

Flagstaff City Council (FCC) requested Flagstaff Water Services (FWS) and the Water Commission (WC) to review and provide recommendations concerning reclaimed water (RW) pricing and management. A working group consisting of representatives from FWS, the WC, plus selected Flagstaff City Departments and RW customers developed the following recommendations:

1. Goals for an updated RW pricing system:
 - a. Provide simple, transparent logic.
 - b. Provide ongoing funding to sustain RW operations at a level consistent with the needs and expectations of customers.
 - c. Provide a method to address past questions concerning RW pricing fairness.
 - d. Provide mechanisms to incentivize conservation and demand smoothing to minimize potential future competition over RW supplies if the City of Flagstaff (COF) implements IPR/DPR.
2. To fulfill these goals, the working group recommends implementing cost-based RW pricing to replace the present 35%-of-potable pricing approach:
 - a. Will create rate structure unique from potable water and wastewater pricing.
 - b. Should be implemented at the time of the next rate study, i.e., the working group does NOT recommend changing the 5-year RW price trajectory agreed during the most recent rate study.
 - c. The change in pricing methodology will be informed by a RW cost-of-service study presently planned by FWS for Q2 2026.
3. Key characteristics of the proposed cost-based plan and management approach:
 - a. FCC will have an opportunity to review cost allocations between RW and wastewater.
 - b. Will include RW customers as partners in determining what CIP to include in any given rate period, balancing costs against system performance and maintenance requirements.
 - c. May include tiers or seasonal pricing to incentivize conservation and demand smoothing, developed internally or with the help of rate consultants.
 - d. Requires changing the COF's 2014 Policy C1.1 for Reclaimed Water Enterprise Fund Cost Recovery, primarily by eliminating the contingency for funding RW from Potable Water.
4. Key additional recommendations:
 - a. Expand the scope of FWS water conservation activities to include RW uses. RW customers and FWS should be informed by and target achieving RW usage rates as good as or better than the standards defined by the Arizona Department of Water Resources (ADWR) and the $\$$ Management Plan Work Group (aka "5MP").
 - b. If the COF decides to implement an IPR/DPR program, the FCC should evaluate the advantages and disadvantages of converting to a value-based RW pricing system in place of a cost-based system.

Relevant facts on Reclaimed Water activities:

- The City FWS generates approximately 6,000-7,000 acre-feet, or over 2 billion gallons of A+ reclaimed water per year.
- Approximately 30-35% of Reclaimed water is sold to clients with the remaining 65-70% released to Rio De Flag. The released reclaimed water provides a (very) indirect recharge of the aquifer with only the portion released from the Rio de Flag Water Reclamation Facility recycled upgradient of the City's production wells.
- The top ten users consume (85%) of the reclaimed water sold. This includes NAU, golf courses, Snowbowl, and other commercial uses. Flagstaff Parks and Recreation and FUSD use 10% and standpipe and residential customers use 5%.
- The City has an agreement with the Arizona Game and Fish Department that requires the city to release a weekly average of 100 gallons per minute at both the Rio de Flag WRP and the Wildcat WRP, to feed ecological water to the I-40 wetlands and Picture Canyon, respectively.
- Due to limited storage capacity, there are peak utilization times in summer where 85-99% of the reclaimed output is being consumed in real-time by clients. This will need to be addressed in the future if FWS is going to employ IPR/DPR in the water system or if existing customers request a greater allocation of reclaimed water.
- While reclaimed water rates continue to be 35% of potable water rates, rates are increasing 8.5% each year for five years. This will increase revenues from \$1.4M (2024) to \$2.1M (2029). At the end of the five-year period, the rates (and revenue) will be 50% higher than 2024 rates.
- In general, the revenues generated by reclaimed water fees cover operational and general maintenance costs assigned to reclaimed water but do not fund CIP programs to increase storage capabilities, filtering/quality, conservation incentives, or expansion of the distribution system (purple pipe)

Relevant macro-trends that will affect reclaimed water:

- There will be new/expanded regulatory standards for potable, sewage output, and reclaimed water. These new regulations will address concerns for “forever chemicals.” The utility will have to comply with these regulations and new costs defined within the FWS operating expenses and CIP programs.
- The baseline scenario referenced by the FWS projects to need new water resources in 2048 (per 100 YR water plan), however, the timing is based on many factors spanning a range in timing of 2039 to 2052
- FWS is committed to creating the broadest portfolio of water rights/sources to ensure options for Flagstaff. Red Gap Ranch and the use of Direct Potable Reuse (DPR) or Indirect Potable Reuse (IPR) should be considered candidate sources. City-Council will be able to review the

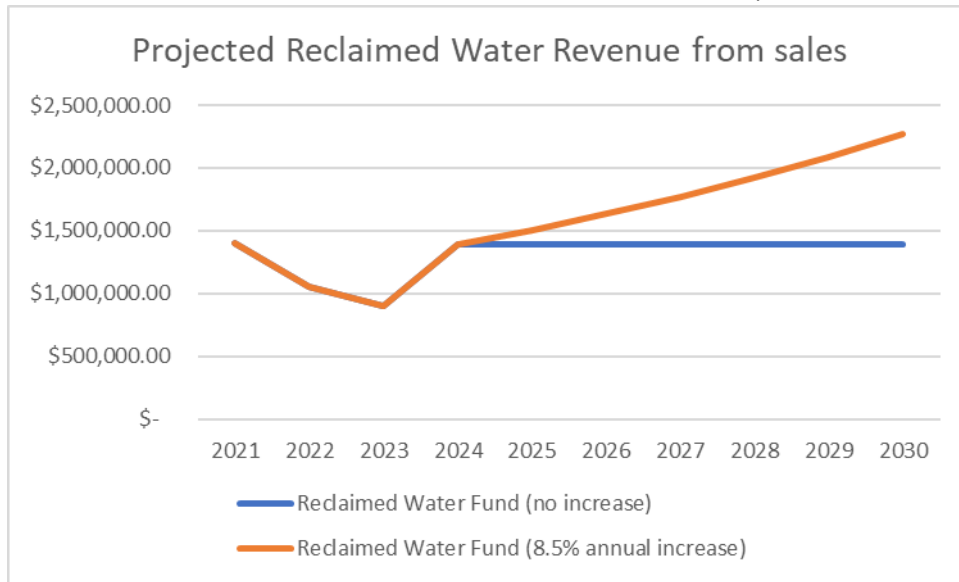
cost/quality/volume economics of all various sources as more production and delivery plans are finalized.

Items that should be considered as guiding principles for reclaimed water within Flagstaff

- Reclaimed water should continue to be the preferred solution for “outdoor,” non-recaptured and industrial uses of water. This includes large-scale irrigation, snowmaking, industrial and “grey water” activities within the city.
- A percentage of (or all) reclaimed water may eventually be considered as a source for IPR/DPR. The FWS needs to consider this in the design of future water treatment and distribution systems. Integrating this possibility into planning (now) will make this a higher probability with lower costs (in the future). If IPR/DPR are developing into viable solutions for Flagstaff, the application strategy (above) should be reconsidered.
- Near-term reclaimed water rates should not be used to “signal” future potential contention between customer uses and the potential to have reclaimed water as a source of IPR/DPR.
- Continued collaboration with clients (customers) to increase the efficiency in the use of reclaimed water and in smoothing the demand curve of reclaimed water.

Recommended actions during this current 5-year rate period:

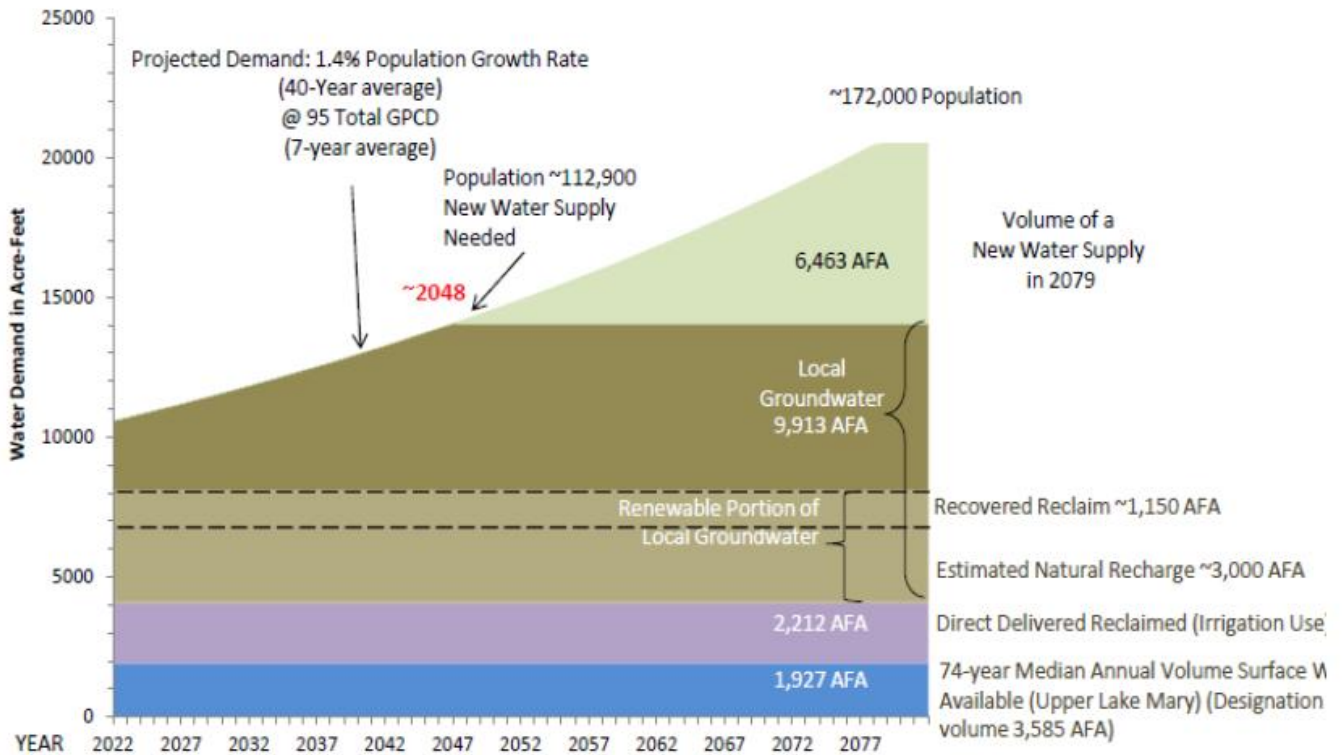
- Establish a standing Reclaimed Water stakeholder group comprised of key users, Water Department personnel and relevant City Council member.
- Confer with the User Group to identify potential conservation activities and/or development of on-site or system-wide storage facilities to increase the constant availability of reclaimed water.
- Determine if funding is available to facilitate conservation and increases in storage. Possibly sources of funds might be include reclaimed water rates, Flagstaff city general fund, or county, state or federal loans or grants.
- Perform a formal “cost of service” survey to align City Council and the water department on i) which cost components are included in the reclaimed water rates and ii) to ensure all relevant costs are being captured.
 - Define cost impacts of new/expected regulatory requirements.
- Define three levels of service for consideration and (ultimate) selection by the City Council.
- Launch the independent reclaimed water rate study no sooner than year 3 of the current rate cycle. (Year 3 begins January 1, 2027)



R&R_Adequacy charts_2023 03NOV2023_AZWBv0.xls
R&R_Adequacy charts_2024 03JULY2024_AZWBv0.xls

City of Flagstaff - Water Resource Resiliency & Redundancy Scenario Basecase

Supplies are in acre-feet annually [AFA]



10-year Reclaim Water Use in Acre-Feet/Year (1 AF = 325,851 gallons)

Note: the reduction in manufacturing water use in 2018 was largely the gap left by SCA Tissue when they left Flagstaff

Year	Golf Courses	Manufacturing	Municipal Parks and school	Commercial, NAU, and Snowbowl	Construction	Residential	Total
2014	1013	281	120	472	45	3	1934
2015	945	298	120	507	49	2	1921
2016	893	210	128	547	38	1	1817
2017	926	141	137	578	77	1	1860
2019	921	20	120	633	44	2	1740
2021	982	15	152	700	61	2	1912
2023	976	13	175	646	60	1.6	1872