



Show Me the Water

Integrating Water Planning into Development Approvals

Show Me the Water!

Moderator:

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Panelists:

- Anne Castle, CU Getches-Wilkinson Center for Natural Resources
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SHOWARE FHE WATER!

Assured Water Supply Laws in the West

Anne Castle Getches-Wilkinson Genter University of Colorado

Development Approvals and Water Availability

- Development approval processes create new water demand
- More effort being made to ensure consideration of water availability and conservation

Policy Recommendations on Better Integration of Land Use and Water

- Western Governor's Association Sustainable Water reports
- Colorado State Water Plan
- California Sustainable Groundwater Management Act

Rationale for Assured Water Supply Laws

- Consumer protection for homebuyers
- Pressure on water supplies requires stronger connection between land use approval and water planning

Laws Requiring Examination of Adequacy of Water Supply

- Some old, some new
- Some nonexistent
- Some exist on the books, but enforcement is weak

Distinguishing Characteristics

- Universal application
- Uniform expert review
- Minimum size of development covered
- Integration with regional and future water availability determinations
- Water Conservation requirements

State Law Comparison

State	Universal	Uniform Expert Review	Minimum Size	Integration	Conservation
Arizona	Yes	Yes	6	Yes	Yes
California	Yes	No	500	Yes	No
Colorado	Yes	County-Yes Local Gov't-No	County-2 Local Gov't-50	No	No
Montana	Yes	Yes	1	No	No
Nevada	Yes	Yes	5	No	No
New Mexico	No	Yes	5	No	Yes
Oregon	Yes	No	4	No	No
Washington	Yes	No	Subdivision-5 Bldg. Permit-1	No	No
Wyoming	No	No	6	No	No

Overall Observations

- Statewide applicability
- Local officials not well suited to review complex water supply plans
- Water conservation increasingly needed
 - -Will look different in different areas
 - –State could supply menu of potential options

Caveat

- Local control is jealously guarded
- Balancing with wise water planning is tricky
- May require different strategies in different locations

Resources

Assured Water Supply Laws in the Western States: The Current State of Play By Monica Green and Anne Castle

Colorado Natural Resources, Energy and Environmental Law Review, March 2017 Show Me The Water: Arizona's Lessons Learned on Closing the Water – Land Disconnect

Jim Holway, FAICP, Ph.D.

Rocky Mountain Land Use Institute 2017 Annual Conference March 16, 2017

Show Me The Water: AZ Lessons

Why A Disconnect Arizona's Programs Lessons & Policy Approaches

Water and Land Use Arizona Tools to Link

Growing Smarter / General Plans Water Provider Plans Assured Water Supply Rules Central AZ Groundwater Replenishment District Adequate Water Supply Rules

WATER & LAND USE THE MISSING LINK

WHY HISTORICALLY A DISCONNECT

Water Use – regulated at state & federal levels

- Reacting to crisis, facilitating econ development
- Water & Land separate commodities, separate property rights

– e.g. Groundwater a public (not private) resource

WATER & LAND USE THE MISSING LINK

WHY HISTORICALLY A DISCONNECT

Land Use – regulated by local government

- Avoid nuisance, grow & increase tax base
- Water historically not examined in comp. plans
 Planners & water managers don't interact
- Comprehensive plans typically not followed
 - Too general, different elements conflict
 - Investment decisions incremental & disconnected
- State & Local interests may be inconsistent

WATER & LAND USE THE MISSING LINK

WHY HISTORICALLY A DISCONNECT

- Significant growth on urban fringe and rural areas
 - with little planning capacity and limited water data
- The regional and local water related impacts of development do not line up
 - Local areas receive benefit of development, but may not bear impact on water resources
- Inadequate willingness/ability to invest in water resources planning or management at state & local level
- Assumption water will move uphill towards development

 Just buy the rights and build infrastructure
- Leave it to the experts water is complicated ...trust us!

