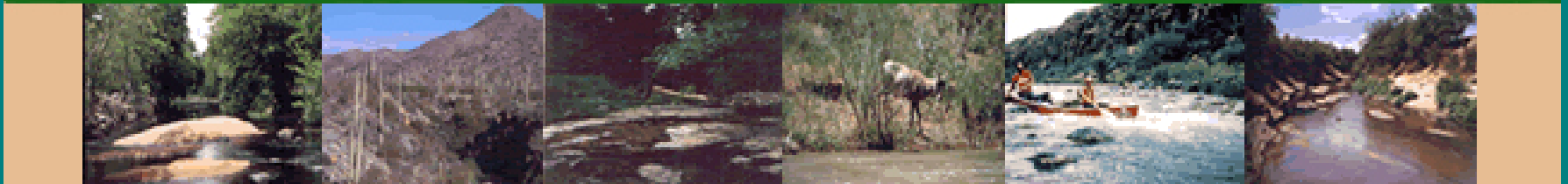


Perspective

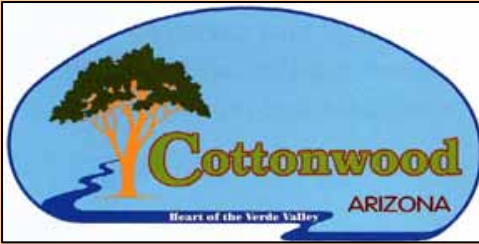
from a Verde River Community - Cottonwood, Ariz.



ARIZONA RIPARIAN COUNCIL



Twenty-Second Annual Meeting
The Verde River: Are Growth
and Conservation Mutually Exclusive?



- Diane Joens
- Mayor of Cottonwood, Ariz.
- Home Office Ph: 928-634-4112
- City Hall Ph: 928-634-5526
- E-mail: mayor@dianejoens.com
- Web site: www.dianejoens.com
- Web site: www.ci.cottonwood.az.us



A River Runs Through It!

- **What's it like to live in a town in Arizona that has a river Running through it?**

A brown poodle dog is sitting on a dirt bank next to a river. The dog is looking towards the camera and has a colorful collar. The background features a river, trees, and a hill under a clear blue sky.

**Tessa:
the Verde River
Dog**

**We Verde River
Communities
Really Love
“Our” River!**

© Diane Smith Joens

A River Runs Through It! Mingus Avenue Extension Bridge



A River Runs Through It!



A River Runs Through It!



**A River Runs Through It!
Serenity in the Verde Valley
Dead Horse Ranch Lagoon at Sunset
Mingus Mountain in the Background**



A River Runs Through It!

Beaver
Creek
on its
way
to the
Verde
River



A River Runs Through It!

**Fossil
Creek
on its way
to the
Verde River**



A River Runs Through It!

Tavasci
Marsh



A River Runs Through It!

The Verde
River
at
Perkinsville



Verde and Salt Rivers Channeled into SRP Canals

Some were built by the Hohokam Indians

When we are finished playing in the water, and after the wildlife and riparian habitat get a drink, it is an important supply of water to downstream rights-holders in the Phoenix area, supplying up to 1/3 of their water in good years



