Arizona Water Reuse 2019 Symposium



Tom Buschatzke
Director
Arizona Department of Water Resources
July 29, 2019

Drought Contingency Plan Recap

Lower Basin Drought Contingency Plan

- ADWR & CAWCD jointly hosted 9 public Steering Committee meetings to discuss & recommend how to adopt and implement the LBDCP in a way that is acceptable to Arizona water users
- **January 31** Arizona Legislature passed & Gov. Ducey signed SB 1227
 - The legislation authorized ADWR Director to sign the Interstate DCP Agreements on behalf of Arizona



Colorado River Drought Contingency Plan

- March 27 & 28 Reclamation & Colorado River Basin representatives testified at U.S. subcommittee hearings at the Senate (subcommittee chaired by AZ Sen. McSally) & the House (subcommittee chaired by Rep. Huffman; full committee chaired by AZ Rep. Grijalva)
- April 8 Bill passed after announced by Sen. McSally & Rep. Grijalva
- April 16 Signed by President Trump
- May 20 Signed & finalized by Lower Basin States,
 Reclamation & Interior



GOVERNOR DOUGLAS A DUCEY

STATE OF ARIZONA EXECUTIVE ORDER

Relating to the Creation of the Governor's Water Augmentation, Innovation, and Conservation Council (Supersedes and Rescinds Executive Order 2015-13)

Whereas, in January of 2014, the Arizona Department of Water Resources released "Arizona's Next Century: A Strategic Vision for Water Sopphy Sustainability" (Strategic Vision) that identified key priorities, timelines and action items to maintain sustainable water supplies for Arizona into its next

Whereas, the Strategic Vision divided the state into twenty-two planning areas and analyzed the water demands and supplies for each and identified strategies for meeting water demands into the future;

Whereas, Arizona Governor Janice K. Brewer established the Governor's Council on Water Supply ility on November 4, 2014 that published an Initial Report on December 31, 2014;

Whereas, the Initial Report recommended that working groups be formed to develop, evaluate and prioritize recommendations and potential partnerships regarding water supply augmentation and water supply infrastructure needs;

Whereas, on October 5, 2015, I, Governor Douglas A. Ducey announced a Water Initiative to implement the Strategic Vision and address the recommendations of the Initial Report through two tracks to insure the certainty of Arizona's water supply into the future.

Whereas, sustainable water supplies are essential to the economic vitality and quality of life for Arizona

Whereas, the proactive measures taken by the State of Arizona have resulted in a current state of resiliency with respect to its water supplies;

Whereas, it is important for the work of the Governor's Water Initiative to be continued and expanded upon through the creation of a new Council with a long-term focus on water augmentation, innovation, and conservation; and

Whereas, given the importance of sustainable water supplies to Arizona and policy decisions that must be made, members of the Arizona Legislature should serve on the Council in addition to individuals appointed by the Governor.

NOW, THEREFORE, I, Douglas A. Ducey, Governor of the State of Arizona, by virtue of the ted in me by the Constitution and laws of the State of Arizona, hereby order as follows:

- 1. The Governor's Water Augmentation Council is hereby dissolved and the Governor's Water Augmentation, Innovation, and Conservation Council (Council) shall be created to analyze and
- recommend opportunities for water augmentation, innovation, and conservation The Council shall continue the work of the Governor's Water Initiative to investigate long-term water augmentation strategies for the state. In addition, the Council shall investigate strategies for water innovation and conservation.
- The Council shall assess the long-term impacts of conservation projects funded with monies from the augmentation and conservation assistance fund established pursuant to A.R.S., 945-615(1) and report on hose impacts in its annual report required under paragraph 11 of this Executive Order.
- The Council shall meet quarterly 4. The Council shall meet quarterly.
 5. The Council shall consist of the Speaker of the House of Representatives, the President of the Senate, House Minority Leader and Senate Minority Leader or their legislative designeer. The Council shall additionally counsist of find/studies appointed by the Governor who shall serve at the plensure of the Governor Waster and Council shall continue to serve on the Council, and members representing those council shall continue to serve on the Council, and members representing those
- organizations may continue to serve without the need for new appointment
- The director of the Arizona Department of Water Resources shall serve as the Chair of the Council.
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- 8. The Council shall consider the need to create additional working groups and, if formed, Council
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 9. The Council shall consider a communication plan for the State to accurately convey the status of its water supply resiliency and its efforts to maintain that status moving forward.
 10. The Council shall prepare an annual report and submit it to the Speaker of the House of Representatives, the President of the Senate, House Minority Leader and Senate Minority Leader and the Governor by July 1, 2020 and by July 1 every yearthereafter.
 11. The annual report shall describe the activities and the recommendations of the Council.
 12. Security Coffee 2015; 12 is beach, memorated by this Code and Security Code 2015; 13 is
- 12. Executive Order 2015-13 is hereby superseded by this Order and Executive Order 2015-13 is