WATER & LAND USE What Role For AZ General Plans

Water Resources Element

- Growing Smarter/Plus requires a water resources element from municipalities over 2,500 unless under 10,000 and with a growth rate of less than 2%, and counties with pops greater than 125,000
- 4 counties and 23 communities outside of AMAs qualify
- Over 50,000 pop, originally due at end of 2002 (2); under 50,000, end of 2003 (21)

WATER & LAND USE What Role For AZ General Plans

Water Resources Element Requirements

- Identify known legally and physically available supplies
- Identify demand resulting from growth projected in general plan
- Identify how demand will be served by currently available supplies or a plan to obtain additional necessary water supplies (all from existing data):

Conclusions:

• Outside of AMAs, water elements have limited impact

WATER PLANNING Provider Plans

<u>Water Providers; Community System Plans</u> <u>Arizona HB 2277 - 2005</u>

- Water Supply Plan sources, service area, historic & projected demands. Due 1/07 year later for small
- Drought Preparedness Plan response actions & public information
- Water Conservation Plan measures to reduce loss, increase efficiency, consider rate structure
- Report Water Use starting May 2007 for 2006. But, low compliance and no enforcement authority



Implementing the Plan

SHOW ME THE WATER Arizona's Assured Water Supply Rules

Apply only within AZ's 5 Active Management Areas

- <u>Must</u> demonstrate AWS to subdivide land
- Requires 100 year supply
- Must be consistent with AMA Goal
 - e.g. safe yield so can not deplete aquifer
- Meet water quality standards
- Prove financial capability

Water Management Areas



Subdivision Requirements and Assured Water Supply

- Subdivision: land divided into six or more parcels where at least one parcel is less than 36 acres, which is offered for sale or lease for more than one year
- An assured water supply is required:
 - to gain approval of a subdivision plat by local governments (Titles 9 and 11)
 - to obtain authorization to sell lots from the Department of Real Estate (Title 32) through issuance of <u>Public</u> <u>Report</u>

Assured Water Supply Criteria

- Physical Availability for 100 Years
- Legal Availability for 100 Years
- Continuous Availability for 100 Years
- Adequate Quality
- Financial Capability
- Consistent with Conservation Targets
- Consistent with AMA Goals

- Safe-yield in Phoenix, Tucson, Prescott AMAs

Methods of Meeting Goal Requirement

- Use of renewable supplies (either directly or via underground storage and recovery):
 - Surface water
 - Effluent
- Membership in the Central Arizona Groundwater Replenishment District
- Groundwater imported from certain basins
- Dry lot subdivisions of less than 20 lots are exempt

Two means of establishing an Assured Water Supply:

> Certificate of Assured Water Supply (individual subdivision)

Designation of Assured Water Supply (blanket for water provider)

Certificates of Assured Water Supply Lots Approved



Central Arizona Groundwater Replenishment District (CAGRD)

- Acquires supplies to replace groundwater pumped by its members
- Replacement water is recharged into aquifers in the AMA within 3 years
- Net effect: no new groundwater pumping

Example #2 CAGRD Member Land

Subdivision developer applies to ADWR for Certificate of Assured Water Supply

Provider pumps grour dwater and serves it to homeov/ner

Provider reports total water use to ADWR, and individual homeowner water use to CAGRD

CAGRD reports homeowner's replenishment, as sessment to **County Asses**

Assessor collects assessment on property tay, bill, and sends mone

Facility

Operator

CAP Water

Recharge Basin







2015 Plan: Replenishment Obligation

Estimated 100-Year Replenishment Obligation for Current and Future Members

Active Managem ent Area	2015	2020	2025	2030	2034	2114
Phoenix AMA	34,300	37,700	53,300	62,500	68,600	84,200
Pinal AMA	400	1,500	3,500	4,900	5,600	15,500
Tucson AMA	3,300	5,600	9,900	12,000	12,700	13,300
Total	38,000	44,800	66,700	79,400	86,900	113,000

Figure 23: Tri-County Construction Based **On Parameters in Table 1** 75,000 60,000 45,000 30,000 15,000 1995 ,005 025 <u>,</u>05

WATER ADEQUACY Outside AZ Active Mgmt Areas

Arizona HB 2693 / SB 1575 - 2007

- Outside AMA County Supervisors may, <u>by unanimous vote</u> adopt an ordinance prohibiting final plat approval if adequacy not demonstrated to ADWR, city must follow
- Potential exemptions:
 - County may allow water hauling indication on deed
 - ADWR Director may allow 20 years for water supply development
 - ADWR Director can exempt if significant capital investment
- City can adopt own ordinance if County does not
- Water Providers in jurisdiction eligible for water supply development fund if jurisdictions adopt ordinance
- Counties: Cochise & Yuma; Towns: Clarkdale and Patagonia



Show me the Water Approaches

Hierarchy of Approaches

- **Do Nothing Buyer Beware**
- Buyer Informed Subsequent Buyers?
- Public Notice Comment/Protest Right?
- Require Demonstration of _____ Year Supply
- Require Renewable Supply & Replacement of Mined Groundwater (Safe-Yield?)
- Local Area Sustainability for _____ Years
- Recovery from Previous Aquifer Depletion

