EFFLUENT GENERATION AND UTILIZATION

Arizona Water Reuse 2019 Symposium

July 29, 2019

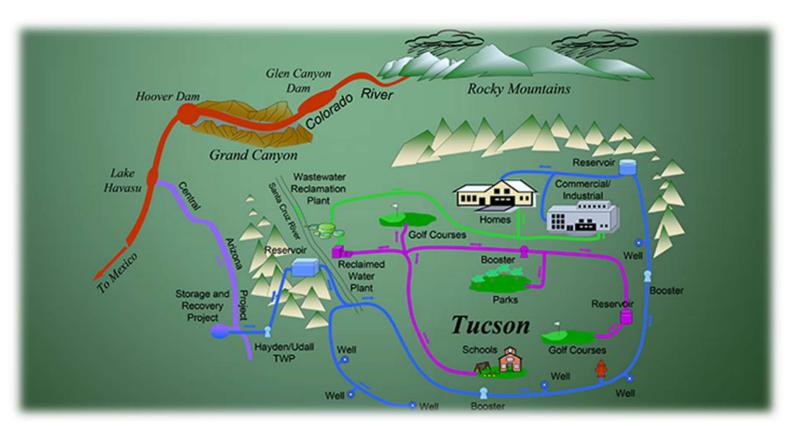
Jackson Jenkins

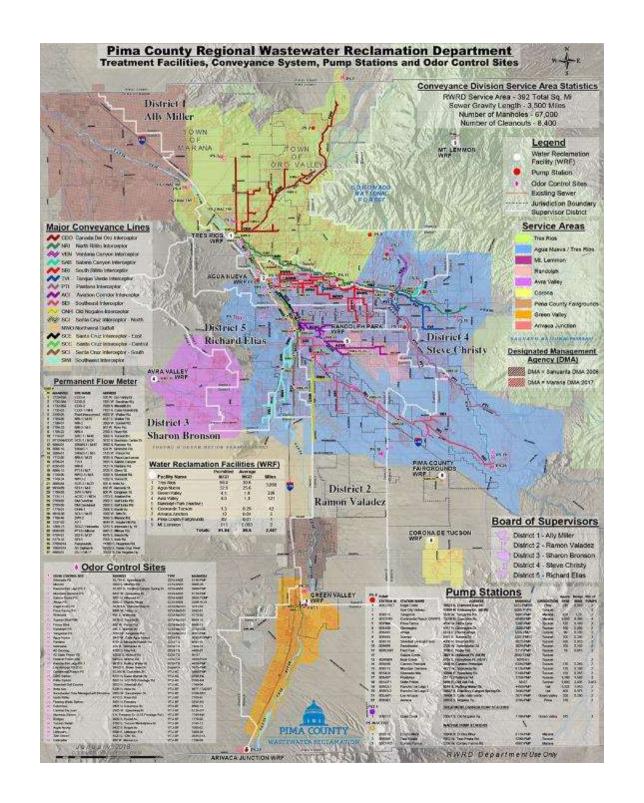
Director



Vision Statement

Be an industry leader in the management and sustainability of the water reclamation cycle and other renewable resources





Scope of Work

- Develop the optimal treatment process and plan to comply with regulatory requirements to reduce total nitrogen concentrations in discharged effluent
- Master plan foreseeable future regulatory requirements
- Determine the long-term capacity needs of the County



Scope of Services

- Develop regional plan for the treatment, handling and reuse of system biosolids and bio-gas
- Develop a detailed implementation schedule to meet regulatory implementation deadlines
- Develop a financial plan to support the system's regulatory and other needs for the next fifteen years



Application of biosolids to farm land



State-of-the-Art Technology at Randolph Park WRF

At a Glance

- Expand Ina Road WRF to 50 mgd
- Construct new 32 mgd Water Reclamation Campus (in vicinity of existing Roger Road WRF)
- Plant Interconnect 28 mgd average, 72 mgd peak flow
- Good neighbor facilities
- Decommission existing 41 mgd Roger Road WRF
- Meet growth need to 2030



