



The TAMA: A unique approach to water resource management

2024 SAWUA Water Forum

The New Colorado River: Thriving with Less

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Tucson Convention Center

Presented by:
Alan Forrest, PE, BC.WRE

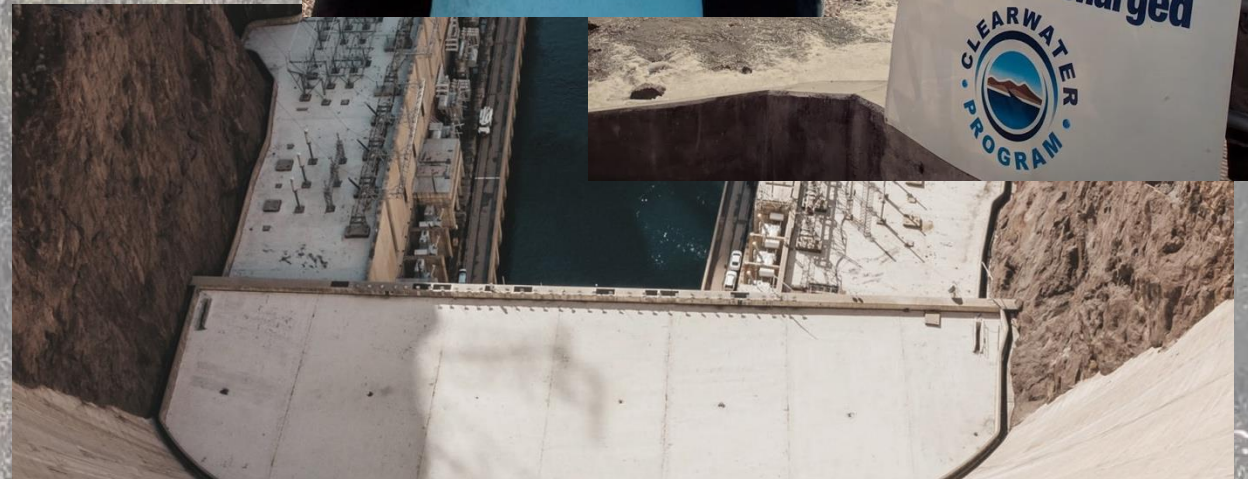
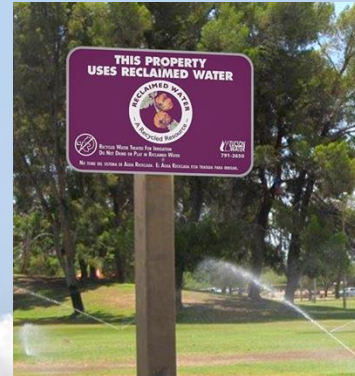
STRAIGHT OUTTA the TAMA



THE WORLD'S MOST DANGEROUS WATER MANAGERS

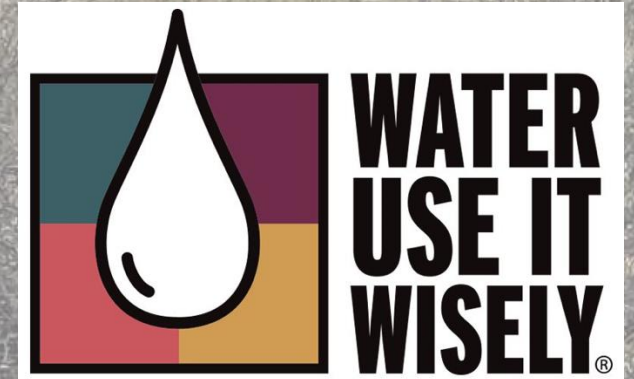
TAMA – how we're different...

