



City of Prescott
 Public Works Department
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**WATER CONSERVATION / SAFE YIELD
 2008 COMMITTEE
 FEBRUARY 21, 2008 MEETING NOTES**

MEMBERS:

Timothy Crews, Ph.D., Chair	P	Howard Mechanic- Vice Chair	P
Ann-Marie Benz	A	Andrew Millison	P
Sandy Griffis	P	Bob Williams	P
Charles Hildebrant	P	John Zambrano	P

(P=Present A=Absent)

OTHERS PRESENT:

Councilman Jim Lamerson, Connie Tucker, Teresa Ogle, Alan Dubiel, Gene Schmidt, MacRae Nicoll, Amelia Ray

1. CALL TO ORDER

The meeting was called to order at 3:05 p.m.

2. APPROVAL OF MINUTES

Minutes for the January 17, 2008 meeting were approved with the changes shown in red on the attached document.

3. PRESENTATION

A. Safe yield – understanding the concept – John Zambrano

John Zambrano discussed the basic concepts of safe yield. Points included:

- ✓ Post development definition of safe yield: long-term balance of natural recharge and artificial recharge equals pumping, natural outflows and change in storage
- ✓ Safe yield is a groundwater management *goal* which attempts to achieve and thereafter maintain a long-term balance between the annual amount of groundwater withdrawn in an active management area and the annual amount of natural and artificial recharge in the active management area. A.R.S. §45-402(36)
- ✓ *Goal* means that this is not a regulatory requirement, no penalties for not reaching safe yield.
- ✓ Consequences of not meeting safe yield are severe. ADWR predicts by 2025 that a fair amount of wells on the periphery of the aquifer will go dry; and as aquifer level drops, streams will go dry; soil structure changes will occur and eventually we will run out of water to pump.

- ✓ Pumping and natural output (groundwater, springs and stream flow) must equal natural and artificial recharge to reach safe yield. The amount of natural output is not regulated by ADWR.
- ✓ Natural outflows protect riparian areas of the Verde River.
- ✓ A conceptual Water Budget example for 2003 shows total inflows 13,840 ac ft, Total Outflows 25,140 ac ft, Overdraft = 11,300 ac ft.
- ✓ Prescott is recharging to the aquifer; Prescott Valley is recharging into the Agua Fria
- ✓ Flooding in Granite Creek can be included in natural recharge; ADWR will be providing long-term averages for planning purposes.
- ✓ Reduction needed in groundwater pumpage to meet safe yield is 6,000 to 11,000 afy
- ✓ Jim Lamerson expressed concern about the approximately 9,000 exempt wells, and the lack of governance as far as the amount that can be extracted.
- ✓ Connie Tucker indicated that a bill has been introduced into the House, which would state that beginning January 1, 2010, exempt wells within AMA's will not be allowed to pump more than 4.1 acre feet per year, and they would be metered.
- ✓ Howard Mechanic added that 14% of users in the AMA are on exempt wells. If there are restrictions on new development, this number could increase. Because safe yield is a goal, and the legislature is not going to make this mandatory, if we want to reach safe yield and involved all users, including exempt wells, we will have to approach this locally, and it's going to be addressed through a new stakeholder's group being established by the Upper Verde River Water Shed Protection Coalition.

4. TASK FORCE REPORTS

A. Conservation Applied to Safe Yield – Mechanic

- ✓ We're asking people in the community to conserve, but there is resistance due to the belief that water conserved will go to new development. If water conserved went toward safe yield, more people would be motivated to save. Currently, a subdivision cannot be added using groundwater (commercial development can use groundwater). Must provide alternative water or use exempt wells. Connie reported that state law provides that if the cost to hook into City water is greater than the expense to drill an exempt well, the user can drill an exempt well. Impact fees are included in total cost to hook in. Land platted prior to 1999 can use groundwater. If all these homes are built, Prescott would be allowed to pump about 9,500 acre feet of water (currently 8,000). Connie reported that there are about 3,000 pre-1998 lots on the plat list. Howard is proposing that the City set the pumping limit at 9,500 acre feet maximum, and then set a policy that an estimated amount of conservation savings averaged over a long period of time be used to reduce the maximum amount that Prescott will pump. This would reduce overdraft. Connie felt that a fairly accurate way to track conservation savings would be to compare GPCD annually. We're adding roof tops with new residents consuming, but we're conserving. What could affect GPCD numbers would be any new commercial big water users allowed under state law to use whatever amount of groundwater they wish. Prescott requires a water service agreement if estimated demand is more than 5 acre feet, and the then City reduces allocation budget (alt water) by the amount over 5 acre feet. The ordinance restricts the amount of water a commercial user can use based on their acreage. Economic Development does not solicit or encourage large water users. Could the public message be that if you save water it will not build new houses or conservation could lower the cost in reaching safe yield. We would need to determine the cost to save water versus money saved to import less water. This would reduce the amount of water needed to import for safe yield. Council would need to approve a policy for holding to a voluntary estimate of groundwater pumpage. The current policy allows for pumping 8,000 acre feet per year

of groundwater. The Committee would need Council buy-in for stating that groundwater conserved will not go toward new houses. The groundwater you are saving would stay in the ground.

