Gmail

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Comment on DAMA Mgmt Plan Informal Draft

2 messages

[redacted]

All,
(DAMA GUAC members have been BCC'd in consideration of open meeting laws)

A few points.

1. Ag Program
a. I know that ADWR is planning to develop and adopt the agricultural management program *after* the adoption of the Mgmtm Plan, but I want to strongly advocate for a better sizing-tier concept than what was proposed in February. ADWR's proposed concept creates only three tiers (by size in acres), 10-50, 50-100, and 100+.

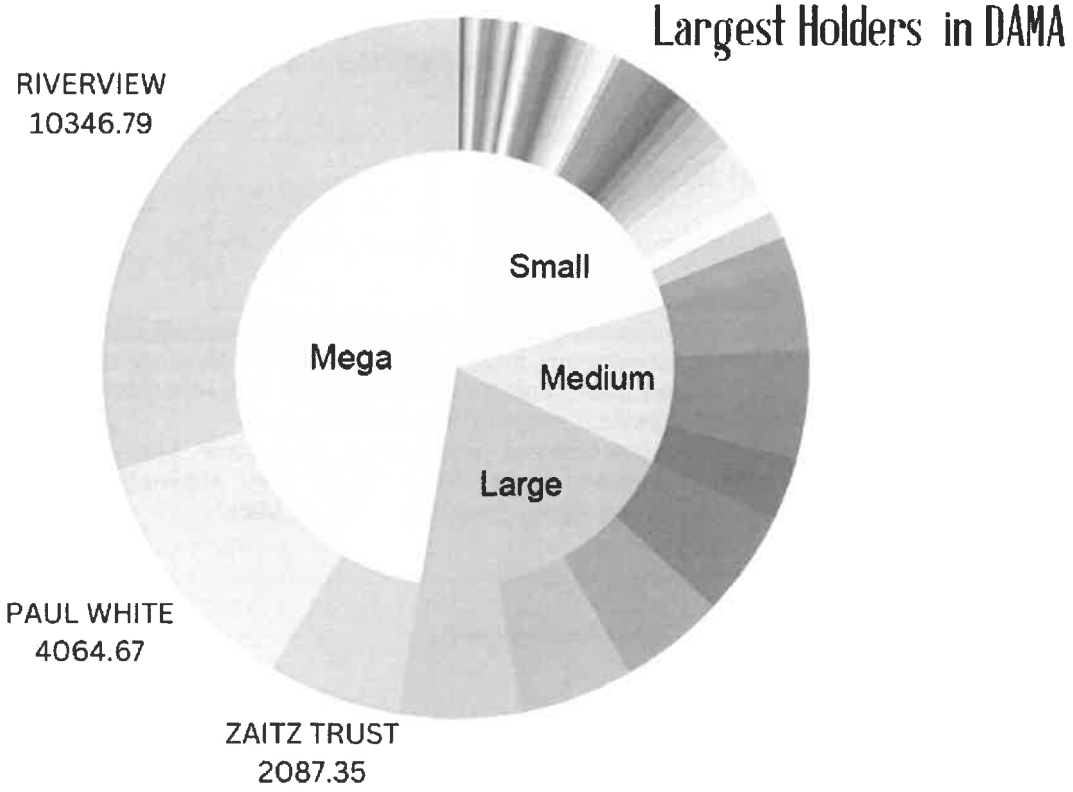
Based on the 2023 Douglas INA irrigation authorities (grandfathered farming acres), our largest land IGFR holder will be Riverview with at least 10,000 acres, and likely more than that when considering their additional ag land purchases over the last two years.

I would offer that it's deeply unreasonable to expect a 100-acre farmer to make the same reductions in water use as a 10,000-acre farmer.
The differences in reduction should track more closely with the actual differences in size, given that profit margins are much bigger for bigger farms, and thus those bigger farms are in a better position to implement more efficient solutions and can better survive losses of water use.

I would recommend a 5-tier program, something like:

Micro:	<50
Small:	50-500
Medium:	500-1,000
Large:	1,000-2,000
Mega:	2,000+

As you can see below, out of the 77 or so IFGR holders in the DAMA, the largest four holders collectively own more land than the other 73 farmers combined.