WATER & LAND USE MAKING THE LINKAGE

SUSTAINABLE WATER SUPPLIES & IMPLICATIONS FOR LOCAL GOVERNMENT

- Incorporate Assured/Adequate Supply Considerations & Drought Vulnerability into Long Range Planning
- Utilize Adequate Public Facilities Ordinances
- Recharge & Recovery Planning / Aquifer Mgmt Linked to Long Range Land Use Planning
- Anticipate Sites for Recharge & Recovery
- Protection for Existing Users/Rightholders
- Regional Coordination & Cooperation

Colorado's Adequate Water Requirements

-Louderd

Current State Law

- Master/Comprehensive Plans

 Water supply element discretionary
 Water supply entities must be consulted
- Zoning Plans water not addressed
- Activities of State Interest 1041 Regulations
 - New domestic water systems or extensions
 - Development of new communities
 - Efficient utilization of municipal water projects

Current Law

• HB 1141 (2008)

Water supplies for land development have regional impact, both within and between river basins

 Land use decisions are local, but ensuring adequacy of water for new development is a matter of statewide concern

Current Law Local Governments

- All local governments (cities, towns, counties) must determine that proposed water supply is adequate
- Applies to developments of 50 units or more
- May request opinion from State Engineer, but not required
- Timing of determination is flexible

Current Law – Counties

- Older statute, not changed with HB 1141 [Colo. Rev. Stat. §§ 30-28-133, 136]
- Applies to subdivisions of 2 units or more
- State Engineer opinion required
- Water adequacy determination required for approval of preliminary plan or final plat

Water Conservation

- No requirement for water conservation as part of land use approval process
- Other statutes address conservation

 Only WaterSense indoor fixtures can now
 be sold
 - -Rain barrel legislation
 - Restrictive covenants can't prohibit xeriscape landscaping or rain barrels

2015 Legislation on Land Use and Water

- Water conservations plans evaluate *best management practices* for demand management through land use planning
- Training programs for local government officials
- Recommendations from CWCB & Dept. of Local Affairs on better integration of conservation into land use approvals

Discrepancies – Cities/Counties				
Counties:	Cities (and Counties):			
Adequacy determination required for development of 2 or more lots	Adequacy determination required for development of 50 or more lots			
State Engineer opinion required	State Engineer opinion not required			
Specific times for making determination (<i>preliminary plan, final plat</i>)	Complete flexibility in timing for making determination			

Timing Flexibility -Benefits and Concerns

- Welcomed by developers and land use authorities
- Unrealistic to expect developers to have all water rights and decrees in hand initially for multi-year development
- But delaying decision to late stage creates problems if water supplies don't pan out

Resources

Integrated Land and Water Planning By Anne Castle, John Sherman and Larry MacDonnell

http://www.colorado.edu/law/research/gwc

"SHOW ME THE WATER" (A PLANNERS PERSPECTIVE)

Julio G Iturreria Long Range Planning Manager Arapahoe County, Colorado

SO WHERE IS THE WATER GOING?

- Colorado the Headwaters State with rivers flowing out to adjacent states:
 - Colorado River (Utah)
 - South Platte (Nebraska)
 - Rio Grande (New Mexico)
 - Arkansas (Kansas)
 - Republic (Nebraska)
 - Laramie (Wyoming)
 - Animas and Florida
 - Dolores (Utah)
 - White (Utah)
 - Yampa (Utah)
 - North Platte (Wyoming)
 - San Juan and Piedra (New Mexico)

SO WHAT IS A PLANNER TO DO ABOUT THE STATES WATER ISSUES ?

- CLIMATE CHANGE
- DROUGHT
- POPULATION INCREASES
- LACK OF WATER AND WATER QUALITY
- LEGISLATION
- GOVERNOR
- STATE ENGINEER
- ELECTED OFFICIALS
- COLORADO WATER CONSERVATION BOARD
- COLORADO ROUNDTABLES
- COLORADO WATER PLAN
- COLORADO AMERICAN PLANNING ASSOCIATION

WHAT TOOLS DO PLANNERS HAVE?

• EXISTING LEGISLATION AS PRESENTED AND COLORADO WATER PLAN-DECEMBER 2015

 6.3.3 – Land Use: Subset of the Water Conservation and Reuse Chapter 6.3

Goals:

- Cost effective water efficiency;
- Integrate water efficiency planning and projects into overall water resource management;
- Promote efficiency ethic throughout Colorado;
- Explore additional water reuse options;
- Further integrate land use & water planning;
- Seek creative options for improving agricultural irrigation conservation and efficiency

Objective:

 By 2025 75 percent of Coloradans will live in communities that have incorporated water-saving actions into land-use planning.

