased public support of protection and maintenance of healthy ecosystems.</p>	<p>1.1 Continue preservation through acquisition, regulation, education and outreach</p> <p>1.2 Address non-exempt wells and surface water diversions affecting riparian areas</p>	<p>RFE 4, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18</p>
<p>2.0 Identify needs and opportunities for future restoration</p> <p>Pursue a collaborative, comprehensive and systematic strategy to identify needs, opportunities, resources and partnerships to implement cost-effective regional environmental restoration.</p>	<p>2.1 Develop regional policy on regulatory compliance projects</p> <p>2.2 Collaborate regionally on riparian restoration</p> <p>2.3 Work with ADEQ on water quality standards for habitat restoration</p>	<p>RFE 2, 3, 5,</p>
<p>3.0 Ensure that public projects are multi-benefit including restoration, stormwater management, recharge and public amenity</p> <p>Maximize beneficial use of reclaimed water, rainwater and stormwater in flood control, water and wastewater treatment facilities and other capital projects.</p>	<p>3.1 Pursue multi-benefit public projects using reclaimed water</p> <p>3.2 Pursue stormwater management opportunities in areas dominated by impervious surface</p>	<p>RFE 19, 20, 21, 22,</p>

Goals	Recommendations	Action Plan Items
<p>4.0 Ensure the future of riparian and aquatic habitat along the effluent-dependent reach of the Santa Cruz River</p> <p>Evaluate alternative strategies for protection of the riparian and aquatic habitat along the effluent-dependent reach of the Santa Cruz River building upon prior research and planning studies.</p>	<p>4.1 Advocate for changes to allow full recharge credit for Sec of Interior effluent</p> <p>4.2 Develop a "Lower Santa Cruz River Management Plan"</p> <p>4.3 Build upon pilot restoration demonstration projects to develop a portfolio of multi-purpose projects</p> <p>4.4 Incorporate in and off channel recharge facilities features</p>	<p>RFE 23, 24, 25, 26</p>
<p>5.0 Develop water supply for the environment</p> <p>Ensure an adequate amount of water is available to meet the seasonal needs of restored habitats.</p>	<p>5.1 Finalize the IGA for the Conservation Effluent Pool</p> <p>5.2 Link water conservation to environmental preservation/restoration</p>	<p>RFE 1, 7</p>

Program 1: Collaboration for Environmental Restoration

Lead Jurisdiction	Action Plan Item	Status
<p>COT/PC</p>	<p>RFE 1: Finalize the Conservation Effluent Pool (CEP) implementing agreement, establish City/County CEP administrators – implement CEP. (5.1)</p>	<p>COMPLETED.</p>
<p>COT/PC</p>	<p>RFE 2: Establish a Regional Restoration Working Group to inventory resources, develop criteria for restoration and identify initial projects. (2.2)</p>	<p>Carry Over. On Hold due to staffing limitations.</p>
<p>PC</p>	<p>RFE 3: Inventory City and County lands for suitable riparian restoration. (2.2)</p>	<p>Carry-Over from 2012. County Lead. OSC Due in 2013, Clean Water Act (CWA) in-lieu project evaluation and suitable property selection.</p>

Lead Jurisdiction	Action Plan Item	Status
COT	RFE 4: Coordinate development of volunteer stewardship program with Tucson Audubon pending their grant funding. (1.1)	ON HOLD. CITY LEAD.
PC	RFE 5: Work with Audubon and Army Corps of Engineers (ACOE) on watershed based approach to utilizing group's 404 in-lieu mitigation fees/funds. (2.1)	CONTINUING. County Lead. RFCD submitted proposal to ACOE, further negotiation required on agreement to utilize in-lieu fees.
COT/PC	RFE 6: Begin development of outreach/education to inform community of riparian importance and protection/restoration. (1.1)	New to 2013 NO REPORT.
COT/PC	RFE 7: Participate in Conserve to Enhance (C2E) program to develop funding source to acquire water for environment. (5.2)	COMPLETED/CONTINUING.