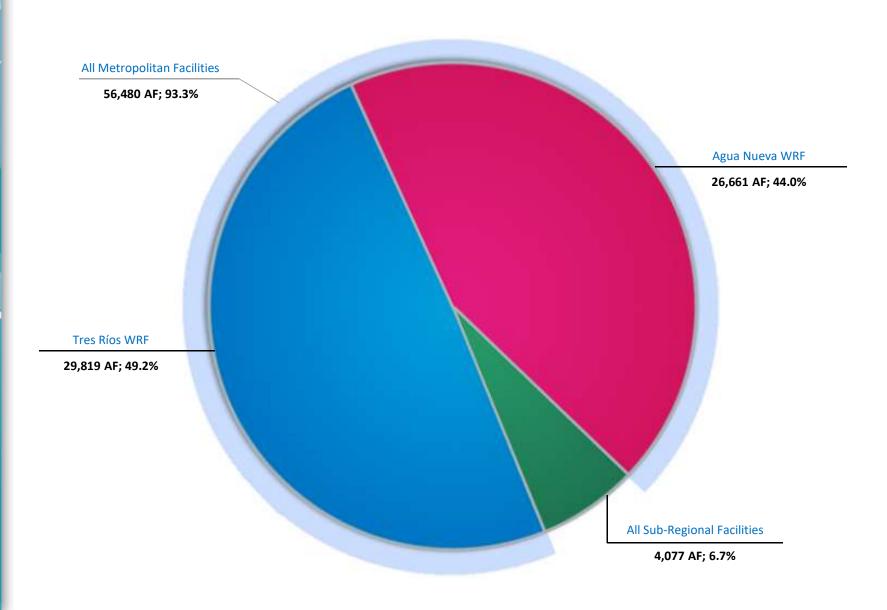
Proposed Water Reclamation Campus (left) and Ina Road WRF Expansion and Upgrade

Budget

PLANT INTERCONNECT	Ş	41,190,000
PLANT INTERCONNECT	\$ 41,190,000	
INA ROAD WRF CAPACITY & EFFLUENT UPGRADE	\$	323,100,000
HPO REPLACEMENT SYSTEM	\$ 129,550,000	
12.5 MGD EXPANSION	\$ 67,790,000	
BNRAS SYSTEM MODIFICATION	\$ 15,300,000	
BIOSOLIDS FACILITIES	\$ 64,270,000	
POWER GEN & DIST FACILITIES	\$ 24,380,000	
CLASS A BIOSOLIDS	\$ 21,810,000	
ROMP WATER RECLAMATION CAMPUS	\$	342,260,000
32 MGD WRF	\$ 275,100,000	
COMPLIANCE LAB COMPLEX BUILDING	\$ 17,660,000	
COMPLIANCE LAB COMPLEX SITE/CIVIL	\$ 11,210,000	
ROGER ROAD WRF DEMOLITION	\$ 38,290,000	
SCADA		\$ 13,460,000
PLANT INTERCONNECT	\$ 13,460,000	
ROMP CAPITAL IMPROVEMENT PROGRAM		\$720,010,000