A PLANNER'S PERSPECTIVE

- Addressing the goals within the Colorado Water Plan Water, Conservation and Reuse Chapter shows a need for collaboration between water providers and land use planners.
- Since population is increasing by double and water is finite for any given year. This issue needs to be taken very seriously with ACTION soon to follow.
- Today: We have less water and more population within the State of Colorado, this statistic will continue to grow.

SO WHAT IS A PLANNER WITHIN STATE OF COLORADO TO DO?

- GET INVOLVED AND GO BEYOND YOUR COMFORT AREA:
- With your local Water Roundtable.
- American Planning Association Legislative Committee
- With Colorado Counties Inc.-CCI
- With Colorado Municipal League CML
- Learn about the water district capabilities where you pay your bills

DID AON KNOMS

 SB 15-008, Under this bill, the Division of Local Governments is required to develop a training program which will (a) including introductory programs, refresher programs, and advanced programs, for local governments water use, water demand, water consumption, and land use planners regarding Best Management Practices for water demand management and water conservation...

DID YOU KNOMS

- In 2016 the American Planning Association of Colorado introduced HB 16-1313 authorizing local government master plans (Advisory Only) to include policies to implement State Water Plan goals as a condition of development approvals.
 - This Bill was not approved because of the following statement;

"THE MASTER PLAN MAY INCORPORATE WATER CONSERVATION AND WATER MANAGEMENT GOALS, INCLUDING THE GOALS SPECIFIED IN THE STATE WATER PLAN ADOPTED TO SECTION 37-60-106 (1) (U) C.R.S., AND MAY CONSIDER INCLUDING RECOMMENDED POLICIES TO IMPLEMENT THE GOALS AS A CONDITION OF APPROVALS, INCLUDING SUBDIVISIONS, PLAN UNIT DEVELOPMENT, SPECIAL USE PERMITS, AND ZONING CHANGES. NOTHING IN THIS SUB-SUBPARAGRAPH (C) SHALL BE CONSTRUED TO CREATE A MANDATE OR AFFECTING THE POLICY REGARDING WATER."

UNRESOLVED ISSUES FOR PLANNERS

- Annexations impact Special Districts, Master Plans, Conservation Plans, and Comprehensive Plans for unincorporated Counties.
- Need for clarification of current legislation making Water a predominate issue for Comprehensive Plan, Zoning and Subdivisions.
- Need for a Statewide water use per capita per person
- Best Management Practices for the entire State of Colorado as mandatory legislation
- Simpler method to approve water storage with the aid of Land Use

PROACTIVE OR REACTIVE?

• Depends upon what agency you work for the following is true:

• Planners are typically proactive, until there is a a lack of "political will" by their bosses the elected officials and/or managers to deal with the issues at hand.

•QUESTIONS?

Program Design Considerations

- What are the Goals & Objectives
- Who is the Decision Maker & What Actions Do We Want To Affect
 - Location & type of residential or non-residential development, Landscape Choices, Infrastructure Choices & Fixtures, Water Features
- How Can Those Actions Be Influenced
 - Investments of Individuals, Design Professionals, Providers, Developers, Corporations, Government;
 - Knowledge Perceptions Behaviors to- Actions
- What Tools Do We Have Available
 - AZ Approach Show me the water & planning regulations
 - Performance Based Allocations vs. Prescriptive BMP Programs
 - What is most effective at impacting individual behavior education vs. regulation vs. financial incentives (like water price) ????

Do We Have Enough Water



What ? When ? Who ? Where ?we have choices Infrastructure – Programs - Institutions Adequate for the next 50 years

Of course not...we should ask..

- Can they evolve to what is needed ?
- What timeframes must we deal with ?
- Is their sufficient management capacity ?
- Do we have sufficient wealth & willingness to pay?
- How can we contribute ?

Water Sustainability Thresholds & Big Questions

- Are we approaching / exceeding limits
 - Conservation Reallocation Reuse Optimizing System New Supplies
- Does the Future differ from Past
- How can we build resiliency & management capacity into legal frameworks & institutions
- Are we willing to invest in our future
- Do we have the right balance between private rights and public welfare
- What is the right mix of market & non-market mechanisms
- How to best incorporate the environment, ecosystem health and 3rd party impacts
- Role of "government" ... at what level(s)?
- How can we decide .. move forward ...do we need more democracy, more collaboration or less