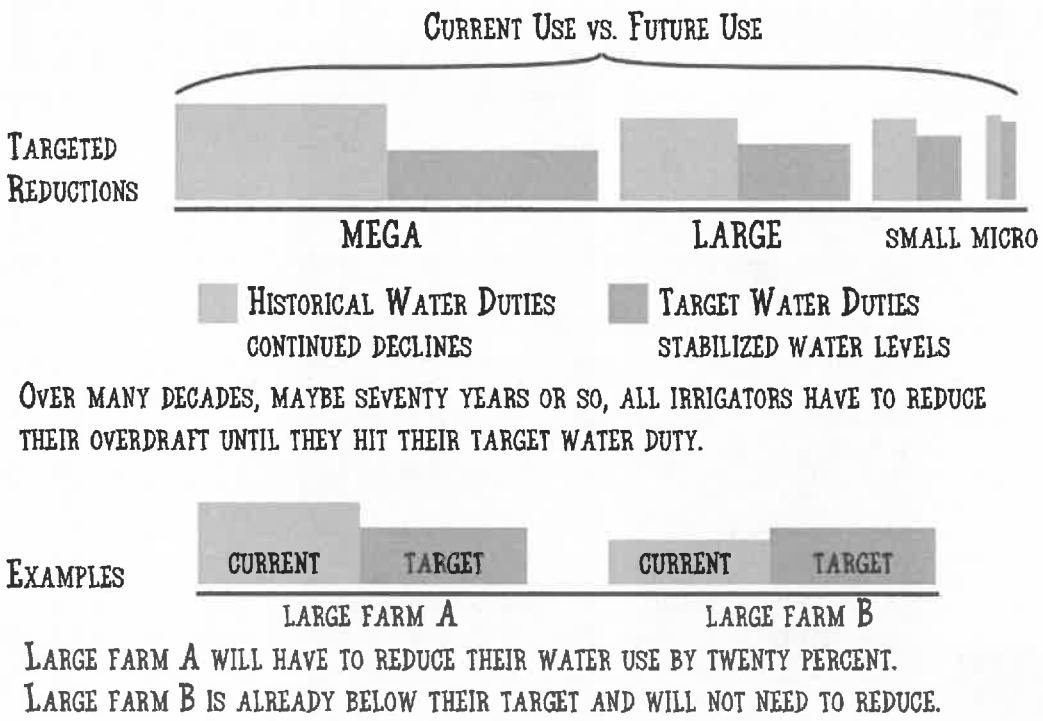
If you're going to stick with the proposal as shown below, I hope you'll be prepared to give evidence at the public hearing which justifies your proposed tier sizing system, though I can't imagine such justification can be convincingly generated. image.png

b. Further, given the "unique supply and demand conditions" of the Douglas Basin, a non-parochial approach would be to dispense with the notion of "irrigation efficiency" as guide for water duty reductions. Rather, we need a simple and effective conservation program concept which plainly addresses the need for long-term stabilization of our water tables. As we all know, the current overdraft in the Douglas basin is at least 300%. The amount of reductions which can be expected strictly from irrigation efficiency will not come anywhere close to the necessary cutbacks. As myself and others are increasingly proposing, a simple, slow, and steady reduction schedule, with variances based on farm unit size, is the best way to balance our water budget for the sake of future generations.

c. Finally, we must address the problems of the inequity caused by a straight percentage system of reductions. As many farmers will point out, some farms already use much less water per acre, while others are double cropping and farming water intensive crops. The simple and fair way to address this is to create a "correlative" water duties system, which I call "Target Water Duties".

Given our supply and demand figures, we should look at what our eventual "agricultural water budget" would be (Total Supply - Non-ag Demands - Future Non-Ag Demands (population growth) = Ag Water Budget). The water budget would then be divided equally among the grandfathered irrigation acreage, with adjustments made for farm unit size (according to a tier system). This is how a farmer's "target water duty" is calculated, which is the future amount of water they can use within the limits of a balanced water budget (and thus getting us in the ballpark of stabilized water tables).

A farmer's "initial water duty" is based on their historical water use. Over the course of many decades, maybe 70 years or so, the goal would be for irrigators to eliminate the difference between their historical water duty and their target water duty, somewhere in the ballpark of 1% reductions annually.



This is a fair and simple concept which makes sure that farmers who have already implemented low water-use practices are not expected to cutback by the same percentage as heavy water users. Is it bold? Sure. Innovative? Yes. Doable? Absolutely. I've made automated spreadsheets which allow one to "turn the knobs" on important variables, showing the outputs of different sizing-tier systems and reduction schedules, so that a balanced water budget can be fine-tuned. After getting the equations set up, its just a matter of holding a workshop with the public, and a meeting with the GUAC, to get input on what the right tier system looks like.

