2007 Arizona Drought Preparedness Annual Report

October 25, 2007
Report Organization

- Executive Summary
- Introduction
- Statewide Drought Program
- Statewide Conservation Office
- Monitoring Technical Committee
- Local Drought Impact Groups
- Conclusion
Statewide Drought Program

• Program Development & Plan Implementation Highlights

• Recommendations for Improving Monitoring, Implementation and Response

• General Plan Modifications
Program Development & Plan Implementation

Highlights

• Coordination of 3 structured groups
• Drought planning for community water systems
• Education and outreach
Coordination of 3 Structured Groups

- Involvement from local drought impact groups
- Drought Reporter page added to Drought Monitor Report
Coordination of 3 Structured Groups

2006
- Cochise
- Pinal
- Santa Cruz
- Pima

2007
- Yavapai
- Graham/Greenlee

In process
- Apache
- Navajo
- Mohave

Planned for 2008
- Yuma
- Gila
- Maricopa
- La Paz
- Coconino

10 of 15 counties
Coordination of 3 Structured Groups

- Participation in Monitoring Technical Committee
- Drought Reporter
- Rain Gauges
- Drought Impacts Database and Reporting System
Coordination of 3 Structured Groups

- Executive Order - Drought Declaration
- Emergency Drought Declaration
- Drought Disaster Designation
ADWR began implementation of drought planning requirements for community water systems, as established by the state legislature in 2005 (House Bill 2277).

These requirements were created to ensure that the state’s water providers reduce their vulnerability to drought impacts and are prepared to respond when drought occurs.

A public water system that serves at least 15 service connections or 25 year-round residents.
~800 systems in Arizona
### Drought Planning for Community Water Systems

#### Three Components

<table>
<thead>
<tr>
<th>Plan</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Water Supply Plan</strong></td>
<td>To evaluate water supply needs and strategy to meet needs</td>
</tr>
<tr>
<td><strong>Drought Preparedness Plan</strong></td>
<td>To meet the needs of the system during drought or water shortage conditions</td>
</tr>
<tr>
<td><strong>Water Conservation Plan</strong></td>
<td>To increase the efficiency of the water system, reduce waste, and encourage consumer water conservation efforts</td>
</tr>
</tbody>
</table>

- Small water systems (< 1,850 customers) and joint plans – Jan. 2008
- Large water systems (> 1,850 customers) – Jan. 2007

**System water plans**

**Annual water use reports**
Drought Planning for Community Water Systems

• Outcome
  – 90% submittal rate
    • 75% met primary objectives
    • 25% did not meet requirements
      – missing crucial components
      – system not prepared for drought & potential water shortage conditions
  – Notice to governing bodies

• Improvements
  – Emergency supplies
  – Guidance
    • System water plan form
    • Example stages & measures
    • Drought planning tool
Improved Guidance

Increasing Drought Severity

Drought Stage 0
Normal

- Management measures

Conservation measures and programs
- to be implemented on a continual basis

Examples:
- Provide general education and outreach materials, workshops, etc.
- Meter water use at the source and all connections; ensure meters are working properly, perform water use audits
- Limit lost and unaccounted for water (e.g., implement leak detection and repair programs, control evaporation from storage tanks, eliminate illegal connections)
- Encourage low water use landscaping (e.g., create a low water use drought tolerant plant list for your area, encourage installation of efficient irrigation systems)
- Evaluate population trends and project growth to determine future water needs
- Develop conservation incentive water rate structures
- Develop arrangements for alternative back-up water supplies should they become necessary

The above programs are basic measures that should be considered by all providers. Systems with sufficient resources should develop more advanced programs.