Program 2: Preservation and Protection of Riparian Areas

Lead Jurisdiction	Action Plan Item	Status
PC	RFE 8: Adopt and implement Lee Moore Basin Management Plan to protect riparian habitat in future growth area. (1.1)	COMPLETED. County Lead. RFCD
PC	RFE 9: Adopt revised County riparian mitigation guidelines associated with their habitat preservation ordinance. (1.1)	COMPLETED. County Lead. OSC
COT	RFE 10: Finalize City's new Riparian Area Protection Ordinance and seek approval from M&C. (1.1)	CITY LEAD
COT/PC	RFE 11: Identify ways to improve City/County data sharing and develop annual monitoring reports that address shallow groundwater areas. (1.2)	COMPLETED/CARRYOVER FROM 2012. County Lead. OSC-PAG report on groundwater pumping completed.

Lead Jurisdiction	Action Plan Item	Status
PC	RFE 12: Apply for County incidental take permit associated with MSCP and implement CLS and guidelines. (1.1)	CONTINUING. County Lead. OSC. Permit published on the Federal Register, comment period now closed for draft EIS.
COT	RFE 13: Continue to develop City Southlands Habitat Conservation Plan. (1.1)	CONTINUING. CITY LEAD
COT	RFE 14: Inventory high value riparian areas and develop monitoring/management database. (1.1)	Carry-Over from 2012. CITY LEAD
PC	RFE 15: Improve management of public lands – field assessment and remediation of trespassing and dumping. (1.1)	New to 2013 CONTINUING. County Lead. OSC Coordinated buffelgrass effort, ongoing open space sweeps with periodic grant assistance such as Starr Pass corridor removal of non-natives.
PC	RFE 16: Develop response/management guidelines by responsible agency to address threats to public land. (1.1)	Carry-Over from 2012 CONTINUING. County Lead. Rosemont – OSC working group prepared response to final EIS, objection filed.
COT/PC	RFE 17: Pursue bond funding for acquisition of natural areas and riparian habitat, reclaimed extension to Vail. (1.1/1.2)	Carry-Over from 2012 County Bond election deferred to 2015. Additional open space acquisitions are proposed for the next Bond program. NRPR coordinating with the Bond Advisory Committee through the County Administrator's Office.
COT	RFE 18: Finalize City Southlands Habitat Conservation Plan and apply for incidental take permit. (1.1)	Starts 2014 CITY LEAD

Lead Jurisdiction	Action Plan Item	Status
PC	RFE 19: Develop guidance document for retrofit of detention basins, list basins offering opportunity for habitat restoration/rec. (3.1)	Carry-Over from 2012. CONTINUING. County Lead. Regional Flood Control District used some designs of UA Landscape Architects guidance program in Kolb Rod Detention. No plans to submit guidance documents to P&Z or Board.
PC	RFE 20: Retrofit Kolb Rd detention basin for environmental restoration using stormwater as demonstration project. (3.1)	COMPLETED by Regional Flood Control District
PC	RFE 21: Develop guidance for multi-purpose parks – water harvesting, green development, wildlife habitat – reduce operating costs. (3.1)	Carry-Over from 2012. County Lead. NRPR has completed the installation of over 100 trees on the Rillito River Park as part of the river parks canopy enhancement project. Shrubs and groundcovers will be planted in these areas in the spring. Water harvesting and plantings to improve wildlife habitats utilizing the guidelines created by PC RFCD's <i>Pima County Trails System Guidelines for Native Species: Reconciliation of Habitat Needs and Trails Design</i> are being incorporated where possible. NRPR is updating design and construction specifications. The goal is to update the specifications before the next bond election so the new design and construction specification can be utilized for any new bond projects.
COT/PC	RFE 22: Develop a joint policy on rainwater harvest, stormwater retention, non-potable use, recreation and ecological features in CIP budgets. (3.1)	New to 2013 NO REPORT. RFCD. See Phase II Report, pages 27-28

