

Proposals for Water Conservation Programs in Yavapai County Water Advisory Committee April, 2007

This document provides Water Advisory Committee (WAC) recommendations for water conservation in Yavapai County. The Board of Supervisors (BOS) can utilize these recommendations to initiate responsible, common sense water conservation measures in the unincorporated areas of Yavapai County. Most of the recommendations could apply also to incorporated areas.

This document serves to update the recommendations of the October, 2004 Water Advisory Committee (WAC) Water Conservation Draft Report (“Yavapai County Water Advisory Committee, Options for Water Conservation Strategies” Draft, October 2004). The draft report demonstrated the value and the need for water conservation programs in Yavapai County. The draft report is available on the Yavapai County website <http://www.co.yavapai.az.us/Content.aspx?id=20562>

The WAC recommends that where appropriate and possible, County conservation efforts be consistent and coordinated with other jurisdictions. Many municipalities have initiated their own water conservation efforts (see references at the end of this document for examples). Activities that can be taken by municipal water companies are mostly outside the scope of this document. The activities suggested herein will complement the efforts by municipalities to conserve water. The County should lead with responsible solutions where existing programs are not available or applicable.

The WAC intends to help foster cooperative and consistent action among individuals, businesses, and governments. However, nothing in this document is intended to supersede the ordinary process for the enactment of policies, ordinances or laws, neither within the County nor in any incorporated jurisdiction within the County.

Many communities and agencies have conservation plans or guidelines which have been instrumental in the formation of this document. Several references are provided at the end of the report. For instance, based on other similar areas in the arid west, a per capita water savings of at least 15% is an attainable conservation goal (for example, http://www.epa.gov/watersense/docs/utilityconservation_508.pdf (e.g. Albuquerque) or <http://www.epa.gov/watersense/pubs/guide.htm> (see “benchmarks” section)).

The WAC recognizes that water conservation should be considered in the larger context of overall water resources management. While it can’t solve all of our water resource challenges, water conservation is one area that does not require a great amount of hydrologic data in order to create positive effects for the region. Efficient water-use through conservation has value, and it will help ensure a stable future water supply.

The proposals herein represent some first steps toward a responsible water conservation effort. In addition to the conservation actions identified, there are many other worthwhile programs. Other program elements can be added later.

The following lists the program options and actionable proposals identified for Yavapai County. While the intent of this document is to focus on actions the BOS can implement, most of the proposals are applicable to the entire county.

- **Water Conservation Staff**

To efficiently pursue an active conservation program that includes many of the components listed below, it will be essential to fund and fill a dedicated staff position to work on and coordinate the county conservation efforts. Many of the program details and the direction of programs will be recommended by the qualified water conservation coordinator. In addition to the specifics of program priorities, the coordinator would work with the WAC and BOS to establish timelines and goals. The coordinator would also be responsible for measuring success of the programs and coordinating with other jurisdictions.

Proposal: Establish a dedicated full-time staff person as a water conservation coordinator. The coordinator should make recommendations for specific Education & Outreach, Assessment and Incentive programs (Attached is a potential job description for the position.)

- **Education and Outreach Programs**

These programs are most feasible if the county has a staff water conservation coordinator (or as an alternative a contracted consultant – which is not our preference). A conservation coordinator would be utilized to pick, justify and prioritize precise programs. Implementation timelines and measurable benchmarks should be established.

The County should step forward to lead where appropriate, but also utilize existing funding and partnership opportunities such as statewide, AMA-centered, and municipal programs.

There are numerous specific programs that have been used by communities throughout the nation. Many are well defined and lists are available in the references provided in this document. They typically intend to help water users understand conservation, and show them why it is a good idea and a value. They range from “packaging” conservation as efficiency and cost reduction, to educating people on techniques to conserve water (such as water use behavior, landscaping tips, water-use audits, and technological tools).

General Education Program Examples

- Utilize existing educational programs and groups (e.g. Project WET, Water Use it Wisely, County Extension Office, Verde Watershed Association, Northern Arizona University, etc.)
- Establish new programs to fill identified gaps in existing programs or specifically tailored to County needs.