Drought Stage 1
Precautionary

- Management measures

Recommended when caution is needed to avoid stressing supplies

Examples:
- Communicate conditions, increase outreach
- Encourage further reductions or changes related to landscaping (e.g., turf removal, discouraging winter overseeding)
- Promote use of commercial car washing facilities where water is recycled
- Increase system-wide leak detection efforts and expedite repairs
- Monitor water levels of wells, reservoirs more frequently
- Promote rainwater harvesting
- Discourage subdivisions from requiring turf
- Encourage restaurants to provide water only upon request
- Encourage hotel/motel to implement linen & towel replacement programs
- Require public facilities to reduce water use by community-determined percentage
- Impose restrictions on fire and fireworks
- Prohibit or reduce winter oversowing
- Confirm arrangements for alternative backup water supplies should they become necessary
- Continue actions from previous stage, if applicable

Drought Stage 2
Intermediate

- Management measures

Recommended when there is a possibility that supplies may not meet demand

Examples:
- Implement time of day/day of week schedules
- Request a voluntary percent reduction from water users and offer tips on how to achieve it
- Prohibit subdivisions from requiring turf
- Implement increased conservation rate changes or surcharges
- Require restaurants to provide water only upon request
- Require hotel/motel to implement linen & towel replacement programs
- Require public facilities to reduce water use by community-determined percentage
- Impose restrictions on fire and fireworks
- Prohibit or reduce winter oversowing
- Confirm arrangements for alternative backup water supplies should they become necessary
- Continue actions from previous stages, if applicable

Drought Stage 3
Advanced

- Management measures

Recommended when there is a good probability that supplies will not meet demand

Examples:
- Implement alternative/back-up water supply strategies (temporary pumping, water hauling, emergency interconnects, and water rights transfers)
- Institute water use restrictions for large turf facilities
- Eliminate outdoor watering: no mists in commercial or public facilities, residential car washing, water used in fountains, or residential pool refills - consider watering trees but allowing shrubs/grass to die off
- Prohibit all public water uses not required for health or safety
- Suspend water use of interruptible customers (such as construction water) during peak periods
- Implement turf removal program
- Consider a moratorium on building permits if current demand cannot be met
- Continue actions from previous stages, if applicable
Drought Planning Tool

Arizona Community Water System Drought Planning Tool

Step 2: Drought Sensitivity Questionnaire

- Does your system use surface water?
- Does your system use groundwater?
- Do you expect any type of changes in your area that could need emergency measures?
- Do you implement an active conservation program among your customers?
- Have you had to haul water to supply your customers in the last several years?
- Do you have existing interconnections to another water supplies?
- Have you had to rely on an interconnection to supply your customers?
- Do you anticipate constraints that will prevent you from meeting your water use?

Step 3: Select Drought Response Measures

Choose what management measures will be appropriate for your system for each drought stage. From the list of management measures, check the boxes next to the measures you will use for each drought stage, or fill in your own measures by clicking "add new measure?" (consider measures for both the system and for the customers)

<table>
<thead>
<tr>
<th>ADWR System ID#</th>
</tr>
</thead>
<tbody>
<tr>
<td>CWS Name</td>
</tr>
<tr>
<td>Drought Stage</td>
</tr>
</tbody>
</table>

These drought stages are depicted in the monthly drought monitoring report provided by the Governor’s Drought Task Force. Use the status for your watershed provided by the long term maps to guide in the implementation of your drought response measures.

<table>
<thead>
<tr>
<th>Management Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 0 Normal</td>
</tr>
<tr>
<td>Implement conservation measures/programs from water conservation plan</td>
</tr>
<tr>
<td>Continue measures from previous drought stage, if applicable.</td>
</tr>
<tr>
<td>Measure - Perhaps, these drought response measures should be ordered Drought Stage. The low stage measures should be listed first and the high stage measures last.</td>
</tr>
</tbody>
</table>
Drought Planning for Community Water Systems

Requirements
- Water withdrawn & diverted
- Water received & delivered
- Effluent use
- Storage facilities
- Conservation measures