- ✓ Councilman Lamerson reminded that Committee that 20% of the cost to import water was assigned to current rate payers, but 20% of the water was not dedicated to them. What they are paying for should be reserved for their use (safe yield), otherwise it's a non-fair tax. Howard made the point that under Prop 400, all effluent governed by this Proposition goes to safe yield. A large amount of the imported water will go toward properties that are covered by Prop 400 (developments over 250 acres), where all effluent is dedicated to safe yield. Under this scenario, if the City brings in 5,000 acre feet and most of it goes to Prop 400 properties, and we capture 3,000 acre feet of effluent and recharge, the total water produced is 5,000 plus 3,000. 3,000 is substantially higher than the 20% of the total 8,000 currently pumped.
- ✓ Another issue is what is Prescott's share of the 11,000 acre feet overdraft? Estimate would be about 4,000-5,000 acre feet per year. The 3,000 acre feet recharged reduces Prescott's overdraft to about 1,000-2,000 acre feet. Howard will meet with Connie to discuss what needs to be presented to Council and an update will be given to the Committee at the next meeting.

B. Volunteer Program – Benz

- ✓ The task force is working on a plan to recruit and use volunteers in water conservation efforts. A presentation will be made at the next meeting. Questions still exist as to legal liability. Howard will investigate.

C. Incentive Review – Crews/Williams

- ✓ The task force met and reviewed current offerings of incentives and decided to discontinue offerings for washing machines because the industry is upgrading to reach conservation targets. They also looked at hot water recirculators. There are concerns about quality of products, and energy cost to operate. Shaun prepared a list of potential incentives for consideration, i.e., soil and moisture sensors, xeriscape landscaping design service, eco blue cubes, focus on commercial washing machines, etc. The cost of water saved through cistern and rainwater harvesting incentives will be researched. <http://www.allianceforwaterefficiency.org/appIndustry.html>

D. Rainwater Harvesting – Millison/Griffis

- ✓ The task force discussed the cost of importing water at .07 per gallon versus the cost for installing active rain harvesting systems. The true payback period needs to be determined, and the cost per gallon of "catchment", and how many times it would refill per year. Passive rain harvesting is much more economically viable. Emergency water storage for disaster preparedness is a consideration. It was suggested that the task force prepare some case studies of economic payback on specific structures, and investigate the code ramifications of plumbing with catchment.

E. City Facilities – Williams/Benz

- ✓ To be discussed at a future meeting.

F. Conservation target – Crews/Zambrano

- ✓ The task force researching how many homes are eligible for incentives (built prior to 1992) in the City and what the potential for water savings is. This will influence future budget requests to Council. This will be discussed at a future meeting.

G. Review landscaping code revisions proposed by Mayor Simmons' Water Conservation Committee

- ✓ To be discussed at a future meeting.

Charlie Hildebrandt gave a Nursery Landscape Association update. They have approached Prescott Lakes with a plan to remove all native grasses off the irrigation system, and all turf areas (not including golf course) will be changed over to MP Rotators, which will save 30% water use over standard rotating irrigation heads. If the plan is implemented, there will be savings of about a million gallons per year. Charlie suggested that MP rotators be considered for the incentives program. Jim Lamerson asked that an evaluation of potential cost savings be done on the City's big turf areas. Connie asked that Charlie provide additional information so that she can take it to an upcoming Parks and Recreation meeting, where they will be discussing water use at Pioneer Park and other large turf areas.

NEXT MEETING:

The next meeting is scheduled for **Thursday, March 20, 2008** at 3:00 p.m. in the Public Works conference room. Agenda items include:

Also note that the **Thursday, April 17, 2008 3:00 p.m.** meeting has been moved to **Wednesday, April 16, 2008 at 3:00 p.m.** to accommodate the schedule of Dr. Michael Crimmins, a U of A climate change scientist working for Agriculture Extension, who will be speaking to the committee, followed by a public presentation in the evening at Prescott College. The meeting will be held in the Police Department Training room at 222 S. Marina Street.

ADJOURNMENT – 5:03 p.m.