

EXEMPT WELLS

ISSUE STATEMENT

Exempt wells may disproportionately contribute to groundwater overdraft in the Prescott Active Management Area (AMA), placing aquifers in that AMA at greater risk for long-term viability.

BACKGROUND

Per A.R.S. § 45-454, wells pumping 35 gallons per minute or less to serve non-irrigation uses (“exempt wells”) are generally exempt from groundwater regulations, including metering, water use reporting and water conservation requirements. Concern about the administrative burden of regulating thousands of small wells and the belief that they would have a negligible impact on the aquifer led the state legislature to exempt this category of groundwater use from the 1980 Groundwater Management Act (GMA).¹ With respect to the requirements of the GMA, there are several provisions that do apply to exempt well owners:

1. Exempt wells may not pump more than 35 gallons per minute.
2. If used for commercial or industrial purposes, exempt wells drilled on or after April 28, 1983 cannot pump more than 10 acre-feet per year.
3. Exempt wells may not be used to grow crops on two or more acres of land.
4. New exempt wells cannot be drilled within 100 feet of a designated water provider’s operating distribution system unless one of the criteria for an exemption is met.
5. Within the AMAs, dry lot subdivisions intending to drill exempt wells must obtain a certificate of assured water supply (AWS). To do so, they must demonstrate, among other things, that the groundwater will be physically and continuously available for 100 years (the depth to groundwater cannot exceed 400 feet) and that the groundwater supply meets water quality requirements or that the groundwater will meet those requirements after treatment required by law.^{2,3} Dry lot subdivisions with more than 20 lots must demonstrate that the groundwater use will be consistent with the management goal of the AMA. In the Prescott AMA, this is typically demonstrated through the use of extinguishment credits. Also, the application for the AWS certificate must show that a well will be drilled on each individual lot, with no well sharing.

Before drilling an exempt well, the well owner is not required to demonstrate physical or legal availability of the groundwater supply, with the exception of the dry lot subdivision provision noted above. Property owners often drill exempt wells because they are the least expensive alternative for a water supply and they avoid the regulatory requirements of other water supply options. The downside is that these exempt wells do not provide any assurance of a long-term water supply.⁴ In the context of the Prescott AMA’s management goal, the proliferation

¹ Prescott Active Management Area Groundwater Users Advisory Council Safe-Yield Subcommittee. (2006). Final Report on Safe-Yield Impediments, Opportunities, and Strategic Directive.

² *Id.*

³ Arizona Administrative Code, Title 12, Chapter 15, Section 719.

⁴ Prescott Active Management Area Groundwater Users Advisory Council Safe-Yield Subcommittee. (2006). Final Report on Safe-Yield Impediments, Opportunities, and Strategic Directive.

of exempt wells may disproportionately contribute to groundwater overdraft since they are exempt from the GMA requirements that aim to drive the AMA toward the goal of safe-yield.

Additionally, under the Arizona Department of Water Resources' (ADWR) well spacing rules, exempt wells have an impact on the siting of non-exempt wells, even though the rules do not apply to exempt wells. Specifically, ADWR will not permit a new well (including a non-exempt well operated by a municipal provider) if withdrawals from the proposed well will exceed 10 feet of additional drawdown of water levels at neighboring wells after the first five years of operation.⁵ In the case of siting a recovery well, the well may not be located in an area experiencing an average annual rate of decline in water levels that is 4 feet or greater.⁶ While these rules do not apply to exempt wells, their concentrated existence in some areas may have a significant impact on local water providers who may need to extend their infrastructure further to avoid such conflicts. In other words, exempt wells are afforded protections from the spacing requirements placed on other wells, yet they remain unregulated.

EXEMPT WELLS IN THE PRESCOTT AMA

Within Arizona, the Prescott AMA contains the highest density of exempt wells.⁷ Approximately 12% of the State's exempt wells are located in a basin comprising less than 0.5% of the State's area.^{8,9} Narrowed even further, the Prescott AMA contains 30% of the exempt wells in all five AMAs but represents only 3% of AMA land area.¹⁰ According to ADWR, there are now over 12,900 exempt wells in the Prescott AMA, serving over 25,000 people.^{11,12}

ADWR creates estimates of exempt well withdrawals each year based on the number of people in an AMA that are not served by municipal water providers. The estimated annual withdrawals of exempt domestic wells in the Prescott AMA total just over 2,500 acre-feet. This pumping represents approximately 14% of municipal water demand and 11% of the total water demand in the AMA.¹³ However, the potential pumping capacity of Prescott AMA exempt wells totals over 150,000 acre-feet per year.¹⁴ That is, if all 12,900 exempt wells were to pump at full capacity over the course of a year, they would extract 150,000 acre-feet of groundwater. Exempt well owners are not required to report to ADWR so the exact number of wells in operation and their annual withdrawals are unknown. Since pumping at even half capacity would be a significant amount, potential pumping capacity illustrates that exempt wells may represent a larger source of future groundwater withdrawals than anticipated. In recent years, ADWR has estimated an increase in Prescott AMA exempt well pumping of approximately 4% per

⁵ Arizona Administrative Code, Title 12, Chapter 15, Section 1302.