- 100% groundwater until arrival of the CAP
- Diverse water supply portfolio
- Collaborative approach to water management
- Steady support of our political leaders
- What's our recipe?
 1. Conservation
 2. Reuse
 3. Colorado River Water
 4. Recharge & Recovery
 5. Collaboration



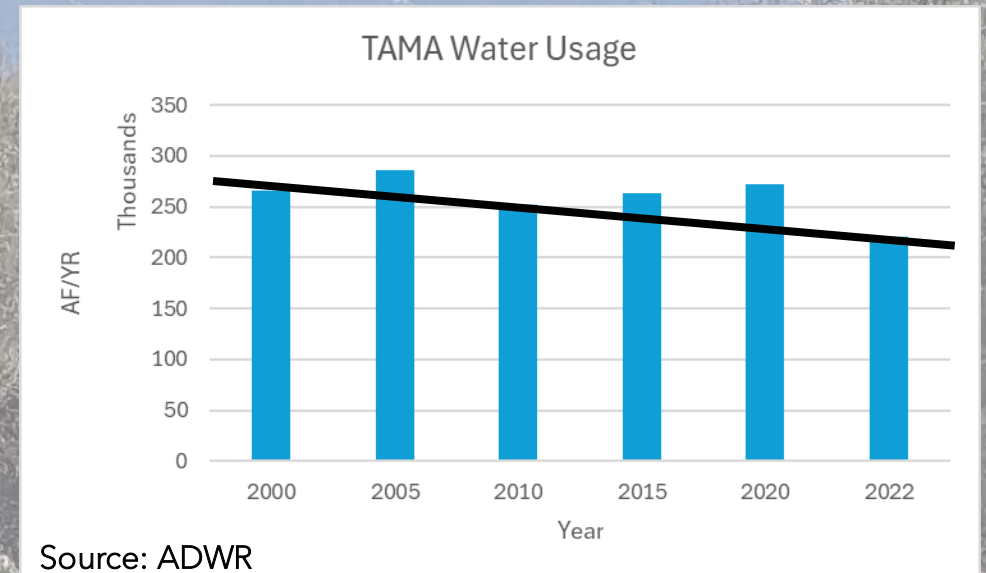
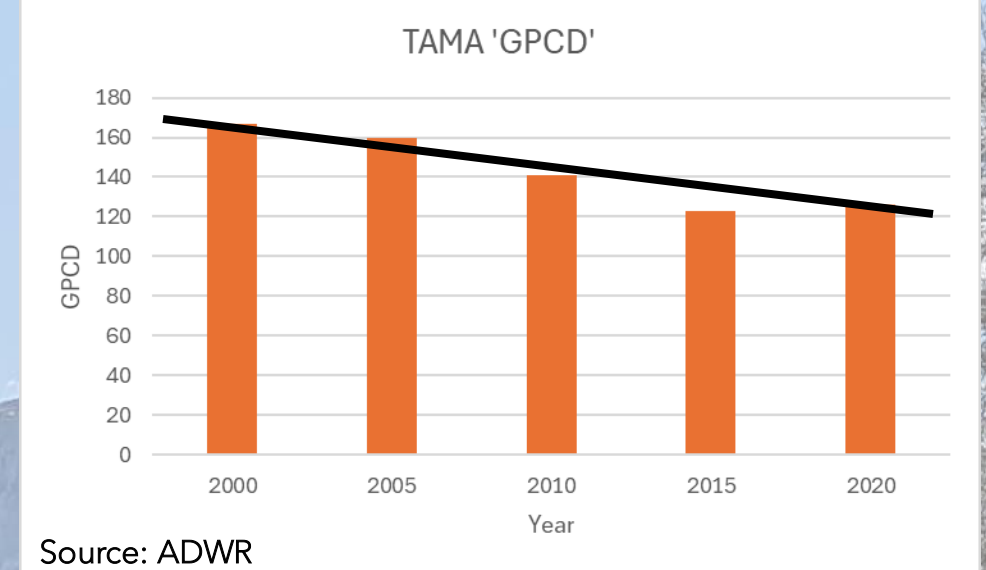
1. Conservation – it's a Tucson thing!