General Outreach Program Examples

- Initiate a public awareness campaign for water conservation
- Construct an informational website on countywide water conservation programs/tips
- Participate in, or form local conservation groups (e.g. Central Yavapai Water Conservation Partnership)

- **Assess County facilities for conservation opportunities**

- Conservation coordinator will perform assessments
- Take appropriate action based on results of assessments in order to demonstrate wise water use and create a visible “culture of conservation” (for instance: fix leaks, retrofit fixtures, install xeric landscapes, etc).

- **Incentive Based Programs**

- Such as Fixtures,
- Vegetation (xeric landscaping),
- Rain barrels,
- Turf removal,
- Gray water systems,
- Water efficiency assistance programs

The County should begin its conservation program with other components, and then investigate and initiate incentive programs at a later date. Funding mechanisms can be explored for incentive programs during the investigation phase of such programs.

- **Regulatory/Ordinance Based:**

- All New Construction (where possible this includes single family, multifamily, and commercial)
 - Modify/Modernize Building Codes
 - Hot water recirculation systems or point-of-use technology
Proposal: All new homes that have hot water fixtures over 50 feet from the hot water heater will be required to have hot water recirculation systems or point-of-use hot water technology.
 - Insulate hot water pipes
Proposal: Hot water pipes will be required to be insulated.
 - Gray water use plumbing (septic system areas)
Proposal: All new homes built on septic systems will be required to be plumbed for gray water reuse.

- Efficient fixtures (faucets)

Proposal: Low flow aerators will be required on all indoor faucets (except bath tubs and washing machines)

- Allowable turf area: In some jurisdictions, turf restrictions allow a certain percentage of each residential property or landscaped area to have an "oasis", with minimum and maximum square footage allowed. A typical ordinance allows something like 10-20% of the landscaped area to be an "oasis", where any plants would be allowed (reference: ADWR, *Third Management Plan for Prescott AMA*). The rest of the area could be planted only with allowable plants

Proposal: The Board of Supervisors will establish an advisory committee which will report back within one year. The committee will recommend a list of appropriate low water plants for various areas of the county.

- Rain water harvesting (i.e. roof drain plumbing, rain barrels, site grading)

Proposal: New buildings will be required to be plumbed to direct roof rainwater to either collection tanks or planted areas. (This distinguishes a plumbing requirement from a harvesting requirement. That is, this proposal intends to make it easy to harvest the water; it does not require that harvesting occur). BOS will ask planning staff for arecommendation and proposal whereby most property with "level topography" can retain rainwater (typical storm events)

- Water features. Limit the use/type of water features such as aerial spray fountains, ponds, pools, etc.

Proposal: Ponds over 40 square feet will not be allowed in new construction.

Proposal: Water recycling or re-use systems will be required for newly constructed ponds.

Proposal: Aerial spray fountains will not be allowed.

Proposal: Pools must be covered by appropriate pool covers when not in use.

- Irrigation system design and timers for drip system

Proposal: Drip system will be installed to serve all plants that require watering. Timer on drip system should be capable of seasonal settings (must have at least two seasonal settings)

○ Business - New Construction:

Proposal: All new businesses will adhere to the following as appropriate:

- Recycle water for new car wash facilities
- Installation of waterless urinals in commercial establishments
- Use of low flow pre-rinse valves in restaurants (e.g. ADWR Project Rinse Smart)

Proposal: Use conservation coordinator to assess additional possibilities for commercial establishments such as more limited landscaping possibilities, specific recommendations for hotels, parking lot spraying, and special considerations for industrial facilities.

We anticipate that the full-time position and for education and outreach efforts will initially cost approximately \$100,000 per year. In determining the monetary return of such an expenditure, one must consider that if this size expenditure can help the county reduce per capita water use by the goal of 15%, there will be significant savings on costs for new water sources, as well as helping to alleviate costs to deepen wells. Considering our county is facing many millions of dollars in costs each year to provide secure and long-lasting water supplies, a relatively small expenditure toward conservation is worthwhile monetarily. In addition, we should ask: In an arid region such as Yavapai County, where population growth will continue, is it good public policy to have an effective County wide water conservation program?

