



# WATER CONSERVATION/SAFE YIELD COMMITTEE MINUTES

GENERAL MEETING  
MARCH 20, 2008  
PRESCOTT, ARIZONA

MINUTES OF THE **GENERAL MEETING OF THE WATER CONSERVATION/SAFE YIELD COMMITTEE** held on **MARCH 20, 2008** in the **UTILITIES CONFERENCE ROOM** located at **433 N. VIRGINIA STREET**, Prescott, Arizona.

## Members:

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

(P=Present A=Absent)

## Others Present:

Councilman Jim Lamerson, Connie Tucker, Shaun Rydell, Teresa Ogle, Alan Dubiel, Scott Calvert, Kenny DeHart, James Cox

### 1. Call to order

The meeting was called to order at 3:01 p.m.

### 2. Approval of minutes from the February 21, 2008 general meeting

Minutes were approved with changes noted on the revised minutes attached.

### 3. Public Input

None.

### 4. Conservation Coordinator Update

Shaun discussed the need for assistance from members to tape several Water Conservation commercials for April's Water Awareness. The proclamation for Water Awareness Month will be presented by Council on April 1<sup>st</sup>. Shaun indicated that she could use help setting up a display at the Library on April 1<sup>st</sup>. Watering restrictions go into effect April 15<sup>th</sup> for spray irrigation. April 19<sup>th</sup> is Earth Day and Granite Creek clean-up. See attached Calendar of Events for a complete listing of upcoming events. Shaun also provided an update on the City Hall Water Smart landscaping project at City Hall, which will save about 8,000 gallons of water annually.

## **5. Discussion of April's meeting scheduled Wednesday, April 16<sup>th</sup>.**

Presentation by Dr. Michael Crimmins, University of Arizona. Dr. Crimmins will present on how Arizona's climate may change in the next decades, and how water resources for communities like Prescott could be affected.

## **6. YLNA Task Force Report**

Charlie Hildebrant, Scott Calvert, Kenny DeHart, Jim Cox: reported on the Yavapai Landscape and Nursery Association's (YLNA) volunteer program for water conservation in commercial and residential landscaping. This program was the result of an arrangement that YLNA members made with Council in November of 2007. Council voted not to accept the Water Conservation Committee's recommendation to limit turf on new construction in part because YLNA offered to develop this program.

The primary goal of the task force is to lead their industry in the water conservation effort. Many of the local nurseries and landscapers are on board. The task force reported that due to lack of user knowledge, misused or poorly controlled irrigation, and poor irrigation or landscape design, homeowners are using 300% more water in the summer. With the proper automatic system installed homeowner should only see a 16% increase between winter and summer usage.

The task force has three current programs.

- a. Direct homeowner consultations - over-watering of pinon pines and plants, etc.
- b. Earthworks Hillside #001 – Prescott Lakes hillside rejuvenation project; put in MP rotator heads, use less water, more efficient. Councilman Lamerson suggested that this information be brought to the appropriate City departments. Shaun reported that she is currently working with Parks & Rec, and would like information about the MP rotator heads, and data on water savings.
- c. Common Ground Street Edge Program – also at Prescott Lakes – poor design of irrigation line continued to water plants after they were established. 2,562 plants have been removed from irrigation completely. Turf areas are getting 194 new MP rotator heads which will save 37,800 gallons per month (30% savings). Another upcoming project will involve turf removal.

Charlie Hildebrandt indicated that they need assistance with future point-of-contact, because some homeowners may be reluctant to call a landscaper for a water audit, due to concerns about getting an estimator for a job. YLNA is working with Shaun to determine credentials for an auditor. They are interested in partnering for education classes, and also participating in City sponsored events.

John Zambrano asked about the feasibility of code changes to require the MP rotator. Charlie Hildebrandt explained the MP rotator head only sprays about 30 feet and that some old models are spraying 50-60 feet, so he wouldn't recommend it because it would require tearing up the lawn to retrofit. There would also be issues about recommending a certain manufacturer over another. But this should be researched further.

## **7. Tutorial on City Water**

Connie Tucker, Water Management Analyst for the City of Prescott provided a brief overview of the 2007 Annual Water Report that will be filed with ADWR this week on water use and reuse throughout the year. (2007 Annual Water Report.) Groundwater withdrawn in 2007 was 8,398 acre feet, which was only 40 acre feet more than in 2006, with 200 single family housing permits issued. There was no surface water recharge in 2007, because lakes were not high enough, per the City's lake operating policy. In 2008, 785 acre feet has been recharged to date. The maximum recharge allowed is 3,500 acre feet per year prior to November 30.