(Or, we can just bulldoze over the problems of existing/proposed regulatory frameworks and pretend like it's ok to ignore the livelihoods of our farmers, residents, and future generations.)

2. Industrial Program

a. ADWR has estimated a possible increase in water demand for the mining sector of 9,750 acrefeet, based on mineral right claims and national trends. That's roughly half of our annual natural recharge (water supply). The Sierrita mine south of Tucson used 21,391 acrefeet of water in 2023. That's more than the Douglas basin's total annual supply. Just one new mine in the Douglas basin has the potential to drastically worsen our water budget.

b. The Willcox basin currently uses 5,085 acrefeet annually for dairies (that's industrial water use, not the water used to grow feed for the cows, which is a massively larger figure).

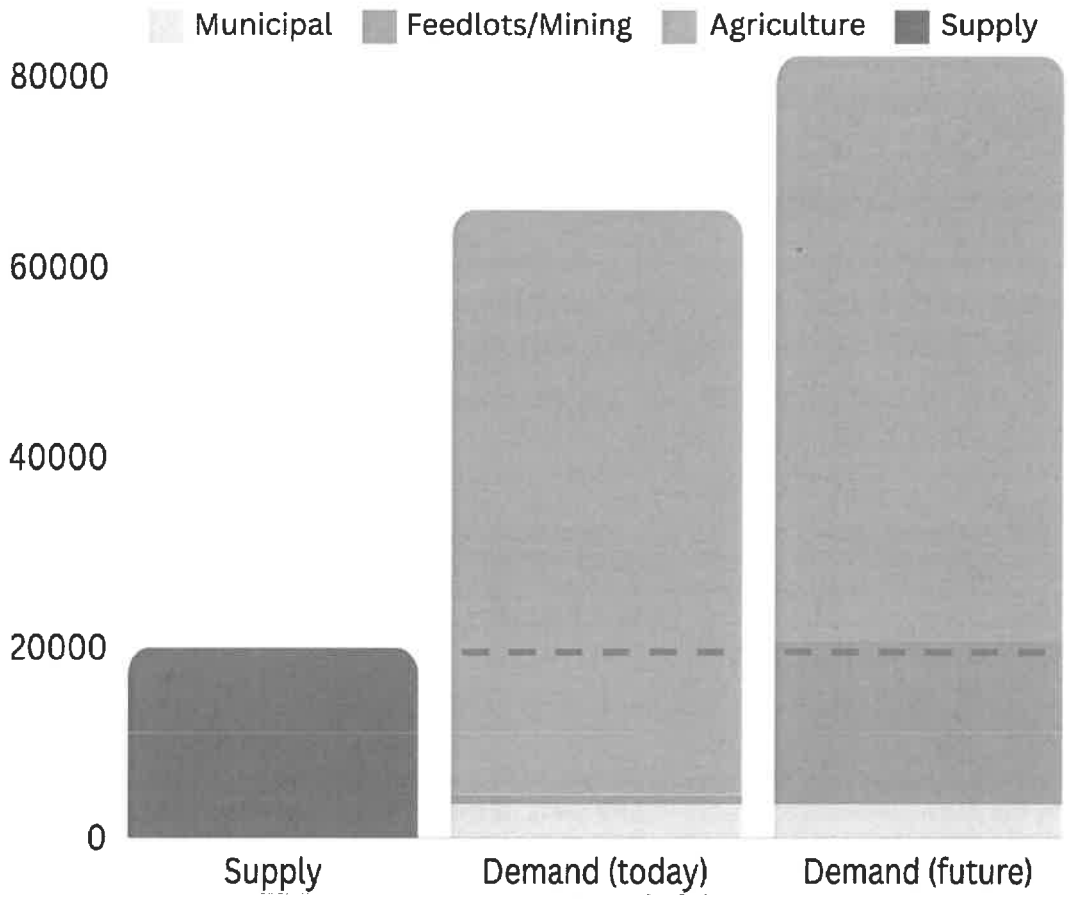
c. Given the "unique supply and demand conditions" of the Douglas AMA, and given the currently adopted Mgmt Goal to reduce the rate of groundwater decline, it would seem imperative that other commercial water user sectors are subject to the same caps/limitation/non-expansion as the agricultural sector.

It is plainly ineffective and unfair to have our farmers reduce their water use, only to have our total water demand massively increase in the absence of restrictions on the production of new groundwater for mining, feedlots, dairies, and other large-scale non-municipal water users.

If the Douglas AMA were to see the estimated increases in water demand for mining, and the opening of dairies like those in Willcox, our total non-agricultural water use would exceed our annual budget. Under those circumstances, even the total elimination of agricultural water use would not balance our water budget.

