Arizona’s Only Water Source That is Increasing: Reclaimed Water and the Role it plays in Mitigation of Surface/Ground Water Depletion.

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Increasing Population Vs. Decreasing Water Supply
• The past 8 years have been the driest on record, yet AZ’s population still managed to grow by 28.6%.

Arizona Water Source by Supply (ADWR):
- Surface = 56.7%
- Ground = 39.2%
- Reclaimed = 4.1%

- 95.9% of AZ water comes from a finite source
- Only 4.1% comes from a renewable source

Reclaimed water is highly-treated municipal wastewater that can be used for many purposes as an alternative to using potable ground or surface water.

Research Question:
To determine the best allocation of reclaimed water potential end-uses, in a way that best minimizes ground water and surface water depletion.

How Reclaimed Water Minimizes Surface/Ground Water Depletion:

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<th>Use</th>
<th>Description</th>
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| Reuse (70%) | Power Production (PVNGS) Irrigation for: | - Golf Courses/Landscape  
- Food/Non-food crops |
| Recharge (20%) | Managed Aquifer Replenishment: | - Percolation Basin  
- Direct Injection |
| Discharge (10%) | Excess RW diverted to AZ waterways: | - Riparian environment  
- Indirectly recharges |

Disparity in Reclaimed Water Potential* vs. Production

Doesn’t Seem Necessary or Viable to Reallocate RW:
• Unlikely to convert “Reuse” of RW to “Recharge” because of high demand for power and irrigation in AZ.
• Current reclaimed water uses are stable.
• All reclaimed water uses function to replace a potable water demand.

Limitations to Increasing RW
Logistic Issues:
• RW Treatment Plant Thresholds  
• Topography/Location  
• Seasons affect re-use levels

Retrofitting Infrastructure = $$
Public’s Lack of Knowledge about RW.

Possible Methods to Increase Demand for Reclaimed Water:
1) Policy Changes  
2) Monetary Incentives  
   • Price  
   • Tax Breaks  
3) Increase public’s awareness.

A DEQ Internship Allowed Access to RW Data:
• Purpose was Identify Obstacles in the data reporting process  
  • End-user Reports  
  • Treatment Plant Reports

• ADEQ personnel guided me through the data process on both sides, provided insight on what needed to change
• Opportunity to simultaneously aid ADEQ and collect the necessary data for allocation analysis of RW.

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