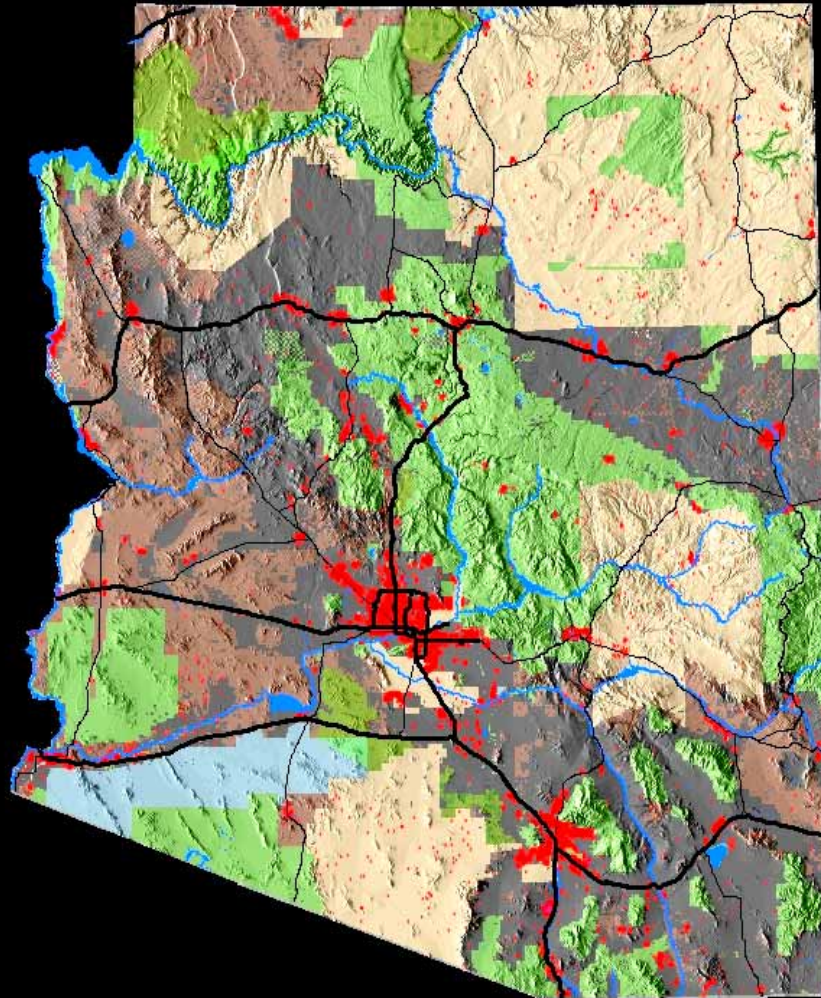
So, If We're Having So Much Fun Splashing in the Water, What's the Big Deal?

Arizona is beautiful, warm, and sunny. People want to live here. Private property rights and private land availability ensure we will continue to increase in population. Baby-boomers are retiring and migrating here, and our children grow up and have their own families. They need homes, too.



Population Density 2000

Arizona has ranked as one of the top five fastest-growing states in each of the last six decades. Today, we are number one.

