| Tucson AMA, Upper Santa Cruz Subbasin, updated 11 Nov 2017 | | | Water Utility Provider/Generator/Other | | | | | | | | | | Effluent Generation Only | | Other Use | | | Total Supply | Hydro-regional Supply |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SUPPLY** | ***Unit*** | **Description** | **Tucson Water** | **Metro - Main** | **Metro - Hub** | **Town of Oro Valley** | **Flowing Wells Irrigation District** | **Sahuarita Water Co** | **Town of Marana** | **Vail Water Co.** | **Spanish Trail Water Co.** | **Willow Springs** | **Pima County** | **Marana WRF, Robson Ranch, Saddlebrooke, UA Tech Park, Marana, Milagro, Corona de Tucson, Green Valley, PC Fairgrounds** | **Secretary of the Interior** | **Other Water Users** | **Riparian Vegetation ET** | **Acre-feet** | **Acre-feet** |
| LOCAL RENEWABLE SUPPLY: Groundwater, effluent, and harvested water | *(AF)* | Annual natural ground-water recharge | *Estimate in acre-feet is for the entire sub-basin's mountain front, channel, and incidental 30year average recharge* | | | | | | | | | | | | | | | 51,300 | 72,300 |
| | *(AF)* | Treated wastewater available for reuse | 24,370 | 2,045 | N/A | 1,999 | 485 | 1,144 | 265 | *Unknown* | 45 | N/A | 3,246 | 5,123 | 28,200 | *Unknown* | (1,405) | 65,518 | 57,840 |
| | *(AF)* | Harvestable rainwater for use | *Adopting rainwater and stormwater harvesting practices will help offset municipal and groundwater use on-site and enhance aquifer recharge at the neighborhood to small tributary scale to help achieve regional self-sufficiency.* | | | | | | | | | | | | | | | Not utilized | 30,000 |
| IMPORTED, Unsustainable Supply: Colorado River water | *(AF)* | Water diverted from the Colorado River and transported to southern Arizona through Central Arizona Project | 144,191 | 13,460 | - | 10,305 | 2,854 | - | 2,336 | 1,857 | 3,037 | - | *Not Applicable* | | | | | 178,040 | A backup supply only |
| **Total** | ***(AF)*** | | **168,561** | **15,505** | **-** | **12,304** | **3,339** | **1,144** | **2,601** | **1,857** | **3,082** | **-** | **3,246** | **5,123** | **28,200** | **-** | **(1,405)** | **294,858** | **160,140** |
| **DEMAND** | ***Unit*** | **Description** | | | | | | | | | | | | | | | | **Current Use (AF)** | **Hydro-regional Use (AF)** |
| Municipal Potable Water | *(AF)* | Potable water distributed through local water utilities | 94,344 | 7,368 | 806 | 7,190 | 2,404 | 1,547 | 2,195 | 1,197 | 183 | N/A | | | | *10,081* | | 127,315 | 51,300 |
| Effluent | *(AF)* | Treated wastewater distributed for irrigation use | 11,492 | - | - | 2,114 | 3 | 912 | - | - | - | N/A | 1,143 | 437 | | *N/A* | | 16,101 | 16,101 |
| Harvested Water | *(AF)* | Harvestable rainwater for potable or irrigation use | *Current estimate of utilization of rainwater and stormwater is unknown. Adopting rainwater and stormwater harvesting practices will help offset municipal and groundwater use on-site to help achieve regional self-sufficiency.* | | | | | | | | | | | | | | | *Unknown* | *9,000* |
| **Total** | ***(AF)*** | | **105,836** | **7,368** | **806** | **9,304** | **2,407** | **2,459** | **2,195** | **1,197** | **183** | **N/A** | **1,143** | **437** | **-** | **10,081** | **-** | **143,416** | **76,401** |
| **BALANCE** | ***(AF)*** | **Remaining water either recharged in groundwater facilities or discharged in Santa Cruz River to support riparian habitat** | **62,725** | **8,137** | **(806)** | **3,000** | **932** | **(1,315)** | **406** | **660** | **2,899** | **N/A** | **2,102** | **4,687** | **28,200** | **(10,081)** | **-** | **151,442** | **83,739** |
| Population Served | | | 721,205 | 45,032 | 3,702 | 43,606 | 15,820 | 14,852 | 15,174 | 11,039 | 866 | N/A | | | | 100,000 | | 971,296 | 971,296 |
| Residential water use percentage | *%* | Portion of total water demand that is used for residential needs | 69% | 64% | 92% | 76% | 85% | 85% | 85% | 85% | 85% | | | | | 90% | | 81.5% | 81.5% |