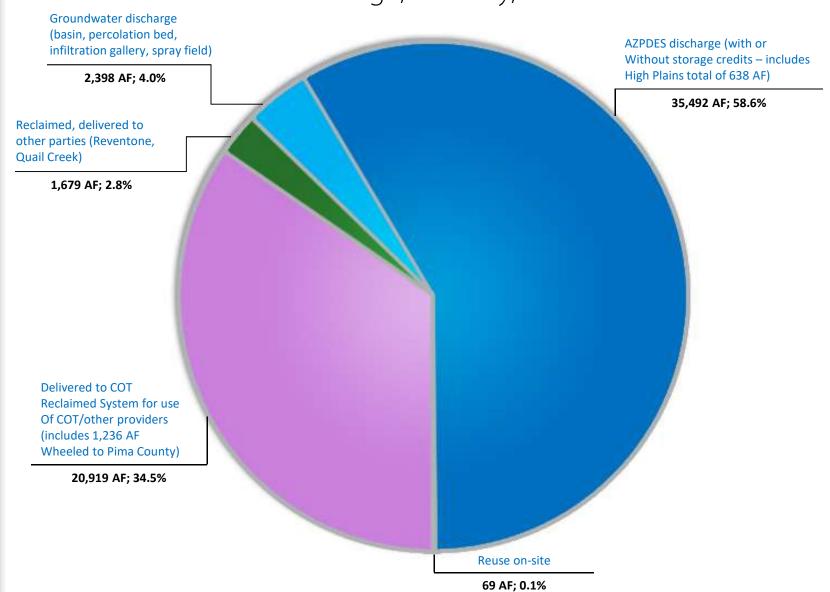
2018 Effluent Production

Total Volume Shown is 60,557 Acre-Feet (AF)



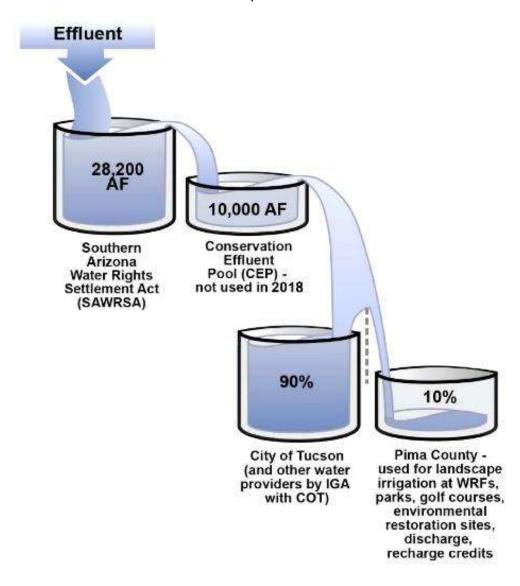
2018 Effluent by Type

Discharge, Delivery, or Use



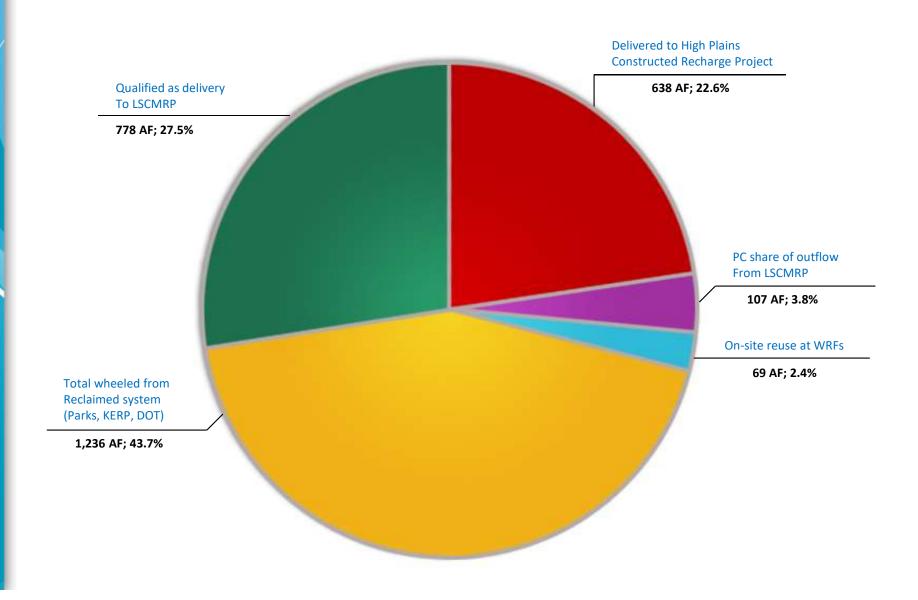
2018 Effluent by Entitlement

from Metropolitan Facilities



2018 Effluent Distribution

Pima County's Share of Metropolitan Effluent



Reclaimed Water for Reuse, Environmental Restoration, and Underground Storage (Groundwater Recharge)