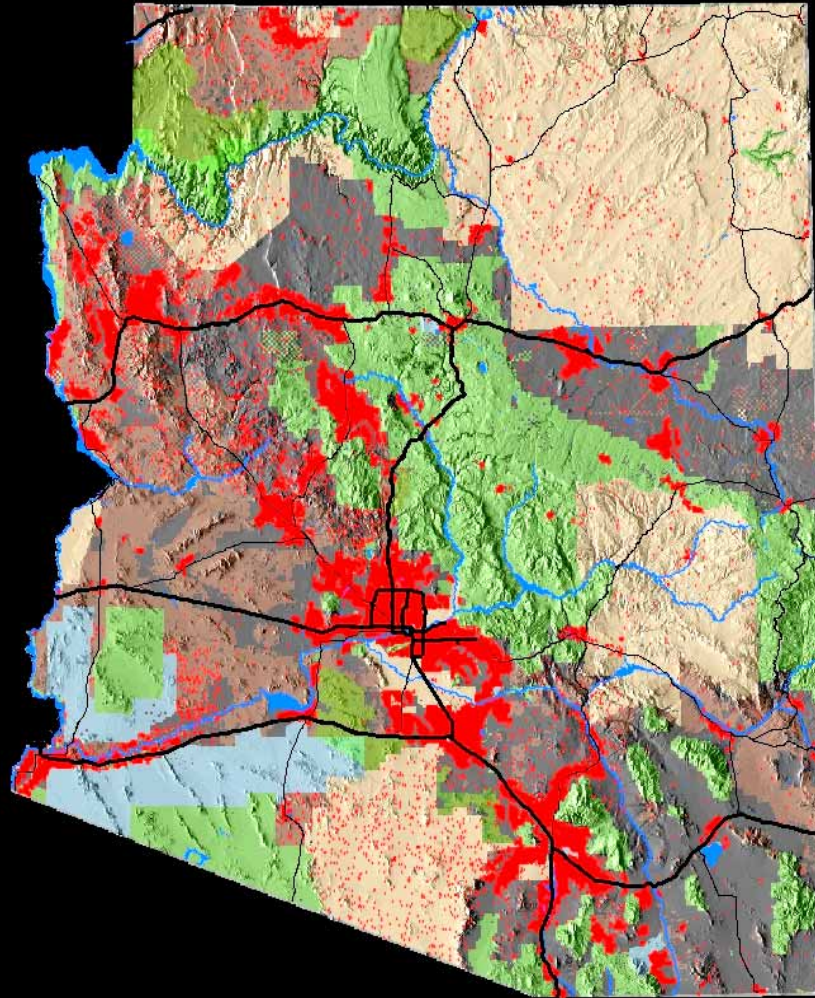


Map courtesy of Maricopa Association of Governments

Population Density 2050

“Arizona is growing, developing, and changing at such a rapid pace it would be hard to imagine if we weren’t experiencing it.”

~Governor Janet Napolitano
2007 State of the State



Map courtesy of Maricopa Association of Governments

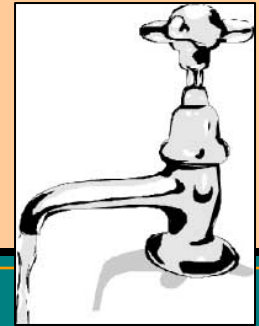
Population...



The population of Yavapai County has increased rapidly -- from 31,000 inhabitants in 1962 to 62,300 in 1978 to 107,714 in 1990 to 167,517 in 2000. The population increased 56 percent from 1990 to 2000, making Yavapai the second fastest growing county in Arizona.

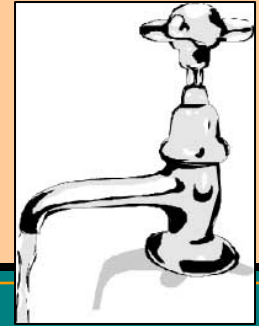
Yavapai County Extension Service

July 1, 2005 Population Estimates



• Yavapai County	205,105
• Camp Verde	10,730
• Chino Valley	12,325
• Clarkdale	3,680
• Cottonwood	10,860
• Dewey-Humboldt	4,030
• Jerome	330
• Peoria	10
• Prescott	40,770
• Prescott Valley	33,575
• Sedona	7,835
• Unincorporated	80,960

More Population Stats...



• Population	1990	2000	2006
• Yavapai County	107,714	167,517	213,285
• Arizona	3,665,228	5,130,632	6,305,210

DES Yavapai County Population Projections 2010-2055

<u>YEAR</u>	<u>POPULATION</u>
• 2010	248,160
• 2015	307,363
• 2020	379,928
• 2025	462,615
• 2030	554,547
• 2035	655,455
• 2040	761,357
• 2045	867,410
• 2050	970,269
• 2055	1,069,310



District 3 Verde Valley 23,441 Vacant Parcels

LEGEND

- State Hwy
- Public Land Use
- ARIZONA GAME AND FISH
- ARIZONA STATE PARKS
- BUREAU OF LAND MANAGEMENT
- BUREAU OF RECLAMATION
- COCO NINO NATIONAL FOREST
- INDIAN RESERVATION LAND
- KAIBAB NATIONAL FOREST
- NATIONAL MONUMENT
- PRESCOTT NATIONAL FOREST
- STATE OF ARIZONA LAND
- TONTO NATIONAL FOREST



0 15000 30000

1 in. = 30000 ft.

Yavapai County assumes no responsibility for errors, omissions, and/or inaccuracies in this mapping product.

February 9, 2006

Some folks say, “Whoa! Slam the Gates Now!”





We Need a Management Toolbox!