It is imperative that consider the unique supply and demand conditions of the Douglas Basin and establish conservation programs which do not allow for the expansion of water use for mines, dairies, feedlots, and other non-municipal water uses, unless, somehow, such water use is deemed critical for human health and wellbeing.

Douglas AMA supply/demand outlook without commercial water use limitations:



3. Concluding thoughts

a. The Douglas Basin is already suffering the damages of groundwater overdraft. As has been made clear many times in previous public comments to ADWR, the communities in this basin cherish the rural and agricultural lifestyles which are this regions' legacy in recent history.

If we do not balance our water budget, a few outcomes are guaranteed: The total loss of private residential water access, the near-total loss of private agricultural water access, and the eventual replacement of agriculture with suburban residential development.

As central Arizona faces the realities of CAP cutbacks, the residential demand for water will grow. As our basin's groundwater levels decline, farming becomes less affordable and less profitable. If this status quo continues, our local limited groundwater resources will become valued far more highly for residential use, incentivizing the ceding of groundwater from agriculture use.

We already see this trend throughout Arizona where hedge funds and other investors are buying up agricultural land, temporarily leasing it to growers, with the eventual goal to lease/sell it to municipalities at a very nice profit.

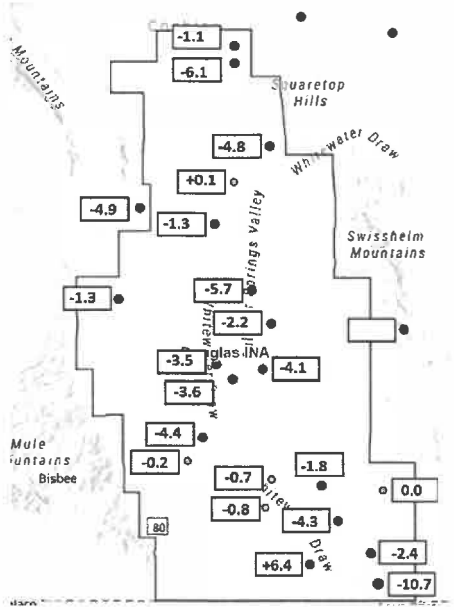
On the other hand, if we could stabilize our water tables with very small annual reductions over the next 70 years or so, our average depth to water would remain higher than 500 ft, allowing private residential and agricultural water use to remain practicable for generations to come. We would be able to pass forward the heirloom of our water supplies and the way of life people enjoy here.

b. We must also consider the consequences of groundwater declines on the population centers Douglas and Agua Prieta. A total population of 110,000+ people rely on groundwater in our transnational basin. Even though Agua Prieta's population dwarfs Douglas, their total municipal water use (estimated 14,000 acrefeet) is still half the amount of water used by just the 3 largest farms on our side of the basin (roughly 28,000 acrefeet combined).

As the minds at ADWR probably know, if we don't have a plan in place to reduce our agricultural water use within our carrying capacity, our future generations will lose their ability to farm here at all, whether that be on account of public outcry, or simply because declining water levels make farming unprofitable.
As far as I can tell, the vast majority of residents here don't want to see that happen. So we need fair, practicable, and effective policies that will allow us to very slowly cut back our agricultural water use (by about two thirds) over the next few generations of farmers.

Farmers I've spoken with typically agree: It's better that we end up with much less agriculture than none at all. And over the coming decades, innovations in the sector will allow farmers to make more money per gallon of water used.

Note the rate of groundwater decline within in Douglas city limits:



This map from ASU shows how many feet various monitoring wells have declined in one year, 2018-2019.

There's lots of variance due to varying subterranean geological features, and proximity to heavier or lighter water pumping.

You'll see that the monitoring well closest to Douglas dropped 10.7 feet in one year.

Over the next 50 years that would become at least a 500 foot decline.

I understand that it is easier for ADWR to resist bold and innovative solutions, especially when they do not align with monied interests of various corporate water user sectors. But at the end of the day, life is not about merely avoiding difficulties, and certainly not when such avoidance comes at the cost of the wellbeing and livelihood of entire communities of people.

So please, this time, put your best foot forward with your official proposal for the Douglas AMA Mgmt Plan. I don't know if I'll have the energy to engage in another appeal process. I have my limits too.

I will soon finish and share a video in which I go over many of the points and concepts above, so that Arizona can better understand the future realities of rural groundwater and its management.

Thank you,
Christian Sawyer