- **Beat the Peak:**
 - TW customer education campaign started in 1977
- **Zanjero Program:**
 - Established by Tucson Water in 1996
- **Water CASA:**
 - Established in 1997
 - Founding Members:
 - Flowing Wells Irrigation District
 - Community Water Company of Green Valley
 - Metro Water District
 - Town of Marana
 - Town of Oro Valley
- Large providers – instituted rebates, incentives, and ordinances to encourage customers to conserve

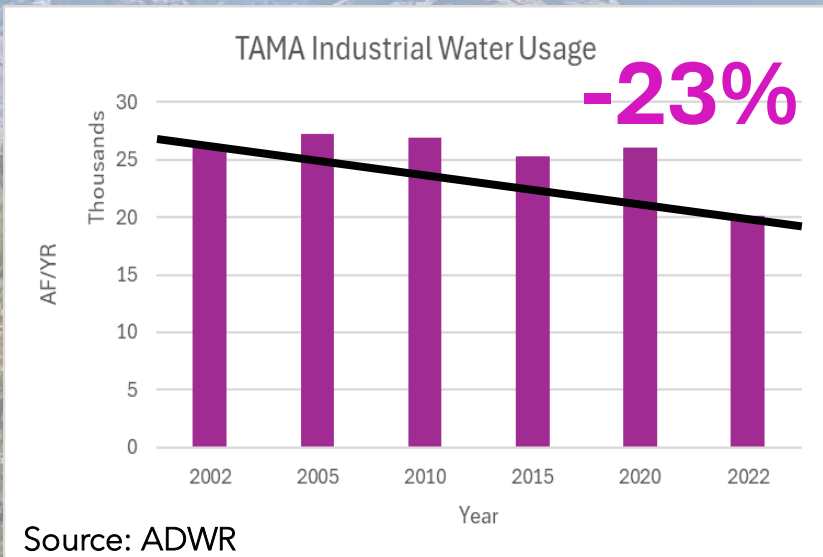
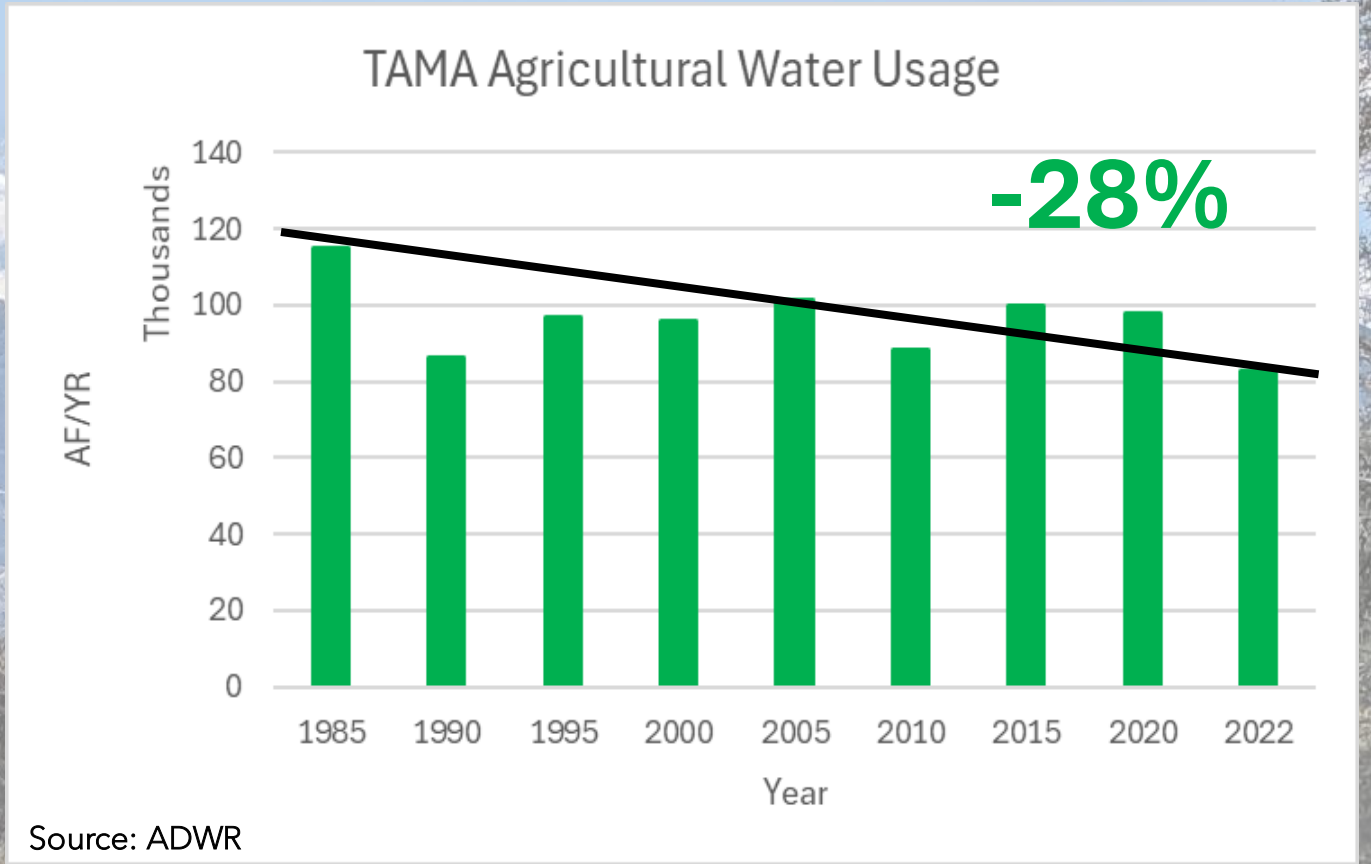
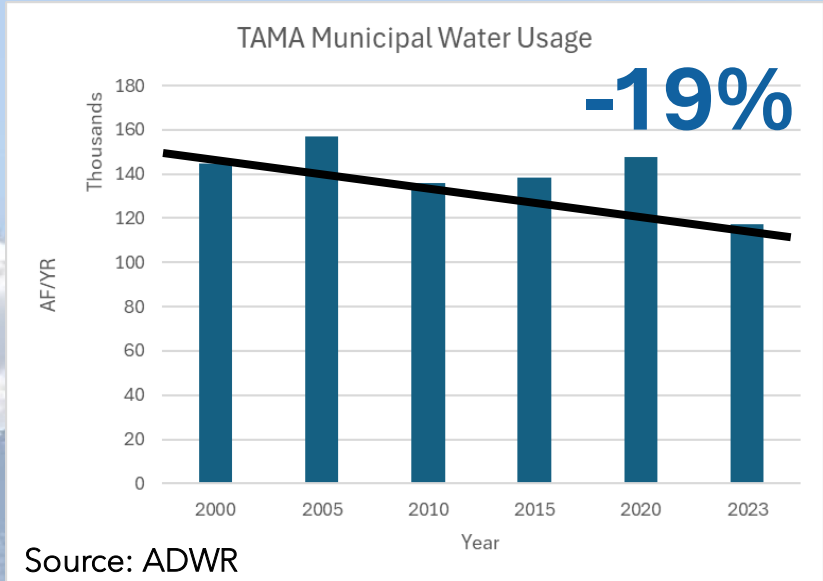