IN WITNESS WHEREOF, I have hereunto set my hand and caused to be affixed the Great

GOVERNOR

DONE at the Capitol in Phoenix on this 31st day of January in the year Two Thousand and Nineteen and of the Independence of the United States of America the Two Hundred

Secretary of State

Governor's Water Augmentation, **Innovation & Conservation Council**

Created by Executive Order on January 31, day of DCP signing

- Dissolves the Governor's Water Augmentation Council (GWAC) and replaces with the Governor's Water Augmentation, Innovation and Conservation Council (GWAICC)
- Investigates long-term augmentation to benefit Arizona, and strategies for conservation and innovation in pursuit of more sustainable water supplies
- Meets quarterly and has formed working groups. Inaugural meeting, June 13

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ATTEST:

Secretary of State

Governor's Water Augmentation, **Innovation & Conservation Council**

Created by Executive Order on January 31, day of DCP signing

- Chaired by Director of ADWR
- Includes previous members of the GWAC, plus Speaker of the House, President of the Senate and House and Senate Minority Leaders, or their legislative designees, plus others as appointed by the Governor
- Shall consider a communication plan for Arizona to accurately convey Arizona's water resiliency and efforts to maintain resiliency going forward

Governor's Water Augmentation, Innovation & Conservation Council

Desalination Committee

- At inaugural June 13 GWAICC meeting, members opted to continue the Desalination Committee, originally established by the GWAC
- The Committee identified the 7 top desal opportunities statewide and the critical challenges they face. Those include:
 - 1. Yuma Brackish Groundwater Mound
 - 2. West Salt River Valley
 - 3. Yuma Non-Groundwater through the Yuma Desalination Plant (YDP) to Bypass Drain
 - 4. Winslow-Leupp
 - 5. Gila Bend
 - 6. Wilcox Playa
 - Picacho-Eloy

Collaboration with Mexico Minute 323

- Extends the provisions of Minute 319 through 2026
- Scarcity Plan for Mexico contains additional flexibilities for Mexico on par with the flexibility that the Lower Basin Drought Contingency Plan contains
- Executed entry into force (September 27, 2017)
- Potential opportunities for binational desalination





Recharge & Recovery in Arizona

- 1986 Underground Storage & Recovery Act
 - Allows persons with surplus supplies of water to store that water underground and recover it at a later time for the storer's use
- 1994 Underground Water Storage, Savings & Replenishment Program (Recharge Program)
 - Encourages the use of renewable water supplies, particularly Arizona's entitlement to Colorado river water, instead of groundwater, through a flexible and effective regulatory program
- Recharge program does not have specific rules
 - Statutory Requirements Hydrologically feasible with no unreasonable harm

Managed Underground Storage Facilities

- Provide managed releases of source waters into a natural river course
- All natural: created without use of constructed devices
- No facility maintenance
- No credits earned for days when storm/surface water runoff is present



Lower Santa Cruz USF

Managed Underground Storage Facilities

There are six Managed Underground Storage Facilities either currently storing or have stored effluent

- Santa Cruz Managed
- Lower Santa Cruz Managed
- Heritage Santa Cruz USF
- Casa Grande Managed USF
- El Mirage Managed USF Facility
 - Permit expired 2010
- Upper Agua Fria Managed USF (Prescott Valley)
 - Changed to constructed facility in 2004



Aqua Fria USF



Lower Santa Cruz USF

Effluent Stored At Managed Facilities

- Prior to January 1, 2019, only 50% of effluent stored at managed facilities could be counted toward Long Term Storage Credits (LTSCs)
- SB 1227 allows for 95% of effluent stored at existing managed facilities to accrue LTSCs. Essentially, these are facilities that existed prior to January 1, 2019
- The permitted capacity for the facilities is 64,573 acre-feet per year
- Through 2018, over 86,781 acre-feet of effluent has been stored at these facilities

Local Active Management Area Reclaimed Use

Direct Use of Effluent:

- Golf courses
- Parks & other substantial landscaping
- Industrial uses/Palo Verde Nuclear Generating Station

Indirect Use of Effluent:

Underground storage & recovery sites



Investments in Renewable Supply Use

Direct Use Surface Water

Treatment plants

Indirect Use Surface Water

Annual storage & recovery sites

Direct Use Reclaimed

Treatment plants & plumbing to landscaping

Indirect Use Reclaimed

Treatment plants, recharge & recovery sites

Direct Use of Colorado River Water delivered via CAP

Treatment plants

Indirect Use of Colorado River Water delivered via CAP

Long-term storage & recovery sites





City of Phoenix Water Treatment Plants

Arizona's Water Resource Challenges

Driving Forces

- Arizona has been experiencing long-term drought since the mid-90s
- Population & economic growth will increase demand for water