Connie reported that the time-of-day ordinance has helped tremendously in reducing peak demand. Connie also discussed average water use by class – single family makes up 51% of total. Water loss reported was 8.36%. An anomaly exists that March, April, and May water loss is 20% or higher; August, September, October, November and December water loss is close to zero or negative. Connie discussed the amount of effluent used by the golf courses, and reiterated that the golf courses are paying above market value for the effluent. A goal in 2008 will be to begin a long-term water policy formulation after designation of assured water supply is approved.

Prescott is the only city in the AMA who has a full-time water conservation coordinator. Shaun had over 820 customer contacts in 2007. The conservation program has issued \$55,000 of incentives for FY08 year-to-date with an estimated water savings of 11.8 acre feet of savings annually. Retrofit projects have been completed for the Antelope Hills Clubhouse and Smoketree Fire Station which is saving 310,000 gallons of water in 2007.

## **8. Miscellaneous Updates**

Connie distributed a letter from Risk Management (copy attached) which confirms that volunteers for the Water Conservation Program would be covered for both Worker's Compensation (in the event they are injured while performing their duties for the City) and under the City's General Liability (3<sup>rd</sup> party coverage).

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**TIM CREWS**, Chairman

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**TERESA OGLE**



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**WATER CONSERVATION / SAFE YIELD  
 2008 COMMITTEE  
 FEBRUARY 21, 2008 MEETING NOTES - REVISED**

**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 aquifer via the Agua Fria streambed.
  - ✓ 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, any new 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-approved using AMA 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. Connie indicated that tThe Committee would need Council buy-in for stating-statement 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.*



## Utilities - Water Conservation

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Water Smart™

March 17, 2008

Shaun Rydell, Water Conservation Coordinator

928-777-1130, [water.smart@cityofprescott.net](mailto:water.smart@cityofprescott.net)

### **April is Water Awareness Month – calendar of community events**

April showers bring May flowers, and our seasonal reminder to preserve and conserve our region's most precious resource water.

The City of Prescott invites its citizens to join in Water Awareness Month by participating in community actions, events and review your monthly utility bill, including the “Water Smart” cards.

Start by saving money and water by installing a "Water Smart" conservation kit for just \$10.00. Kits are available at all of the April community events, City Hall- Utility bill pay station and the Utility Division on North Virginia Street.

Additional information about the “Water Smart” program and rewards are available for consumers who invest in water conservation. Save money, save water and support community outreach and education for using all water efficiently.

Take the pledge.. play your part.. live in Prescott “Water Smart”.

#### **“WATER SMART” COMMUNITY ACTIONS AND EVENTS AND MONTHLY REMINDERS:**

- **APRIL IS WATER AWARENESS MONTH** – Proclamation - April 1- Council Chambers
- **APRIL 2008 – PRESCOTT PUBLIC LIBRARY** – Water Smart display in the Viewery
- **April 15 - November 1, annually:** Spray irrigation allowed only between 8 PM and 8 AM
- **April 19:** Granite Creek Clean- up 8-10 AM
- **April 19:** Earth Day – Granite Creek Park – Saturday, 11AM to 4PM
- **April 26:** Native Plant Sale – Highlands Center for Natural History
- **May 16th – 18<sup>th</sup>** Home and Garden Show – Prescott Valley-Tim’s Toyota Center, YCCA
- **Monthly:** Look for “Water Smart” education cards in your city utility bill - Collect all 12
- **Sharlot Hall Museum** – Water Exhibit throughout the next 6 months
- **Water Smart landscape at City hall** – saving 8,000 gallons of water.

For more information about the City “Water Smart” program, visit City Hall display, Utilities Division, Public Library or see us on the web at [www.cityofprescott.net](http://www.cityofprescott.net). Call 777-1130.

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Subject: **Volunteer water conservation program**

From: "Sheri Swain" <sher.swain@cityofprescott.net> [Add](#)

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Cc: <gary.kidd@cityofprescott.net>, <thomas.lloyd@cityofprescott.net>, <sher.swain@cityofprescott.net>

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Connie - Good Afternoon - In follow-up to our conversation this afternoon, please be advised that the volunteers for the Water Conservation Program would be covered for both Worker's Compensation (in the event they are injured while performing their duties for the the City) and under the City's General Liability (3rd party coverage).

The "volunteer workers" are covered only while performing duties related to the conduct of the City of Prescott.

I understand the program has not yet been established. As we discussed in order to help mitigate claims, my recommendation is to establish procedures, training, so that the volunteers have a clear understanding of the program and what is required of them.

Please let me know if you have any questions or need further assistance. I am happy to assist anyway that I can.

Sheri

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