Program 4: Refinement of Lower Santa Cruz River Management Plan

Lead Jurisdiction	Action Plan Item	Status
PC	RFE 23: Finalize Tres Rios del Norte Feasibility Study, broad concept for Santa Cruz River (SCR), review alternatives with Restoration Working Group. (4.2)	Carry-Over from 2011 CONTINUING. County Lead. The Regional Flood Control District and Regional Wastewater Reclamation Department are evaluating the effects of effluent water quality upgrades in the Santa Cruz River with a grant from the EPA. The Living Rivers Project will provide numerous environmental outcomes including increased understanding of wetland conditions
PC	RFE 24: Develop refined estimates of evapotranspiration and infiltration along SCR. (4.2)	Carry-Over from 2012 CONTINUING. County Lead. RFCD has established the Living River wetland technical committee. Historical data collected and modeling completed. A report, Historical Conditions of the Effluent-Dependent Lower Santa Cruz River , March 2013, summarized the infiltration data. Swetnam LiDar biomass measurement data is included as an addendum to this report.
PC	RFE 25: Construct project at former gravel pit using effluent and stormwater – evaluate best management of transition to stormwater. (4.3)	Carry-Over from 2012 CONTINUING. County Lead. RFCD has prepared a pilot restoration concept plan at the site, purchased property and taken initial steps to contract for bank protection.
PC	RFE 26: Conduct scenario planning to evaluate differing effluent flows, options to maintain riparian & aquatic habitat along SCR. (4.2)	Starts 2014 CONTINUING. County Lead. RFCD is conducting scenario planning out to 2030 and has discussed with Tucson Water and the Bureau of Reclamation. Infiltration rates are

Lead Jurisdiction	Action Plan Item	Status
		expected to improve as described in the 'Historical Conditions of the Effluent-Dependent Lower Santa Cruz River'.

Water Supply 2013 Report

Within the Water Supply (WS) subset of the Action Plan, a vast majority of items are still in various stages while six action plan items have been completed and one was initiated for the first time last year. No information has been included for WS #12.

As the region's population grows, strategic reuse and expansion of reclaimed water becomes more important in water resource management. With coming upgrades, through ROMP, County effluent will have a higher classification, enabling more use, and higher infiltration rates, as water quality increases. As a growing source of water, reclaimed offers a way to diversify water assets by earning recharge credits or curtailing groundwater use. The County's Strategic Plan for Use of Reclaimed will help prioritize this asset.

In response to a multi-decade drought, the state has mandated water providers have in place plans that help extend water supply during times of drought. The County's Local Drought Impact Group (LDIG) cooperates with the state's Inter-agency Coordinating Group, sharing information on drought status and impacts. The County's drought ordinance, drafted in 2006, is due for an update and can benefit from the many years of information sharing since. LDIG is reviewing suggested changes for referral to the County Administrator.

City/County Action Plan Program Areas
Water Supply and Water Quality
Effluent Management
Regulatory/Policy Advocacy for Effluent, Reclaimed, Stormwater and Gray water
Drought Preparedness

County Programs
<ul style="list-style-type: none"> Regional Optimization Master Plan (ROMP) Water Resource Asset Management Plan (WRAMP) Strategic Plan for Use of Reclaimed (SPUR) Drought Response Plan and Ordinance County Bond Program

Departments and Organizations
Pima County Regional Wastewater Reclamation Department, Compliance and Regulatory Affairs Office, Natural Resources Parks and Recreation, Regional Wastewater Reclamation Advisory Committee, Water and Energy Sustainable Technology (WEST) Labs, Arid West Water Quality Research Project (AWWQRP).
Tucson Water, Citizens Water Advisory Committee.
Bureau of Reclamation (BOR), Southern Arizona Water Users Association (SAWUA), Water Rights Team, Local Drought Impact Group (LDIG), Joint Recharge Oversight Committee (JROC), State Blue Ribbon Panel on Water Sustainability.