- The web of water law, policy and management in the West has developed over decades and is exceedingly complex. That complexity reflects an attempt to achieve equity among the various water use sectors: municipal, agricultural, mining and commercial/industrial.
- The environment is typically absent from the water-negotiating table. --Jeanmarie Haney in Southwest Hydrology
- Arizona essentially has no laws that acknowledge or protect rivers and riparian areas.



Sustainability

- In the Southwest, the water needs of a rapidly expanding human population are coming in direct conflict with the water needs of natural systems.
- The boundary beyond which human water use causes undesirable consequences to natural systems is the “sustainability” boundary. Beyond that, we alter landscapes and lose functions critical to humans and wildlife.

--Jeanmarie Haney in *Rivers and Water Management in the Southwest*

Ecologically Sustainable Water Management

- How Can We Do It Better? Ecologically sustainable water management addresses the question, “How can we manage water to meet human needs while also maintaining a desired level of ecosystem function?”



**Ring-billed gulls at Peck's Lake
In Clarkdale, Ariz. in March 2002**

Sustainable water, unlimited growth, and quality of life: Can we have it all?

- Will our legal and institutional framework adapt to changing needs and conditions?
- Will we quantify our groundwater and understand the limits to groundwater development?
- Will we define an acceptable level of groundwater use framed in terms of sustainability, a concept not purely scientific, but rather depends on society's willingness to accept the long-term consequences of different levels of groundwater development.
- Modeling is an essential tool for addressing these issues.

--William M. Allen and Stanley A. Leake, U.S. Geological Survey

We Need a Management Toolbox!

- Science can provide tools and methods for defining the water needs of specific river ecosystems and delineate the consequences of particular development scenarios. With this information in hand, water managers and citizens can decide what consequences they are willing to accept, and can work toward meeting human needs for water while maintaining adequate hydrologic conditions for the ecosystem.

--Jeanmarie Haney in *Rivers and Water Management in the Southwest*

A River Runs Through It!

- How will we balance inevitable population growth with available water supplies, while protecting our irreplaceable rivers, streams and riparian areas?
- It isn't going to be easy.
- It's going to continue to take a lot of planning, cooperation, collaboration and hard work. It's going to take watershed communities in Yavapai County working together.
- It's obviously going to take new technology, talent, science and DOLLARS!





Cottonwood Purchases Water Companies

- Taking control of its water future, the City of Cottonwood acquired Cottonwood Water Works in January 2006, collaborating with Clarkdale
- The City of Cottonwood acquired the Verde Santa Fe Water Company, Clemenceau Water Company, and Cordes Lakes Water Company in October 2004

This helped the City of Cottonwood to...

- Reduce costs by combining personnel, buildings and equipment
- Reduced the total number of employees through consolidated ownership
- Efficient operation through economy of scale
- Provided operational, emergency and billing services to the town of Clarkdale, reducing their start-up costs, and bringing additional operational revenue to the Cottonwood system



City of Cottonwood

- Efficient utilization of pumps, storage facilities and resources
- Installed new disinfection equipment on all wells to allow consistent and regulated control of water system chlorination
- Improved system pressure in certain areas through installation of variable drive booster pumps
- Completed arsenic feasibility study, and bid remediation systems through out the entire system



City of Cottonwood

- Ability to create strong water conservation program and incentives
- Adopted a tiered rate structure to encourage conservation
- Developed drought management plan
- Beginning the process of a formal conservation program



City of Cottonwood

- Increased use of reclaimed water for recharge and reuse project
- Adopted ordinance requiring reclaimed water for construction watering
- Have experienced significant increase in use of reclaimed water
- Upgrade of the reclaimed water delivery system in construction



City of Cottonwood

- Increased security and safety
- Installed new fencing at well 7-2 which encompasses the well head and electrical supply. This area was previously accessible to the public
- Completed major electrical renovations throughout the Clemenceau well system
- Completed a Vulnerability Assessment and Emergency Operations Plan for the entire system



City of Cottonwood

- Gained ability to obtain grants and supplemental funding available to public entities
- Bond issues included significant funding for capital upgrades to system
- Received WIFA grants for portions of the acquisition study