1. Conservation – by the numbers...

- **TAMA GPCD – Avg. of all large providers**
 - **25% reduction 2000-2020**
 - **167 GPCD in 2000**
 - **126 GPCD in 2020**
- **TAMA Water Usage - All Sectors**
 - **17% reduction 2000-2022**
 - **266,365 acre-feet in 2000**
 - **220,412 acre-feet in 2022**
- **Pima County Population**
 - **+ 250,000 (~25%) over same period**



1. Conservation – by the numbers...



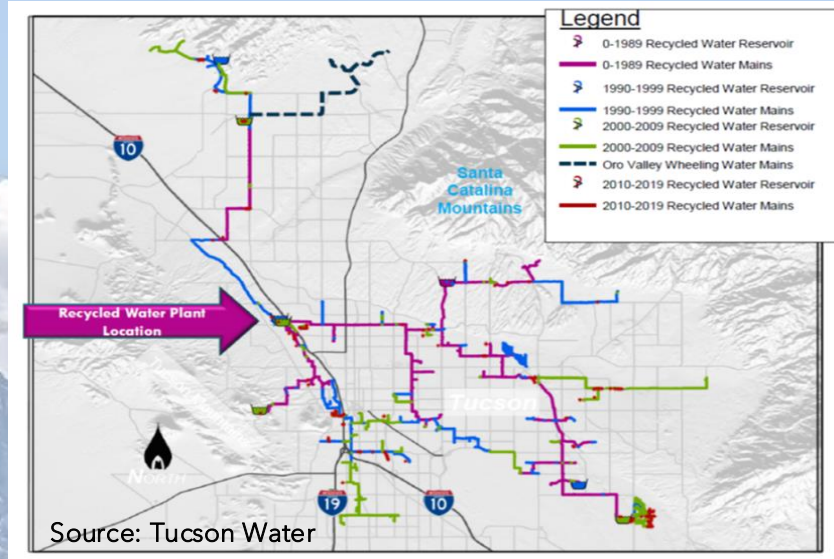
2. Reuse – through the years...

- **1984 – TW Reclaimed Water System:**
 - One of Country's first large-scale “purple pipe” systems
 - Tertiary treatment, 10 miles of pipeline, 2 booster stations, & 1 customer (La Paloma GC)
- **1984 to 2013 – TW Sweetwater R&R Facilities:**
 - Off-channel seasonal storage of treated effluent
 - 11 basins/10 recovery wells (13,000 ac-ft/yr)
- **1995 – TW Sweetwater Wetlands**
 - Treat backwash water from Treatment Plant
- **2018 – Marana RW Recharge Facility**
 - 2.0 MGD capacity
- **2020 – TW South Houghton Area Recharge Project**
 - Way off-channel storage of reclaimed water
 - Permitted capacity = 4,000 ac-ft/year



2. Reuse – Expansion...

TW Reclaimed Water System



Managed In-Channel Recharge Projects

- **1999 – SCR Managed Underground Storage Facility:**
 - Permitted volume = 9,307 ac-ft/year
- **2003 – Lower SCR Managed Recharge Project:**
 - Permitted volume = 36,000 ac-ft/year
- **SCRMUSF & LSCRMRP storage partners:**
 - Tucson Water - SAWRSA (USBOR)
 - Pima County - Marana
 - Oro Valley - Metro Water Dist.
 - Flowing Wells ID - Spanish Trail WC
- **2019 – Santa Cruz River Heritage Project:**
 - Recharge capacity ~ 3,000 ac- feet/year