Goals	Recommendations	Action Plan Items
<p>1.0 Work collaboratively to acquire new water supplies for reliability Expand cooperative efforts to buttress our existing supplies and diversify our water resource portfolio to prepare for potential shortages stemming from climate change and drought.</p>	<p>1.1 Maximize opportunities to acquire ADD water supplies through regional cooperation 1.2 Acquire additional supplies to buttress TW CAP allocation and serve growth in obligated area 1.3 Consider all costs and benefits in the acquisition of new supplies.</p>	<p>WS 1, 2, 4, 5</p>
<p>2.0 Maximize and make efficient use of effluent and other locally renewable water supplies Reduce use of groundwater for non-potable water needs through greater emphasis on locally-renewable resources such as reclaimed water, rainwater and gray water.</p>	<p>2.1 Balance uses of effluent – reclaimed, environment and aquifer recharge 2.2 Continue ROMP 2.3 Stay vigilant about water quality 2.4 Evaluate reclaimed expansion from efficiency and portfolio perspective 2.5 Evaluate greywater expansion 2.6 Encourage rainwater harvesting</p>	<p>WS 3, 6, 7, 8, 9, 10, 11, 12, 22, 23</p>
<p>3.0 Address regulatory barriers to maximizing local supplies Pursue regulatory changes that will protect public health and safety yet provide flexibility to foster increased uses of reclaimed water to offset use of groundwater for non-potable demands.</p>	<p>3.1 Address groundwater credits for incentives to convert to reclaimed 3.2 Move to Class A+ water for reclaimed 3.3 Work with ADEQ and DWR on water quality standards for riparian projects</p>	<p>WS 13, 24, 25, 26</p>
<p>4.0 Foster increased use of reclaimed water The use of reclaimed water for irrigation, environmental purposes and aquifer augmentation should be evaluated in the overall context of maximizing the community's water resource portfolio.</p>	<p>4.1 Expand financing options 4.2 Maintain private payer and explore pricing incentives to encourage conversion 4.3 Lower operating costs through efficiencies 4.4 Consider reclaimed water in new developments 4.5 Other uses for reclaimed, municipal & environment 4.6 Increase dedicated reclaimed use of effluent. 4.7 Attract additional reclaimed customers based on efficiency considerations and benefits</p>	<p>WS 14, 15, 16, 17, 18, 19, 20, 21, 27</p>
<p>5.0 Be Prepared for climate change and drought</p>	<p>5.1 Continue multi-pronged planning approach 5.2 Use scenario planning</p>	<p>WS 28, 29, 30</p>

Goals	Recommendations	Action Plan Items
Pursue adaptive, flexible, multi-pronged preparedness strategies such as diversification of water supplies, improved demand management and increased reliance on water harvesting.		

Program 1: Water Supply and Water Quality

Lead Jurisdiction	Action Plan Item	Status
COT	WS 1: Acquire new water supplies through Project ADD Water. (1.2)	Carry-Over from 2011 CONTINUING. CITY LEAD
COT	WS 2: Identify future water needs for Tucson Water in the 2050 Tucson Water Plan. (1.2)	Carry-Over from 2011 CONTINUING. CITY LEAD.
COT/PC	WS 3: Water quality research and regulation updates provided to BOS, M&C, CWAC and RWRAC. (2.3)	Carry-Over from 2011 COMPLETED/CONTINUING. Pima County Water and Energy Sustainability Center labs are conducting water quality research. RWRD activities include ROMP, CRAO functions, Dispose-a-Med program, public outreach and Biosolids/Biogas Master Plan-updates are presented regularly. Arid West Water Quality Research Project (AWWQRP) managed by the County.
COT	WS 4: City purchase of full CAP allocation and increased recharge. (1.3)	COMPLETED. CITY LEAD
COT	WS 5: Update Tucson Water 2050 Plan to consider costs, benefits, tradeoffs of acquiring new water, costs of Project ADD in water plan update. (1.3)	Starts 2014 CONTINUING. CITY LEAD