City of Cottonwood

- Owning the water companies gave us more consistency in water rate use structures and billing
- All Cottonwood customers are now on the same rate structure, vs. the previous four different rate structures within our community



City of Cottonwood

- Added 1500 feet of waterline and three new hydrants in Clemenceau area for increased fire protection
- Completed waterline upgrade and fire hydrant installation in Old Town area
- Improved coordination for fire protection through the development review process



City of Cottonwood

- Regional planning of system improvements and water resource development
- Several projects connecting together the previous four separate private systems to improve efficiency
- Participation at regional level studying the water resource and water resource development



City of Cottonwood

- Greater openness to the public
- Locally elected City Council setting policy vs. a private company
- Operational budget open to public
- Ability to better influence statewide water legislation
- Bob Hardy appointed to the Statewide Water Advisory Group



City of Cottonwood

- Ability to acquire water rights and develop new resources
- Acquired three additional well sites
- Have a standing in the Gila River Adjudication process
- Eligible for CAP allocations
- Created development impact fees for water and wastewater



City of Cottonwood

- Control growth patterns within the community
- Municipal ownership increases ability to use water availability in land use decisions
- System improvements targeted to support existing neighborhoods
- Developers contribute to the value of the public system versus increasing the value of private companies



Conservation in Cottonwood

- In November 2006 the City Council passed a Drought and Water Shortage Preparedness Plan
- May through September, even/odd days, even/odd streets for outside watering
- Best practices: responsive to citizens, equity and fairness during water shortages, public education, water conservation



Water Resource Status

- **Resource Status Level I:**
- Resource Status Level I is in effect at times when water demand exceeds safe production capability for five (5) consecutive days and/or during the months of May, June, July, August and September, beginning May, 2007.
- **Resource Status Level II:**
- Resource Status Level II is in effect when water demand exceeds safe production capability by more than twenty percent (20%).
- **Resource Status Level III:**
- Resource Status Level III is in effect when water demand exceeds maximum production capability, when a temporary or permanent failure of any major supply or distribution facility occurs in the water distribution system, or when the amount of water in storage may impair fire protection for the City.



City of Cottonwood

- Completed impact fee study and adoption of the fees to make new development pay its own way for water and wastewater infrastructure
- We completed a program to locate, exercise and plot every mainline water valve in our four systems. This allowed replacement of defective valves and the ability to quickly isolate leaks and “stop the bleeding” which saves a substantial amount of water



City of Cottonwood

- We have now replaced in excess of 6000 feet of defective and leaking waterlines
- We are installing fire hydrants throughout our systems to increase fire protection
- We are in the process of replaced the old, inefficient booster pumps with much more economical and efficient variable drive booster packs. This allows us to pump water with consistent pressure and volumes while significantly reducing energy consumption



City of Cottonwood

- We have replaced pumps, motors, drop pipe and electrical cable in two thirds of our production wells. All replacement pumps and motors are engineered for maximum efficiency and performance
- Drafted, adopted and received State approval on our drought preparedness and water shortage plan which exceeds the regulatory requirements in that we restrict water usage May through September even if our supplies are sufficient



City of Cottonwood

- Members of Yavapai County Water Advisory Committee
- Northern Arizona Municipal Water Users' Association
- Verde River Basin Partnership
- (Funded \$10,900 to the VRBP this year for a well-testing study, collaborating with Clarkdale, Jerome and Camp Verde)



City of Cottonwood



- We are working hard to do our share to protect our water resources for people and the environment

Do Rivers Have Roles?



- The Verde River is a significant water supply and recreation corridor. Beyond its physical importance, the future condition of the Verde River will eventually represent how successful Arizona is in finding accommodation for all the roles that rivers play.

Verde River Almanac, Carol Erwin, U.S. Bureau of Reclamation

Sustainable water, growth, and quality of life: Can we have it all?



- “No pessimist ever discovered the secrets of the stars...
- Or sailed to an uncharted land...
- Or opened a new heaven to the human spirit.”
--Helen Keller

The Moral
of the Story Is...

It doesn't
take
much
water to
have a lot
of fun!