OV Reclaimed Water System– 2005

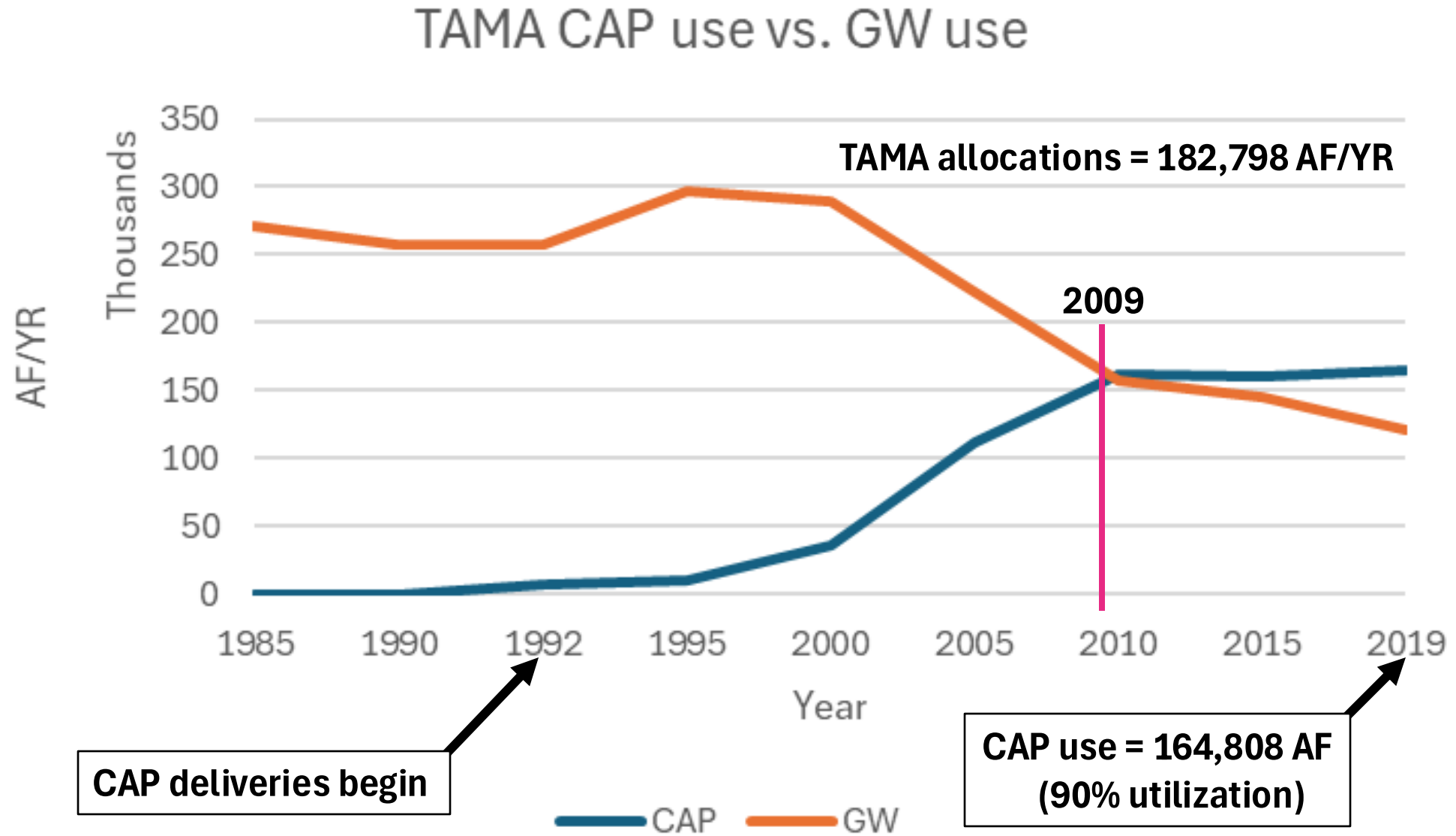


2. Reuse – Improvements...



- **Pima County Treatment Plant Upgrades**
 - Roger Road Treatment Plant decommissioned and new Agua Nueva WRF brought on-line – 2013
 - Completely new (greenfield) treatment plant
 - Improved water quality (produces A+ effluent)
 - New connection to Sweetwater Facilities
 - Ina Road WRF upgraded to Tres Rios WRF – 2015
 - Improved water quality (now produces A+ effluent)
 - Increased capacity & improved efficiency
 - Included provisions for future RW pump station
- **Pima County Recharge Projects**
 - 2003 – Marana High Plains Effluent Recharge
 - Permitted Capacity = 600 ac-ft/yr