Program 2: Effluent Management

Lead Jurisdiction	Action Plan Item	Status
COT	WS 6: Incorporate reclaimed environmental and aquifer recharge uses in Tucson Water's <i>Effluent Master Plan</i> . (2.1)	Carry-Over from 2011 CONTINUING. CITY LEAD
COT/PC	WS 7: Develop joint recharge project in Southeast area – proposed as SHARP. (2.1)	CONTINUING. Dual Lead. Design and permit phases scheduled this year, construction scheduled for FY16.
COT	WS 8: Expand Sweetwater Recharge Facility. (2.1)	Carry-Over from 2011 CONTINUING. CITY LEAD
COT/PC	WS 9: Cooperate with BOR to develop demonstration recharge projects in the Santa Cruz River. (2.1)	COMPLETED. Demonstration project completed in 2011
PC	WS 10: Implement ROMP. (2.2)	Carry-Over from 2011 COMPLETED/CONTINUING. County Lead. Ahead of scheduled deadlines and under budget. Operating in Nov 2013 and Feb 2014 at Tres Rios and Agua Nueva. Regional Wastewater Reclamation Department celebrated ribbon cutting April 2014
COT	WS 11: Maximize use of City effluent; convey effluent entitlements for region-wide benefit through Tucson Water <i>Effluent Master Plan</i> . (2.4)	Carry-Over from 2011 CONTINUING. CITY LEAD
PC	WS 12: Assess impact of gray water on sewer system. (2.5)	NO REPORT. RWRD reserves right to modify Designs Standards in developments that use gray water on a case by case basis (<i>Engineering Design Standards 2012, 2.10</i>).
COT	WS 13: Identify/assess range of incentives to encourage new reclaimed customers in preparation of <i>Effluent Master Plan</i> . (3.2)	Carry-Over from 2011 CONTINUING. CITY LEAD
PC	WS 14: Pursue bond funding for reclaimed expansion benefitting public use projects. (4.1)	Starts 2014 CONTINUING. NRPR Lead. County bond sale to be considered in 2015. NRPR has submitted a bond project scope for funding for extending reclaimed water lines to county parks. It will be updating the priorities in the near future to include a

WATER SUPPLY

2011-2015 Action Plan for Water Sustainability

2013 Year-End Report

Lead Jurisdiction	Action Plan Item	Status
		reclaimed water line to Agua Caliente.
COT	WS 15: Assess price incentives to encourage reclaimed expansion. (4.2)	Carry-Over from 2011 CONTINUING. CITY LEAD
COT	WS 16: Increase reclaimed efficiencies through <i>Effluent Master Plan</i> . (4.3)	Carry-Over from 2011 CONTINUING. CITY LEAD
COT	WS 17: Consider reclaimed in new development through Comp and General Plan update. (4.4)	Carry-Over from 2011 CONTINUING. CITY LEAD
PC	WS 18: Evaluate extending reclaimed to County parks. (4.5)	Carry-Over from 2011 CONTINUING. County Lead. NRPR recommended reclaimed extension to County parks- dependent on bond committee package and voter approval. NRPR has submitted a bond project scope for funding for extending reclaimed water lines to county parks. It will be updating the priorities in the near future to include a reclaimed water line to Agua Caliente.
COT	WS 19: Evaluate extending reclaimed to City parks. (4.6)	Carry-Over from 2011 CONTINUING. CITY LEAD
PC	WS 20: Prepare effluent plan for use of County share. (4.6)	Carry-Over from 2011 CONTINUING. County Lead. Water Rights Team has been reviewing draft <i>Strategic Plan for Use of Reclaimed (SPUR)</i> . The Plan is integral to the Water Resources Asset Management Plan
COT	WS 21: Identify additional reclaimed water customers. (4.7)	Carry-Over from 2011 CONTINUING. CITY LEAD

Program 3: Regulatory / Policy Advocacy for Effluent Reclaimed Water, Stormwater and Gray Water