| Total daily water use | *gpcd* | gallons per person per day consumed for all potable, treated wastewater, and 50% of harvestable rainfall demands (e.g. commercial, industrial, and residential) | 131 | 146 | 194 | 190 | 136 | 148 | 129 | 97 | 189 | | | | | 90 | | **132** | **70** |
| Residential daily water use | *gpcd* | gallons per person per day consumed of potable & 25% of harvestable rainfall resources for residential demands (i.e. residential properties only) | 80 | 93 | 178 | 111 | 115 | 79 | 110 | 82 | 160 | | | | | 81 | | **95** | **42** |

***Notes:***

| | |
|---|---|
| *Hydro-regional* | Hydro-regionalism refers to the principle and practice of meeting local water needs with renewable supplies from the local watershed. "Renewable supplies from the local watershed" does not include Colorado River water delivered hundreds of miles through Central Arizona Project to southern Arizona. |
| *Population* | 2013 numbers except for: Tucson Water (2017 based on 2016-17 C&E annual report); Metro Water (based on May 9, 2016 Board of Drectors Portfolio Report); Oro Valley (April 2017 annual report); Other Water Users population estimate is a best guess for current Tucson AMA population at a ra |
| *Potable Water Demand* | 2013 numbers except for Tucson Water (2017 based on Water Checkbook memo); Metro Water (based on May 9, 2016 Board of Drectors Portfolio Report); Oro Valley (April 2017 annual report) |
| *Effluent Utilization* | Pima County 2016 Effluent Generation Report, pg 31; Columns: Net Effluent for supply; and for demand [off channel recharge and direct use - recharge + ET Loss]; Oro Valley based on April 2017 report |
| *Groundwater* | Estimated Net Annual Recharge based on http://www.azwater.gov/azdwr/WaterManagement/AMAs/documents/ch2-tuc.pdf |
| *Effluent Generation* | Pima County 2016 Effluent Generation Report, pg 31; and Metro Water (based on May 9, 2016 Board of Drectors Portfolio Report); Current effluent source is predominately unsustainable CAP supply. In the hydro-regional scenario the effluent source would shift to local, renewable sourcing. Current estimate is 62% of total demand is indoor use which ends up as effluent. The hydroregional estimate of effluent assumes a greater portion, 80%, of total use is indoors as rainwater provides for larger portion of outdoor use. |
| *Harvestable Rainwater* | based on estimate by Dr. Tom Meixner via presentation, 23 May 2017 as "harvestable stormwater runoff"; not factored in for current use; under Hydroregional scenario assumed 50% contributes to addional recharge, and 30% utilization for total daily water use and half of 30% utilization for residential use |
| *Urban Enhanced Recharge* | For Tucson Water service area (of the metro area) assume 50% of harvestable water estimate |
| *Central Arizona Project water source* | Allocation amounts from 1 Oct 2017 CAP Subcontracting Status Report. Central Arizona Project (CAP) water is defined as unsustainable due to (A) the extractive cost on the Colorado River environment, (B) the high energy cost (~40% of Arizona's energy demand) to deliver water, and (C) the additional water cost to produce the energy required to transport CAP water. The future of sustained CAP supplies is uncertain as voluntary reductions are being taking to prevent a near-time shortage declaration at Lake Mead. By working towards self-sufficiency with local supplies we improve our community resilience and ensure water availability for future economic and environmental health. |
| *Current Total Per Capita Daily Use* | Total Per Capita Daily Use includes potable demand and effluent utilization |
| *Renewable Total Per Capita Daily Use* | Based on renewable net groundwater recharge of 51300 Acre-feet/year + Effluent Generation |
| *Current Est.Residential Per Capita Daily Use* | Residential Per Capita Daily Use only includes potable demand of residential properties and is estimated at 85% of total potable demand unless estimated by the water provider directly (Tucson and Metro Water) |
| *Renewable Residential Per Capita Daily Use* | Based on renewable net groundwater recharge of 51300 Acre-feet/year |