Arizona Long-Term Water Planning and Security

Association of Western State Engineers 2018 Spring Conference

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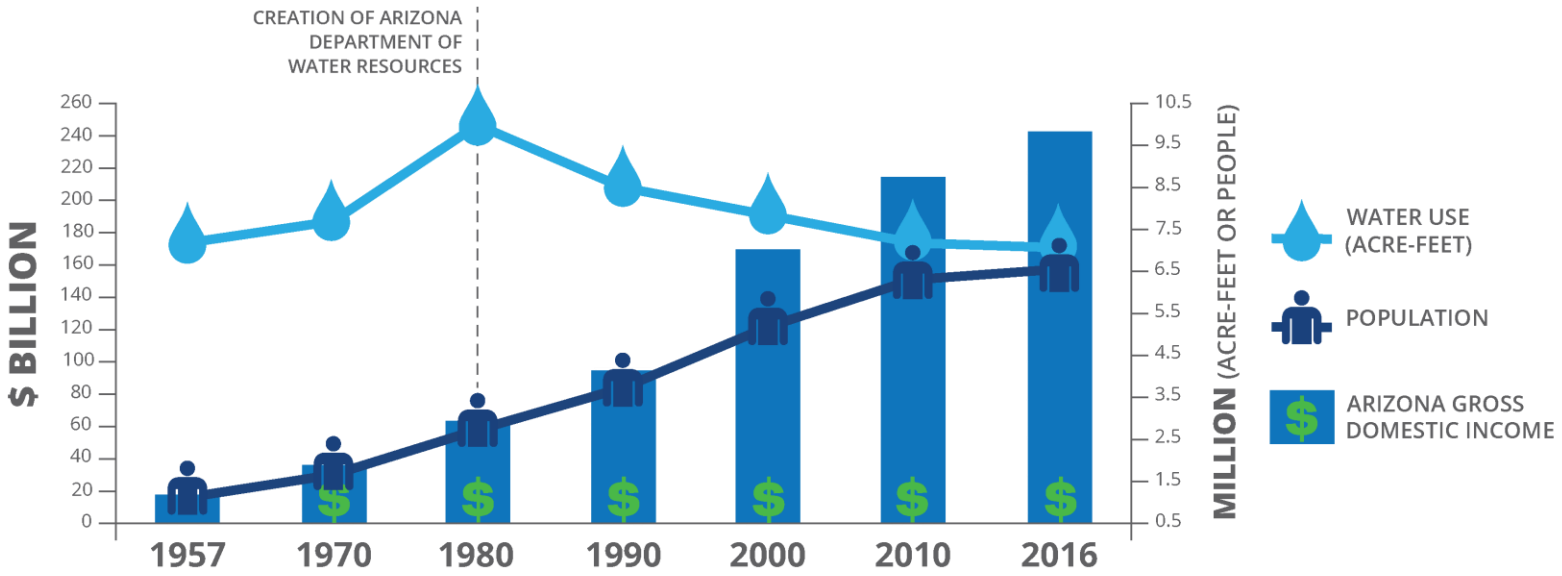
ARIZONA'S WATER MANAGEMENT SUCCESS

ARIZONA WATER USE, POPULATION, AND ECONOMIC GROWTH (1957 - 2016)



TOTAL WATER USE (IN MILLIONS ACRE/FEET)

1957 7.1 MAF
2016 7 MAF

-2% CHANGE FROM 1957-2016

POPULATION (IN MILLIONS)

1957 1.1
2016 6.8

504% CHANGE FROM 1957-2016

GROSS DOMESTIC INCOME (IN BILLIONS)

1957 $ 13.4
2016 $$$$$$$$$$$$$$$$$$$$ 251.4

1,778% CHANGE FROM 1957-2016

Arizona Water Use By Source (2016)