Water Supply

Lead Jurisdiction	Action Plan Item	Status
COT/PC	WS 22: Advocate for regulatory changes to expand use of gray water through Blue Ribbon Panel (BRP) participation. (2.5)	CONTINUING. Dual Lead. State committee formed, SAWUA and County representation, no further report – dependent on legislative action.
COT/PC	WS 23: Lobby for ADEQ to recognize rainwater harvesting and green infrastructure as stormwater management Best Management Practices. (2.6)	CONTINUING. Dual Lead. No ADWR action, EPA has issued memo and fact sheet recognizing green design in compliance activity and BMP, no further report – dependent on legislative action.
COT/PC	WS 24: Change ADWR policy to provide Groundwater Savings Facility credits for turf irrigation through participation in BRP. (3.1)	CONTINUING. Dual Lead. No further report – dependent on legislative action.
COT/PC	WS 25: Numeric rather than technical based standards for reclaimed – BRP. (3.2)	CONTINUING. Dual Lead. No further report – dependent on legislative action.
COT/PC	WS 26: Flexibility in water quality and permitting for riparian and environmental projects using reclaimed – BRP. (3.3)	CONTINUING. Dual Lead. No further report – dependent on legislative action.
COT/PC	WS 27: Regulation changes to allow remediated groundwater in reclaimed system – BRP. (4.5)	CONTINUING. Dual Lead. No further report – dependent on legislative action.

Program 4: Drought Preparedness

Lead Jurisdiction	Action Plan Item	Status
COT	WS 28: Update Tucson Water 2050 Plan to include multi-pronged drought preparedness. (5.1)	COMPLETED. CITY LEAD
COT	WS 29: Update City Drought Preparedness and Response Plan. (5.2)	COMPLETED. CITY LEAD
PC	WS 30: Update County Drought Management Plan. (5.2)	Carry-Over from 2012 County Lead. Vulnerability

Lead Jurisdiction	Action Plan Item	Status
		Assessment and Response Plan presented to Pima County Local Drought Impact Group. Final report to be forwarded to County Administrator and Board of Supervisors for approval

Demand Management 2013 Report

Within the Demand Management (DM) subset of the Action Plan, three action plan items have been completed and four were initiated for the first time last year. No information has been included for DM #8 over the past three years.

City/County Action Plan Program Areas
Planning and Evaluation
Consistent Standards and Guidelines
Education and Outreach

The past year has seen Tucson win the top spot in the 2013 National Mayor's Challenge for Water Conservation. Tucson Water's new Water Smart Program serves as the foundation for all of Tucson Water's other conservation programs – gray water, high efficiency toilets and rainwater harvesting. Mayor and Council recently approved changes to the gray water ordinance in an effort to simplify and encourage more participation in the program, doing away with requirements for pumps and related labor intensive design.

County Programs
<ul style="list-style-type: none"> • Pima Prospers – Comprehensive Plan Update • County Landscape Design Manual • Neighborhood Water Harvesting Manual • RFCDD Detention-Retention Manual

Tucson Water measured 90 gallons per capita day (GPCD) as average consumption in 2012 for the residential sector, which is below national averages. Demand management messaging and practice historically has been readily accepted in the region. Not a water provider, the County has few lead roles in this subset.

Departments and Organizations
Pima County Regional Flood Control District, Development Services, Regional Wastewater Reclamation Department
City of Tucson Planning and Development Services, Office of Conservation and Sustainable Development, Tucson Water