⁶ See Prescott AMA (2012), Phoenix AMA (2020), and Tucson AMA (2016) Fourth Management Plans, section 8-901; see DRAFT Pinal Active Management Area Fourth Management Plan (2020), section 8-901.

⁷ Town of Prescott Valley. (2020). Rainwater Harvesting for Aquifer Recharge Final Report.

⁸ *Id.*

⁹ Arizona Department of Water Resources. (2020). Non-Exempt Wells by AMA. [Data Set]. Provided by Natalie Mast via email on January 15, 2020.

¹⁰ *Id.*

¹¹ *Id.*

¹² Arizona Department of Water Resources. (2020). Prescott AMA Annual Supply and Demand Data, Historic Template and Summary. Accessed March 11, 2020 from <http://infoshare.azwater.gov/docushare/dsweb/Get/Document-10673/Prescott%20AMA%20Historic%20Template%20and%20Summary%20for%20web.xlsx>.

¹³ *Id.*

¹⁴ Arizona Department of Water Resources. (2020). Non-Exempt Wells by AMA. [Data Set]. Provided by Natalie Mast via email on January 15, 2020.

year, but the number and pumping capacity of exempt wells could lead to even larger increases in unregulated groundwater use in the future.¹⁵

In contrast, the proportion of water used by exempt wells in other AMAs is much smaller. For instance, Phoenix AMA groundwater pumping by exempt wells is estimated at less than 1% of municipal and total water use.¹⁶ So, while exempt wells may become a regional problem in areas like the Prescott AMA, their proliferation is not considered one of the top water issues in the other AMAs.¹⁷

FURTHER CONCERNS ABOUT EXEMPT WELLS

Exempt wells continue to pose challenges to water management in a safe-yield AMA like the Prescott AMA that currently has no imported water supplies, and these challenges will only grow over time. As renewable water supplies that meet the State's AWS requirements for planned subdivisions become more difficult to obtain, some developers have attempted to avoid the AWS requirements by selling land through lot splits of five or fewer lots, with the purchasers drilling a new exempt well to access groundwater.¹⁸ However, it should be noted that these lot splits, commonly known as "wildcat lot splits," may constitute an illegal subdivision if they are part of a series of lot splits that constitute a "common promotional plan."¹⁹

Over time, some effects of groundwater overdraft have been subtle. Some property owners with exempt wells drilled in the past have found they need to deepen their wells to access groundwater.²⁰ Other wells have gone dry, leading property owners to rely on nearby water providers for hauled water. Uncertainty and concerns are mounting about the quality of water that will inevitably need to be pumped from greater depths. Without action, concern exists that these impacts can lead to diminishing property values and a loss of property tax revenues, while regional infrastructure costs simultaneously increase in order to develop alternative water supplies where feasible. Numerous studies and committees have proposed regulatory structures to limit exempt wells and their impact to both the long-term health of aquifers and sustainable water resource management.²¹ While no such regulatory proposals have proved politically feasible, the Prescott AMA has moved forward in developing incentive programs that could serve as a model for reasonable solutions²². In order to address exempt well-related issues, it may be best to first seek solutions that specifically address concerns and issues in the Prescott AMA.

¹⁵ Arizona Department of Water Resources. (2020). Prescott AMA Annual Supply and Demand Data, Historic Template and Summary. Accessed March 11, 2020 from <http://infoshare.azwater.gov/docushare/dsweb/Get/Document-10673/Prescott%20AMA%20Historic%20Template%20and%20Summary%20for%20web.xlsx>.

¹⁶ Arizona Department of Water Resources. (2020). Phoenix AMA Annual Supply and Demand Data, Historic Template and Summary. Accessed March 11, 2020 from <http://infoshare.azwater.gov/docushare/dsweb/Get/Document-10671/Phoenix%20AMA%20Historic%20Template%20and%20Summary%20for%20web.xlsx>.

¹⁷ Prescott Active Management Area Groundwater Users Advisory Council Safe-Yield Subcommittee. (2006). Final Report on Safe-Yield Impediments, Opportunities, and Strategic Directive.

¹⁸ Prescott Active Management Area Groundwater Users Advisory Council Safe-Yield Subcommittee. (2006). Final Report on Safe-Yield Impediments, Opportunities, and Strategic Directive.

¹⁹ A.R.S. § 32-2101(15).

²⁰ Upper Verde River Watershed Protection Coalition. (2010). Safe Yield Work Group Final Report.

²¹ Upper Verde River Watershed Protection Coalition Board. (2018). Minutes of The Upper Verde River Watershed Protection Coalition Board Held on January 24, 2018.

²² For example, the Upper Verde River Watershed Protection Coalition and Town of Prescott Valley have implemented a pilot program for exempt well owners to capture and replenish rainwater to offset overdraft caused by exempt well pumping. Initial project findings demonstrated that rainwater harvesting and aquifer recharge has the potential to represent one-third to one-half of the annual water budget of an average residence on an exempt well, such that groundwater overdraft could be offset by installing a rooftop rainwater harvesting system in the Prescott AMA.