Source: ADWR, 2017

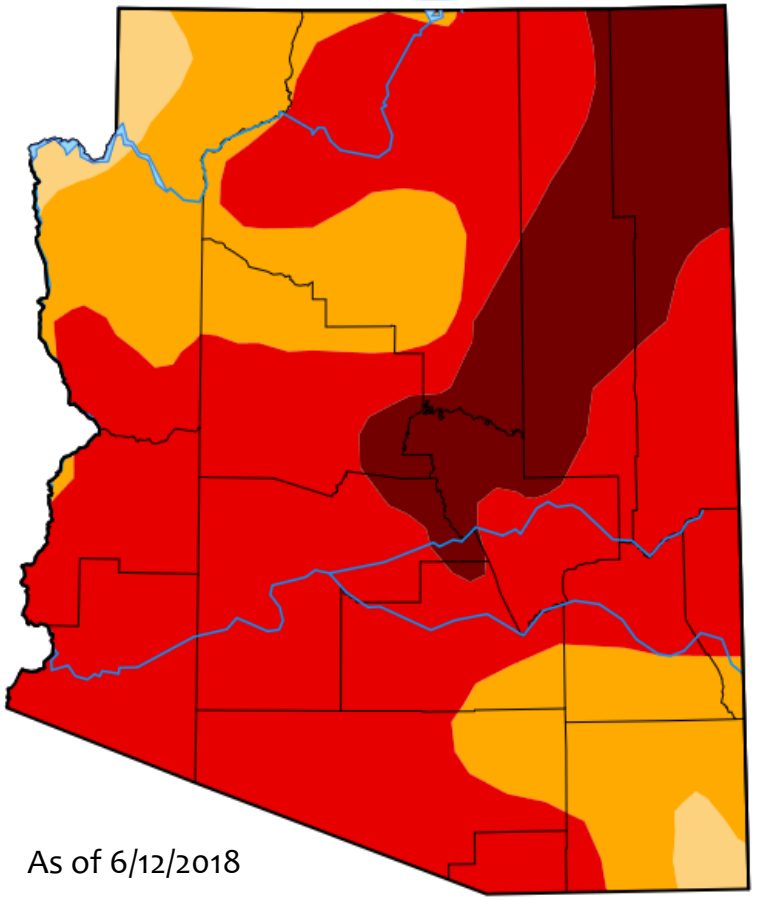
Arizona's Water Resource Challenges

Driving Forces

- Arizona has had a drought declaration in place since 1998
- Population & economic growth will increase demand for water