Goals	Recommendations	Action Plan Items
<p>1.0 Increase the effectiveness of conservation programming through coordinated planning and evaluation</p> <p>Improve monitoring of water use trends to increase our ability to target inefficient and high water use areas, and to encourage innovation in water conservation research, methods, and reporting.</p>	<p>1.1 Collect uniform data on water use patterns to identify conservation potential</p> <p>1.2 Use triple bottom line and cost/benefit analysis to improve conservation program</p> <p>1.3 Employ adaptive planning approach to drought preparedness</p>	<p>DM 1</p>
<p>2.0 Establish common water conservation goals and targeted methods</p> <p>Develop shared goals to provide a foundation for increasing regional consistency and coordination.</p>	<p>2.1 Establish regional, measurable water efficiency and conservation goals</p> <p>2.2 Develop regional water conservation approaches</p>	<p>DM 3, 9</p>
<p>3.0 Manage demand through the design of the built environment</p> <p>Incorporate consistent low water usage development standards into new construction and establish land forms that reduce the “water footprint” of the built environment.</p>	<p>3.1 Review development regulations for consistency and improved potable water conservation</p>	<p>DM 4, 5, 6, 8</p>
<p>4.0 Manage demand through changing behaviors</p> <p>Enhance coordinated education programs to enable implementation of efficient practices. Assess public preferences for conservation to better understand and communicate the benefits of conserving water.</p>	<p>4.1 Gather public input regarding quality of life trade-offs associated with water efficiency</p> <p>4.2 Advance a regional approach to conservation education, communication, pilot projects and training</p>	<p>DM 9</p>
<p>5.0 Increase the use of rainwater and stormwater</p> <p>Coordinate efforts to maximize and evaluate the benefits of rainwater harvesting to meet outdoor needs, reduce demands on potable supplies, increase floodwater retention and limit migration of contaminants.</p>	<p>5.1 Develop design guidelines for neighborhood stormwater harvesting</p> <p>5.2 Analyze expanded water and stormwater harvesting potential and benefits</p>	<p>DM 2, 7</p>

Program 1: Planning and Evaluation

Lead Jurisdiction	Action Plan Item	Status
COT/PC	DM 1: Collect data – assess/reduce the water/energy footprint of new development. Identify regional uniform data collection opportunities. (1.1)	CONTINUING/COMPLETED. Tucson Water and the Regional Flood Control District prepared Method for Uniform Data Collection Report, multiple analyses completed ¹
COT	DM2: Analyze effectiveness of City water harvesting ordinance – potential for expanded water and stormwater harvesting. (5.2)	Carry-Over from 2012. CITY LEAD
COT	DM 3: Benchmark study of water efficiency goals, success indicators and best management practices to inform regional dialogue. (2.1)	Carry-Over from 2012. CITY LEAD
PC	DM 4: Evaluate outdoor water use requirements, water budgeting methods, drought tolerant plant lists and appropriate watering practices for urban desert landscapes. Use results to inform development of more efficient and consistent outdoor water use standards and practices. (3.1)	Carry-Over from 2012. County lead. Development Services' Landscape Design Manual and updated plant list due FY14. Pima Prospers, due in FY15, to address code changes

Program 2: Consistent Standards and Guidelines

Lead Jurisdiction	Action Plan Item	Status
PC	DM 5: Develop model City/County building code to reduce water/energy footprint in new and renovated buildings. (3.1)	COMPLETED. County lead. DSD Net-Zero Energy Building Code adopted
COT	DM 6: Expand City's ordinance related gray water education program to include guidelines and education on use of gray water outdoors. (3.1)	COMPLETED. CITY LEAD

¹ 'Water Use by Single-Family Residences in the Tucson Water Service Area in 2009 & 2010.' (April 2012)

Lead Jurisdiction	Action Plan Item	Status
PC	DM 7: Develop design guidelines for neighborhood stormwater harvesting to encourage the creation of habitat and water efficient landscapes. (5.1)	Carry-Over from 2012 CONTINUING. County lead. RFCD Neighborhood Water Harvesting Manual draft completed in June 2013, received \$65,000 EPA technical assistance grant to complete by December 2014. RFCD draft Detention-Retention Manual complete, expect to send to BOS for approval early 2014. RFCD has formed a Low Impact Development Working Group . One of their goals is to coordinate development of the Neighborhood Water Harvesting Manual and Detention-Retention Manual. RFCD completed a Case Studies of Low Impact Development Green Infrastructure in January 2014
COT	DM 8: Develop commercial green building rating system to increase consistency and effectiveness of water and energy standards in commercial. (3.1)	Starts 2014 CITY LEAD

Program 3: Education and Outreach

Lead Jurisdiction	Action Plan Item	Status
COT	DM 9: Work with regional utilities to develop coordinated and consistent demand management strategies, practices, surveys and messages. (2.1, 4.1, 4.2)	Carry-Over from 2012. CITY LEAD