Due June 1st

Outcomes
- Water use outside of AMAs
- Online reporting tool
- 70% submittal rate
- 50% filed online
- Notices to governing bodies
- Analysis
System water plans
Annual water use reports
Electronically file – save time, save money and conserve water…

eCWS Online Reporting Tool
Education and Outreach

- Presentations
- Web site
- Local drought impact groups
- Conservation group
Recommendations for Improving Monitoring, Implementation and Response

Monitoring

- supports recommendations of the Monitoring Technical Committee
Recommendations for Improving Monitoring, Implementation and Response

Implementation and Response

• LDIG support
  – Workbook or toolkit
    • Guidance for each workgroup
    • Mitigation and response planning
      – Info. needed, coordination, action, authority
    • How to identify monitors or drought impact reporters
    • Resources
  – Resources
  – Communication

Dire drought and water shortage = responsibility and a more urgent need for help
Recommendations for Improving Monitoring, Implementation and Response

Implementation and Response

- Community water system support
  - Planning
  - Implementation
    - Authority
  - Preparedness
    - Technical resources

A plan is just a plan. It’s the first step.
General Plan Modifications

- 2006 recommendations
- Changes
  - Plan allows flexibility
  - Operating based on recommendations
By creating a culture of conservation, we can greatly reduce the impacts of drought on our natural resources, economy, and quality of life.
Monitoring Technical Committee

• Tony Haffer, MTC Co-chair
Local Drought Impact Groups

Focus on workgroups

Cochise
  • Monitoring
    – strategy for recruiting monitors
    – Drought Impacts Reporting System
    – Rainlog
    – listserv

Graham/Greenlee
  • Education & Outreach
    – Newspapers – drought status maps & conservation tip
    – Calendar for monitors

Mohave

Pima

Pinal

Yavapai

Needs

• Training & equip. for monitors
• Outreach
Local Drought Impact Groups

- Combined counties
- 2 LDIG meetings to date
- Organizational structure
- Process for appointing steering committee (April 2007)
- Workgroups
  - Education/outreach - Funding
  - Monitoring - Mitigation/response
Local Drought Impact Groups

- Attended Yavapai County meeting
- Planning meeting in July
- Recommendation to County Manager in October
  - BOS agenda item
    - establishing an LDIG
    - 8 member steering committee
    - 3 workgroups
    - coordinators
    - role as an advisory group
Local Drought Impact Groups

- **Coctise**
  - BOS approved Pima County Drought Management Plan (July 06)
    - Drought Task Force
    - Monitoring Committee (LDIG)

- **Graham/Greenlee**
  - 6 LDIG meetings

- **Mohave**
  - Revisions to Drought Response Plan & Ordinance
  - Reviewed drought indicator data for applicability
    - Drought Monitor Report

- **Pima**
  - Drought Level 1 – Response (April 07)
  - Compared major metro water providers’ plans

- **Pinal**
  - Drought Impacts Reporting System

- **Yavapai**
  - Monitoring Technical Committee meetings
Local Drought Impact Groups

Education & Outreach -
• Joint press conference – Stage 1 declaration
• Web page - www.pima.gov/drought
• Water & sewer bill inserts
• Local TV interviews
• Articles
• Water providers use a consistent message
• Rain gauges

Needs - information sharing & coordination
Local Drought Impact Groups

- 6 meetings
- Organizational structure
- Monitoring
  - Participation within the 3 AMAs
- Mitigation & Response
  - Identify triggers & response mechanisms
- Education & Outreach
  - Looking to improve
- Needs
  - Open Houses
Local Drought Impact Groups

- Organizational structure
  - Steering Committee
  - Yavapai County WAC
- 2 meetings to date
- Monitoring (38)
  - 1 year - 38 members
  - Rainlog – focal point
- Mitigation (19)
  - Draft Mitigation & Preparedness Guidelines
- Education & Outreach (19)
Conclusion

- Expand program
- Ideas to ICG
- State leadership
Comments, Suggestions, Additions
Thank you

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“This place of exceptional beauty is not ours to own, it is only ours to care for, for the time that we are here.”
Governor Janet Napolitano