Water Conservation References:

Arizona Department of Water Resources, Statewide Conservation Office

<http://www.azwater.gov/dwr/Conservation/>

Arizona Department of Water Resources, Tools to Save Water

http://www.azwater.gov/dwr/Content/Tips_Tools_to_Save_Water/default.htm

Bureau of Reclamation, Water Conservation Field Services Program

<http://www.usbr.gov/waterconservation/>

City of Prescott, Public Works Water Conservation

<http://www.cityofprescott.net/services/public/conservation.php>

City of Petaluma, California, Water Resources & Conservation

<http://cityofpetaluma.net/wrcd/waterconservation.html>

Colorado Water Conservation Board, <http://www.cwcb.state.co.us/Conservation/>

EPA: Cleaner Water through Conservation EPA 841-B-95-002, April, 1995

<http://www.epa.gov/watrhome/you/intro.html>

EPA: Water Conservation Plan Guidelines:

<http://www.epa.gov/watersense/pubs/guide.htm>

EPA: Water Sense (<http://www.epa.gov/owm/water-efficiency>)

Lower Colorado River Authority, Save Water <http://www.lcra.org/water/savewater.html>

Natural Resources Conservation Service (USDA), Technical Resources

<http://www.nrcs.usda.gov/technical/>

New Mexico State Water Conservation Program

<http://www.ose.state.nm.us/water-info/conservation/index.html>

Progressive Leadership Alliance of Nevada (PLAN); Water in the Urban Southwest, An updated Analysis of Water use in Albuquerque, Las Vegas Valley, and Tucson

<http://www.planevada.org/water1006-2.htm>

South Florida Water Management District: 50 Ways to Conserve Water

http://my.sfwmd.gov/portal/page?_pageid=1874,9496104&_dad=portal&_schema=PORTAL

Texas Commission on Environmental Quality, Water Conservation Programs

http://www.tceq.state.tx.us/permitting/water_supply/water_rights/conserve.html

Tucson Water Conservation, City of Tucson

<http://www.ci.tucson.az.us/water/conservation.htm>

Water Conserve, Water Conservation Portal & Search Engine

www.waterconserve.info/news/

Yavapai County Water Advisory Committee Options for Water Conservation Strategies,

<http://www.co.yavapai.az.us/Content.aspx?id=20562>

Draft Position Description

WATER CONSERVATION STAFF POSITION

It is common for counties with strong water conservation programs to have a full-time dedicated staff position to coordinate their conservation programs. In order for Yavapai County to have a successful comprehensive conservation program, we need the same type of staff person. Education and public outreach efforts can go a long way toward reaching our conservation goals, even though expenditures for such efforts may be relatively inexpensive. The staff person would also be responsible for coordinating other conservation programs.

THE JOB DESCRIPTION COULD BE:

Duties include the following:

EDUCATION PROGRAM:

Develop a water audit training program for volunteers performing in-home and business water audits. Train and Coordinate volunteers who will do the water audits for the public and who will also answer conservation questions from the public.

Develop a plumbing training program for volunteers involved in the installation/retrofit of water saving devices. Train and Coordinate these plumbing volunteers who will assist low-income and physically challenged residents in retrofit programs

Coordinate advertising (both earned and paid)

Develop a public presentation strategy, do outreach and give presentations to various public groups

Work closely with the County's public communications staff for on-going continuous public awareness program

Develop and implement professional education programs for various industries such as plumbing and landscaping.

Develop and implement water conservation programs with the restaurant and hospitality industries, to encourage water conservation by their customers.

Develop and implement a workshop program that will explain the benefits of using water saving devices. This workshop would be available to the general public free of charge.

Work with the Water Advisory Committee's coordinator, and with the Water Advisory Committee on applicable programs.

Will report to ????

Coordinate with federal, state, municipal, regional public and private conservation programs

QUALIFICATIONS

Graduate from a four year accredited college or university

Excellent communication skills – computer, writing, and verbal

Must possess facilitator and people management skills (team concept)

Must possess organizational skills and have the ability to multi-task

Must possess knowledge of water conservation issues as they relate to the Southwest and especially the local area.

Some Ed and Outreach examples

- Package the concept of water conservation as an efficiency/cost reduction program
- Relate the value of riparian habitats to the quality of life issue
- Provide water use audit program with volunteer field personnel
- Initiate a reduce, repair and retrofit program
- Educate public on how to check for and repair water leaks.
- Educate public on how long to water landscaping during different seasons and what time of day
- Educate public on efficient car washing techniques (e.g. use bucket, water shut-off hose valve, or power washers)
- Educate public on value and use of timers for landscape irrigation
- Work with different industry groups to assist in water conservation (e.g. landscaping businesses, hotels, plumbing businesses, restaurants, business suppliers, etc)