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watersmartinnovations.com
It’s a small world: How smaller water utilities incorporate water efficiency and conservation programs with limited means

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Small water utilities: the same & yet different

Challenges:

- Aging infrastructure
- Cash flow
- New infrastructure
- Drought and water scarcity
- Water quality standards & regulations
- Customer expectations
Unique challenges

- Small customer base
  - Limited workforce
  - Evolving customer base
  - Budget / cash flow
- Deferred and accumulated maintenance needs
- Restricted rate flexibility
- Limited access to capital markets

“There’s an error in my bill. You accidentally sent it to someone who has no money.”
Water Conservation:

- Why bother?
  - Not just a means, also a tool
- Maybe, how?
  - Costs to plan, implement, administer, & maintain
- OK, what about the little guy?
  - Budget, marketing, processes, personnel, measures
Water strain

- For many communities, there may eventually be no choice.
- Within the US the push-pull for water varies greatly.
- This may be the only metric in which DC's stress level ranks lowest in the country.
Colorado River Basin

- Population served: ~40M
- Arizona’s supply: ~40%
- Dependence: fringe cities
Where in the world is Surprise, AZ?
- Population: ~140K
- Water providers: 11
- Potable water customers: ~40K, ~16K accounts
- 10,249 AF/YR CAP allocation
- Residential: 98%, growing families
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Future

- Build-out pop.: 700,000+
- Master planning areas: 6
- Build-out: 300 mi²
- Future deficit: ~49K AF/yr.
- So. Many. New developments
- Manage water supplies
Surprise future

Facing an ~49,000 AF/yr. deficit
How much water do we manage?

- CAP allocation: 10,249 AF/yr.
- Wastewater
- Potable water
- Stormwater
- Recharge
- Surface water: Maricopa Water District
What we manage

- Wastewater utility
- Water utility
- Stormwater utility
- Environmental compliance

- Business management
- Construction management
- Portfolio management
- Water conservation
Teams & collaboration

- Water Resource Management Staff
- Water Resource Portfolio Division
- Development Review Team
- Training & development
# Integrated Water Master Plan

## Water Resources Management

### Near-Term
- **Groundwater**
  - Establish area of hydrologic impact
  - Conduct groundwater recharge and water quality
  - Implement groundwater management
  - Compare costs of groundwater vs. surface water treatment
- **Surface Water**
  - Recharge all CAP water
  - Pursue potential drought exemption from ADWR
  - Compare costs of City-owned vs. regional recharge facilities
  - Encourage continued urban irrigation with MWD surface water

### Mid-Term
- **Reclaimed Water**
  - Recharge all excess reclaimed water
  - Update long-range plan for reclaimed water infrastructure
  - Identify potential direct reuse customers
  - Develop City-owned reuse facilities for reclaimed water
  - Pursue GSF permits for reclaimed water delivered to farms

### Long-Term
- Participate in regional water supply development discussions
- "Fill out" water portfolio with additional resources to achieve true water resources sustainability

## Assured Water Supply

### Groundwater
- Maximize physical availability
- Acquire credits for extinguished groundwater rights
- Increase portfolio of long-term storage and extinguishment credits
- Account for pumped groundwater as recovered credits

### Surface Water
- Maximize physical availability
- Explore alternative water accounting
- Explore opportunities for urban irrigation and purchases

### Reclaimed Water
- Maximize physical availability
- Document MWD supply for urban irrigation

### Water Conservation
- Document existing water conservation program
- Develop formal water conservation plan

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CITY OF SURPRISE, ARIZONA
INTEGRATED WATER MASTER PLAN WATER RESOURCES

Recommended Water Resources Management and Assured Water Supply Strategies

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ARCADIS

Figure E8-3
Surprise Water Resource Management

- Integrated Water Master Plan
- Community Drought Plan
- Development Team

WHAT IF THERE IS TOO MUCH DEMAND

AND NOT ENOUGH SUPPLY?!
Regional planning & participation

- Water Committee
- Water Quality Advisory Committee
- Basin Study Adaptation Subcommittee
- Recovery Planning Advisory Group
- Management Plans Workgroup
- Board of Directors
- Planning Committee
- Advisory Council
Our partnerships
InfoShare
Arizona Water Conservation Information Sharing Meeting

- Meets 2-4 times per year
- Networking
- Vendors
- Roundtable discussions
- Tours
Finding leaks resource

- Free: smarthomewaterguide.org
- Step-by-step home water guide
- Indoor & outdoor checks
- Check pool equipment
- Landscape irrigation checks
- Isolation and visual leak inspections
Water conservation program
Water conservation program management

- Water Conservation Staff: 1 FTE
- Many programs, much tracking
- Spreadsheets, so many spreadsheets
Water conservation programs

- Adult education
- Youth education
- Messaging
- Rebates
- Xeriscape demonstration garden
Adult education

- Landscape & water efficiency
- HOA Academy
- Master Gardeners
- Contractors
- Staff
- Partners
- Staff training
Youth education K-12

- Menu of options:
  - Classroom presentations
  - Booklets
- Contractors & staff
- Partner collaborations
- Staff training
Messaging: Water – Use It Wisely

- Collaboration
- Resource hub
- Messaging creative
- TV & radio spots
- Social media
- Events
- Publications
Messaging outlets

- Social media: share, like, etc.
- Movie theatre PSAs
- Local newspaper articles
- Other departments:
  - Community Development (landscape reviews)
  - Human Services (HOA academy)
  - Communication (Channel 11, City magazine)
  - Utility Billing (staff training & billing messages)
Outreach events

- Partner collaborations
- Staff from other areas
- Un-staffed events
- Contribute resources
- Special events
Rebates

- Tailored to customer base
- Focus on reducing outdoor water use
- Include education components (inspection)

Current:
- Smart irrigation controller (WaterSense)
- New home Xeriscape installation
- Commercial/HOA turf removal
Xeriscape demonstration garden at City Hall

- Right plant, right place
- Efficient irrigation technology
- Passive rainwater harvesting
- Active water harvesting (cooling tower condensate, Low Impact Development)
- On-site classes & tours
- Funding: grants, community partnerships
Hopeful

Transformation
Workshop program management: registration

- Advertises classes
- Tracks registrants
- New workshop notification
- Email reminders
Workshop program management: survey

- Free to use
- Tracks attendees
- Provides links to resources
- Ask for:
  - Future class notifications
  - Water – Use It Wisely subscriptions
  - Social media follow
Rebate program management: tracking

- Funds
- Applications received/processed
- Status
- Reporting
Online application

- Easy to use mobile responsive application
- Emails submission notification to customer & staff
- So far, paper-free (paper application available upon request)
Dashboard

- Real-time updates
- Rebates processed, pending
- Funds expended, remaining
- Gallons saved
- Reporting ease
Summary

- Don’t reinvent the wheel
- Streamline
- Hire contractors
- Look for freebies
- Learn to wear many hats
- Be nimble
- Share
- Collaborate, collaborate, collaborate!
Questions or Comments?

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