

AMWUA Blog

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Understanding and Evaluating Safe-yield – Part One

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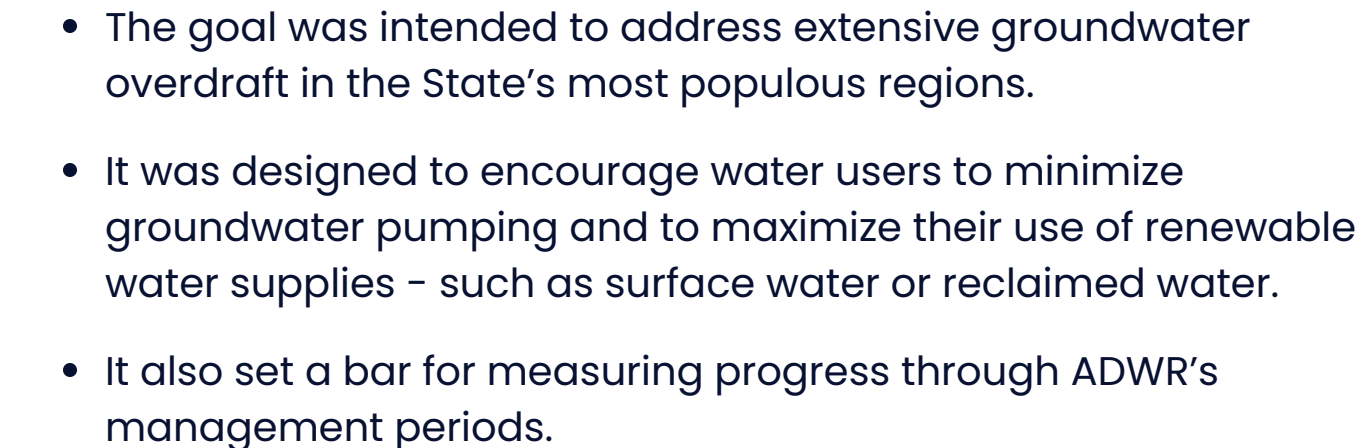
Through this two-part series on safe-yield, we will look back at the past, acknowledge how far we have come, and discuss the challenges we still collectively face as we move forward.

The effectiveness of safe-yield as a water management goal has been periodically questioned throughout the 40 years that have followed the Groundwater Management Act (GMA). As we look forward to the next 40 years, now is a good time to evaluate the progress we have made towards achieving safe-yield, a unique objective of the GMA.

The **GMA** gave Arizona the framework for how to decrease its dependence on groundwater, and it laid the foundation for how the State manages water in Central and Southern Arizona, where the vast majority of Arizonans live. This piece of legislation created the Arizona Department of Water Resources (ADWR), defined five **active management areas** (AMAs) with management plans, established the **100-year Assured Water Supply Program**, and created the goal of safe-yield for the **Phoenix**, Tucson, and Prescott AMAs.

But before we can look at the challenges that the goal has brought forth, it is essential to get a baseline understanding of what safe-yield means and what it encompasses.

Safe-yield is the management goal for the Phoenix AMA, which represents a large geographic area with diverse water users that include agricultural, municipal, industrial, and tribal.



Safe-yield means that the same amount of groundwater that is withdrawn within the AMA should equal the amount that is replenished or recharged.

- In other words, the aquifer should be balanced like a checkbook: we should not overdraft more groundwater than what is being deposited back.
- Under the GMA, safe-yield is measured not by individual entities within the AMA, but across the AMA in its entirety. In effect, the whole Phoenix AMA and its water users – municipal, agricultural, tribal, and industrial – contribute to achieving safe-yield.

Safe-yield as the overall management goal has been valuable to push water users to focus on improving groundwater sustainability, and we have made progress toward that end in the Phoenix AMA.