3. Colorado River Water – a new paradigm for TAMA



4. Recharge & Recovery – how we do CAP!

Underground Storage Facilities



4. Recharge & Recovery – how we do CAP!

Groundwater Savings Facilities

BKW Farms



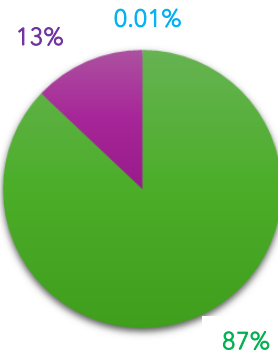
CMID



Kai Farms (Red Rock)

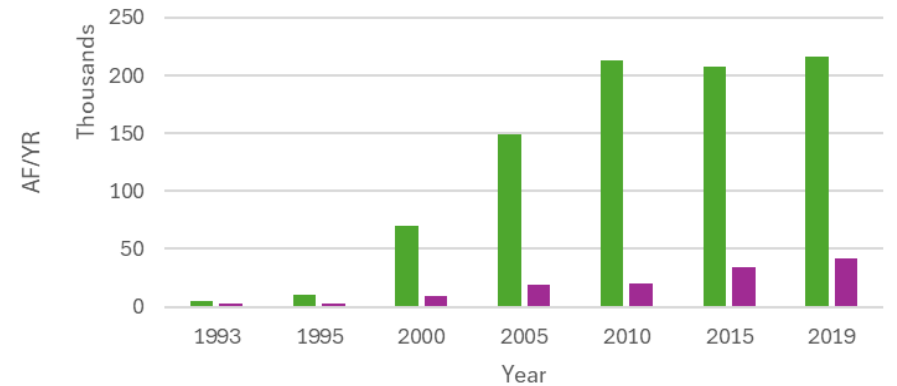


Percent LTSC by source



■ CR Water ■ Effluent ■ SW

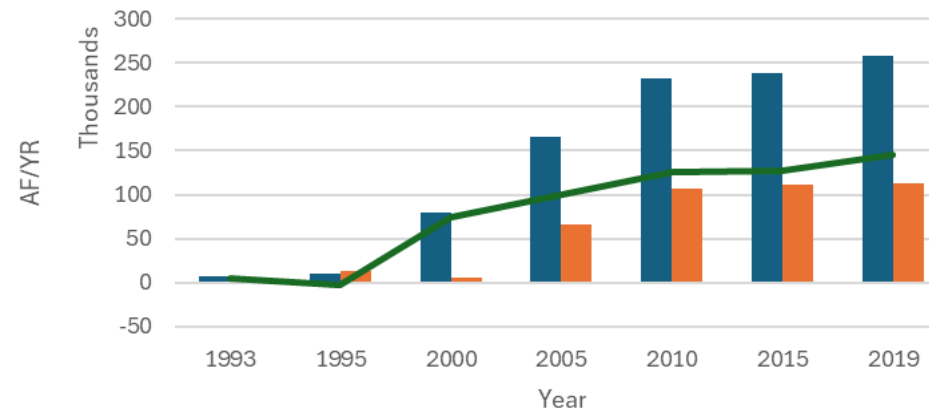
TAMA - Recharge by source



Source: ADWR

■ CAP ■ Effluent

TAMA Recharge & Recovery



Source: ADWR

■ Recharge ■ Recovery — LTSC

Net Total LTSC Balance thru 2019:

2.07 MAF

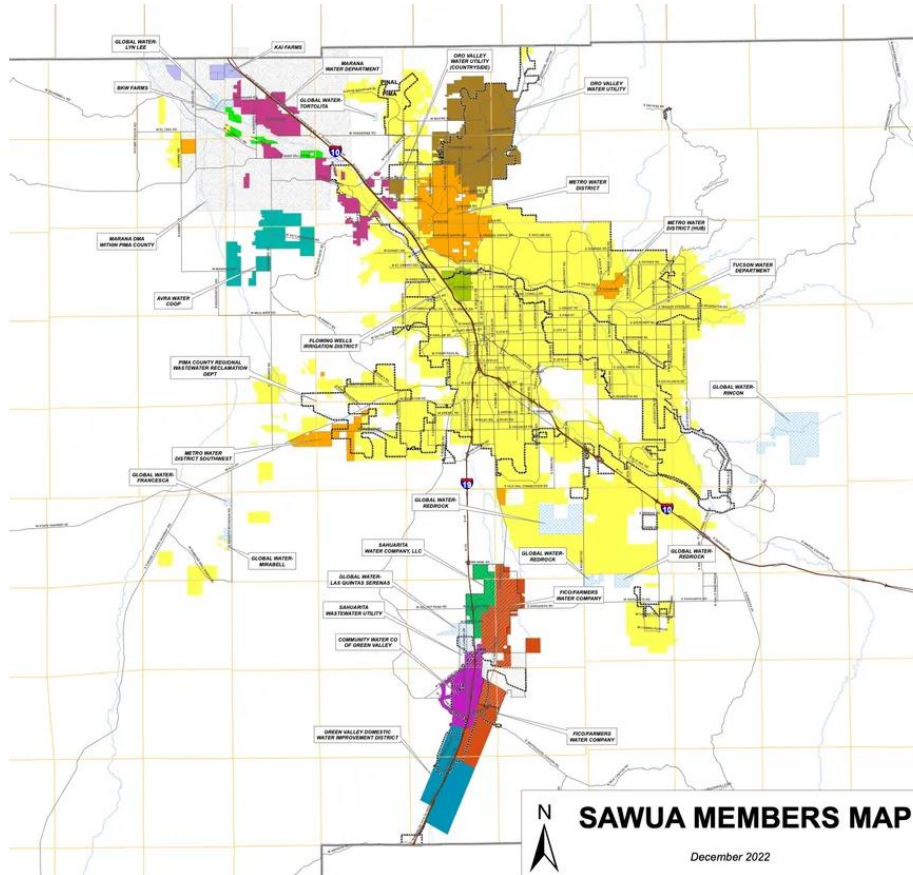
5. Collaboration – Regional

SAWUA – formed in 1999

- Broad & Diverse Membership
- “One voice for Southern Arizona”

MEMBERSHIP

- Avra Water Coop
- BKW Farms
- Community Water Co of Green Valley
- FICO/Farmers Water Company
- Flowing Wells Irrigation District
- Green Valley Domestic Water Improvement District
- Global Water in Pima County
- Kai Farms
- Marana Water Department
- Metro Water District
- Oro Valley Water Utility
- Pima County Regional Wastewater Reclamation Department
- Marana DMA within Pima County
- Sahuarita Water Company, LLC
- Sahuarita Wastewater Utility
- Tucson Water Department



CAP Wheeling Arrangements with TW

- Oro Valley Water Utility
 - First wheeling station built in 2012
 - Now have 4 wheeling stations
 - CAP 27% of OV's water supply
- Vail Water Company
 - Constructed interconnect in 2014
 - CAP now majority of VWC's supply
- Pascua Yaqui Tribe
 - Tribe stores CAP water in SAVSARP
 - First TW wheeling arrangement

5. Collaboration – Regional

NWWRDS Partners:

- Metro Water District
- Town of Oro Valley
- Town of Marana



NWRRDS – Partnered Project:

- Construct/equip 3 recovery wells
- Construct 7 miles of water main
- Construct 1 MG storage reservoir
- Est. Cost: ~ \$60M

5. Collaboration – Statewide

What is Inter-AMA Firming?

- It's all about creativity and collaboration
- Store PHX CAP water in TAMA recharge facilities
- During times of severe shortage on the CAP, wet water delivered directly to PHX and water stored in TAMA recovered for use in TAMA.

Inter-AMA Firming Partnerships:

- 2015 – First agreement with Phoenix
- 2024 – Subsequent agreements:
 - Scottsdale
 - Gilbert
 - Peoria

What else are TAMA providers doing?

- Directly supporting goals of the DCP
- Significant participation in Compensated System Conservation to preserve water in Lake Mead
- Participating in WIFA Conservation Funding programs
- And MORE TO COME...