



January 21, 2020

To: Einav Henenson, Ryan Jackisch

From: Jim Kauth CLWM, CLIA

I will be attending the upcoming workshop on January 23<sup>rd</sup>. In attendance with me will be (6) other people (Board members, General Manager, Golf Superintendents).

Below are my comments for the upcoming ADWR workshop:

1. The turf allotment is based upon the Annual ET rate. ADWR uses 58.92 inches. 58.92 inches times 27,154 gallons = 1,600,000 gallons of water per acre of turf grass. To determine the allotment in acre feet of water you divide the 1.6 million gallons by 325,851 (gallons per acre foot) and that equals 4.9 acre feet of water per acre. The annual evaporation rate for the valley is about 72 inches.

Question for ADWR: Has the ET rate for turf declined?

Question for ADWR: Has the evaporation rate declined?

No, both rates have not declined but increased.

2. The ADWR knows that in some cases golf courses have had to deficit water their low water use plants and lakes to be able to make up for water used for the turf. ADWR also knows that the water allotment for low water use plants is based upon a high density and therefore generous.

Question to ADWR: Why not cut back on the low water use plant allotment and lower the annual allotment from 1.5 acre feet to 1.2?

That would drop the allotment in gallons from 488,000 gallons to 391,000 gallons. My field study shows that established low water use plants only need 300,000 gallons or .9 acre feet of water.

3. The ADWR allotment for lakes is 6.2 acre feet. The average evaporation rate for our area is 72 inches. 72 times 27,154 = 1,955,088 gallons or 6.0 acre feet of water.

Question to ADWR: Why not lower the allotment for lakes from 6.2 to 6.0 acre feet?

4. The law is for all facilities that have over 10 acres of turf grass. However, since 2007, I have audited many facilities that have over 10 acres of turf grass including Universities, Resorts, Colleges, Commercial properties, and over 100 HOA communities and none of them were aware of their requirement to submit an annual usage report. However, every golf course is keenly aware of its ADWR allotment and usage reporting.

Question to ADWR: Why hasn't ADWR enforced water use reporting to all facilities?

Guess how many of those facilities that I audited were under ADWR guidelines for water usage? Not one. All were in non-compliance with their usage, but they didn't know the ADWR guidelines nor their responsibility to report usage.

Arizona needs ADWR to focus on all users of water not just golf courses and there must be a level playing field where all users must comply with State laws.

Here are my recommendations to ADWR:

- Keep the turf rate at 4.9 acre feet.
- Lower the low water use plants rate from 1.5 to 1.2 acre feet.
- Lower the lake rate from 6.2 to 6.0 acre feet.
- Enforce compliance for ALL facilities with 10 acres of turf.
- Add any facility that has over 20 acres of common area that includes a combination of turf and low water use plants.
- Require Water Suppliers to report usage for their customers that have over 10 acres of turf grass.

My clients have spent millions of dollars improving their irrigation systems with new "Smart" Controllers, removing turf, change plant species to low water use plants, efficiency training for irrigation technicians, replacing old sprinkler heads to more efficient ones, and hiring people like me to help them lower water usage.

ADWR can help by getting other facilities to comply so that our efforts to conserve aren't being wasted at another facility.

See you at the meeting,

Jim Kauth CLWM, CLIA

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