Short-term Challenges

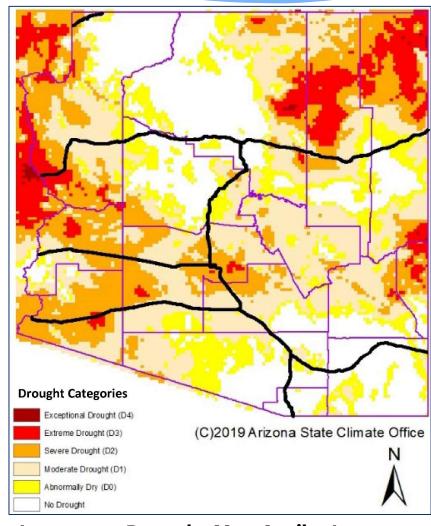
- Risks to Colorado River Supply
 - Shortage on the Colorado River System is likely at some point
 - Recurring Lower Basin Annual Deficit

Medium-term Challenges

- Water resources in rural areas of the state are more stressed
 - Primary water source is groundwater
 - Lack of groundwater regulation
 - Lack of groundwater data
 - Rural areas lack the resources to address their issues

Long-term Challenges

 Growing statewide imbalance between existing water supplies and demand projected in the next 25 years to 50 years

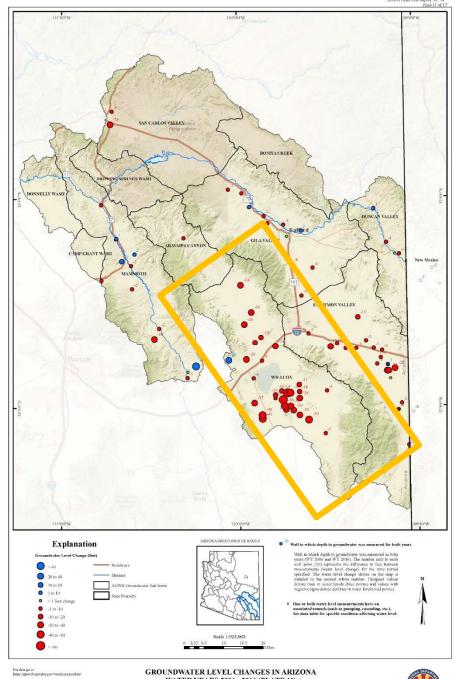


Long-term Drought Map April – June 2019

Arizona Groundwater Levels in decline

Willcox Groundwater Basin Groundwater Level Changes Water Years 2006- 2016

- 29 GWSI wells with declining water levels
- Maximum 10-year decline: 62 feet
- 1 GWSI Well with rising water level
- Mean Water Level Change: -26 feet



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ps://gasech-azwater.gov/waterresourcedata/
r more information or cepies contact:
10 W Washington Street
contact AZ 8500;
201711-8510
ps://www.screet.gov/waterresourcedata/

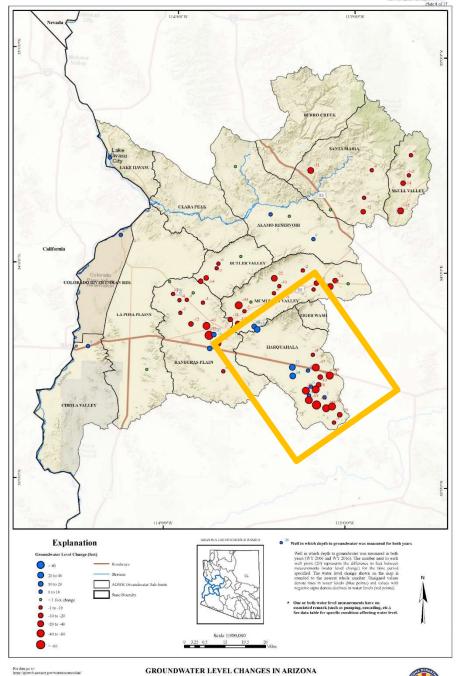
GROUNDWATER LEVEL CHANGES IN ARIZONA WATER YEARS 2006 - 2016 (PLATE 11)



Arizona Groundwater Levels in decline

Harquahala Groundwater Basin Groundwater Level Changes Water Years 2006- 2016

- 13 GWSI wells with declining water levels
- Maximum 10-year decline: 73 feet
- 7 GWSI wells with rising water level (CAP water stored by Vidler Water Company)
- Mean Water Level Change: -21 feet



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WATER YEARS 2006 - 2016 (PLATE 8)

March 2017



Questions?

Tom Buschatzke Director

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PROTECTING
ARIZONA'S WATER SUPPLIES
for CURRENT & FUTURE GENERATIONS