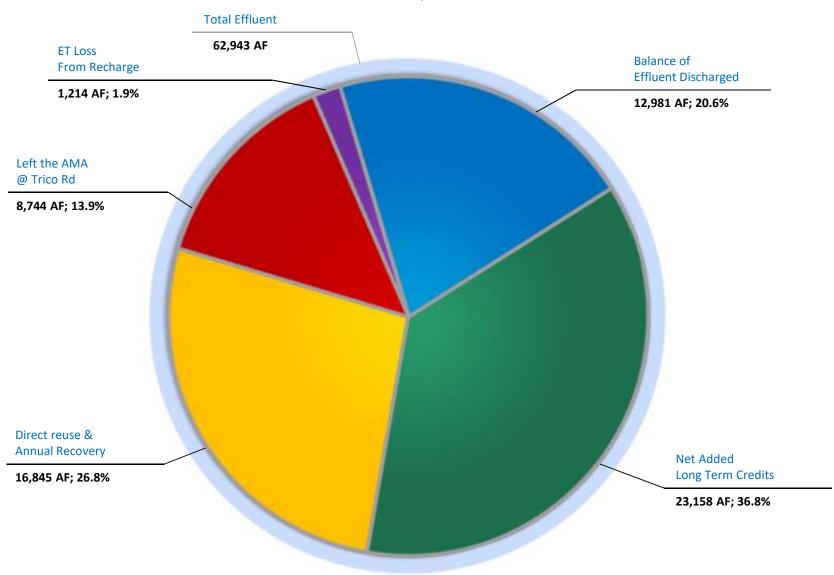
Pima County Recharge Facilities: Yearly Storage Credits						
Year	Lower Santa Cruz Managed Recharge Project (LSCMRP)	Marana High Plains Effluent Recharge Project (MHPERP)	Corona de Tucson Underground Storage Facility	Avra Valley Underground Storage Facility	Total County Storage Credits	
	(AF)	(AF)	(AF)	(AF)	(AF)	
2003	58.10				58.10	
2004	449.30				449.30	
2005	535.10				535.10	
2006	532.30				532.30	
2007	604.30	184.08			788.38	
2008	677.60	348.29			1,025.89	
2009	367.66	414.01	195.74		977.41	
2010	396.20	411.53	277.64		1,085.37	
2011	321.83	397.23	271.00		990.00	
2012	320.52	542.10	269.09		1,131.71	
2013	181.14	500.30	281.25		962.69	
2014	449.90	600.00	290.08		1,339.98	
2015	542.61	600.00	284.26	484.02	1,910.89	
2016	424.47	600.00	329.85	1,435.08	2,789.40	
2017	323.54	600.00	368.15	1,476.62	2,768.31	
2018	122.11	600.00	367.95	1,473.21	2,563.27	
Total	6,306.68	5,797.54	2,935.01	4,868.93	19,908.16	

Reclaimed Water for Reuse, Environmental Restoration, and Underground Storage (Groundwater Recharge)

Year	County Share of Metro Effluent	County Storage Credits	Cumulative Credits	
	(AF)	(AF)	(AF)	
2003	3,999.80	58.10	58.	
2004	4,005.30	449.30	507.	
2005	4,080.70	535.10	1,042.	
2006	4,086.70	532.30	1,574.	
2007	4,009.90	788.38	2,363.	
2008	4,034.00	1,025.89	3,389.	
2009	3,821.10	977.41	4,366.	
2010	3,633.91	1,085.37	5,451.	
2011	3,571.66	990.06	6,441.	
2012	3,319.26	1,131.71	7,573.	
2013	3,237.25	962.69	8,536.	
2014	3,391.99	1,339.98	9,876.	
2015	3,315.63	1,910.89	11,787.	
2016	3,245.58	2,789.40	14,576.	
2017	3,142.48	2,768.31	17,344	
2018	2,828.07	2,563.27	19,908.	

2018 Tucson AMA Effluent

Use and Dispensation



Thank You!

Please feel free to contact me with further questions or comments:

Jackson Jenkins

Director



WASTEWATER RECLAMATION

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