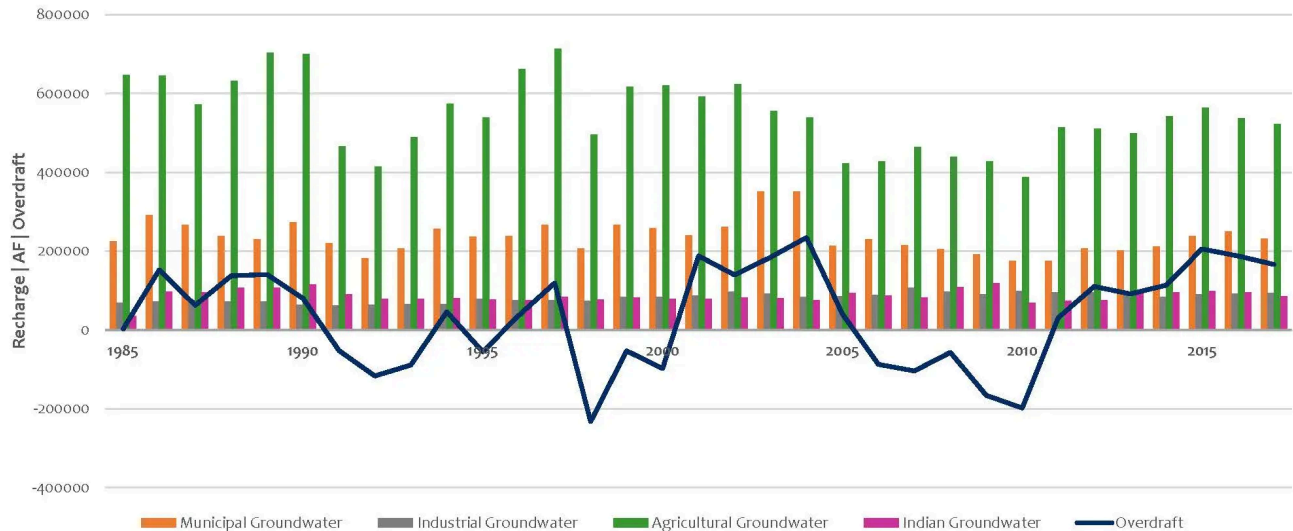
- Overall we have reduced our reliance on groundwater in the Phoenix AMA, and the municipal sector has decreased groundwater reliance by about 30 percent on average since the 1980s.
- Further, groundwater accounted for approximately 35 percent of municipal water supplies in the late 1980s, but today represents about 15 percent of supplies, despite a substantial increase in total demands due to rapid population growth.
- Although groundwater remains the largest supply used to meet agricultural demands in the Phoenix AMA, more recent reductions in the amount of irrigated land have helped drive an overall decrease in agricultural water demand.

Safe-yield is supposed to be achieved by 2025 in the Phoenix, Tucson, and Prescott AMAs, as well as the later established Santa Cruz AMA. Once reached, the AMAs are to maintain being at safe-yield.



Phoenix AMA

Annual Overdraft & Groundwater Demands



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- Safe-yield is a goal, not a requirement. Over the last 40 years, many water users have strived to do their part to reach safe-yield. And everyone must continue to do their part, which includes taking actions to better protect groundwater in our State, regardless of whether safe-yield is achieved or not.
- However, long-term safe-yield has not yet been reached in the Phoenix AMA.
- The main reason is that groundwater pumping still occurs and that water is not being replenished or off-set. This groundwater pumping is allowed due to grandfathered rights or exemptions granted in the GMA.
- In other words, the checkbook remains out of balance and overdrawn.

As 2025 nears, steps are being taken to properly evaluate and discuss the safe-yield goal as part of the development process for the Fifth Management Plans. ADWR has created the Safe-Yield Technical Subgroup and provided **information** on where we stand in each AMA so that stakeholders can then help to evaluate how the goal of safe-yield will guide the fifth management period.

The Post-2025 AMAs Committee of the Governor's Water Council is also looking at unreplenished groundwater pumping and other issues to improve water management within the AMAs beyond 2025, the year we are to have reached safe-yield. The overall goal is to make sure our communities thrive today and forever, and this only happens if we can effectively manage our water supplies. It will be essential to consider whether safe-yield is the most straightforward way to measure our progress or if another objective is a better gauge moving forward.

The second part of this blog series will discuss some of the challenges, obstacles, and how best to proceed as we look toward the next management period.

For over 50 years, the Arizona Municipal Water Users Association has worked to protect our member cities' ability to provide assured, safe, and sustainable water supplies to their communities. For more water information, visit **www.amwua.org**.

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