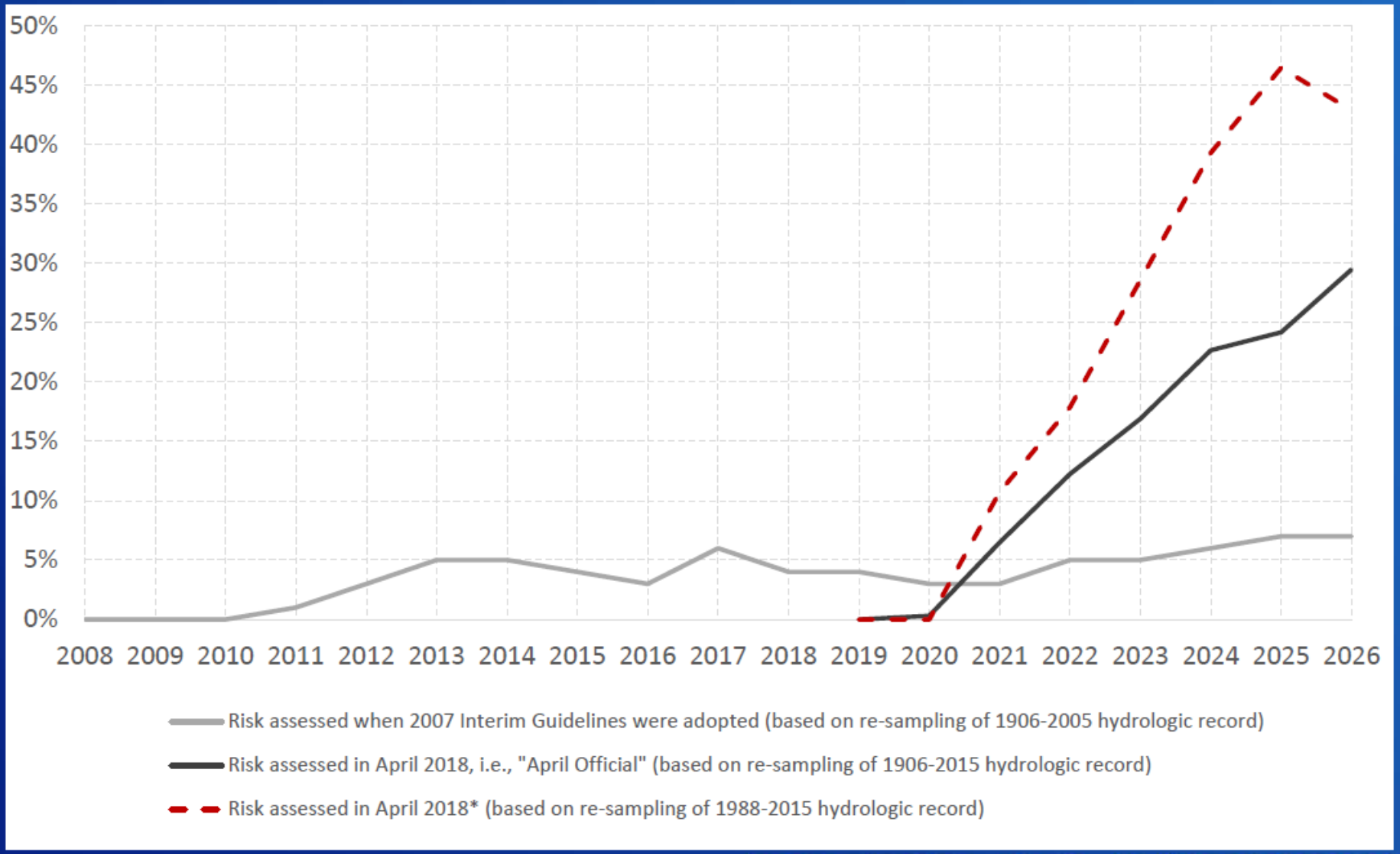
Short-term Challenges

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



As of 6/12/2018

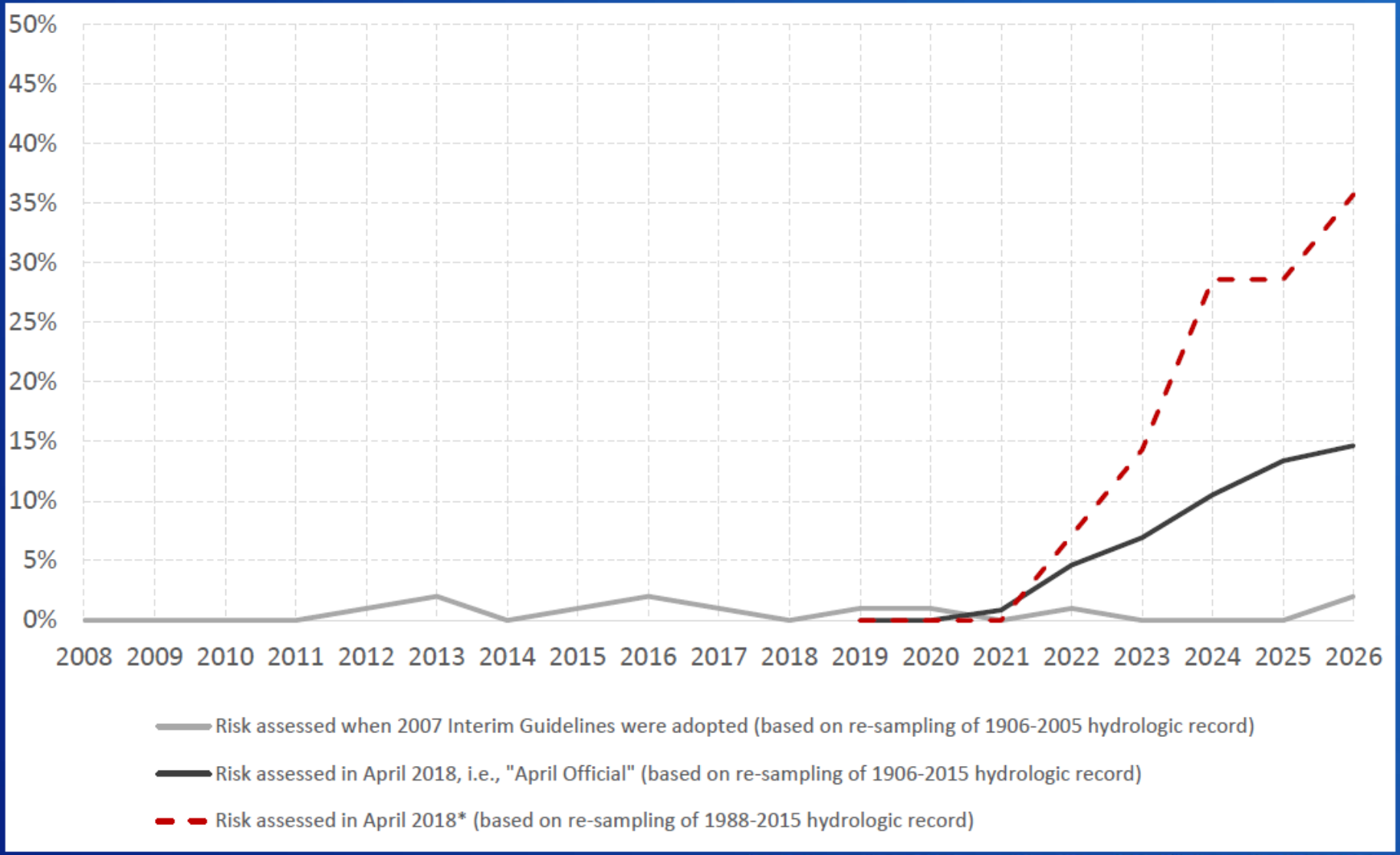
Risk of Lake Mead Reaching Critically Low Elevations (1,025' in December)



* Results from April 2018 CRSS with 2018 end-of-calendar year reservoir conditions as forecasted by MTOM's "most probable" run

RECLAMATION

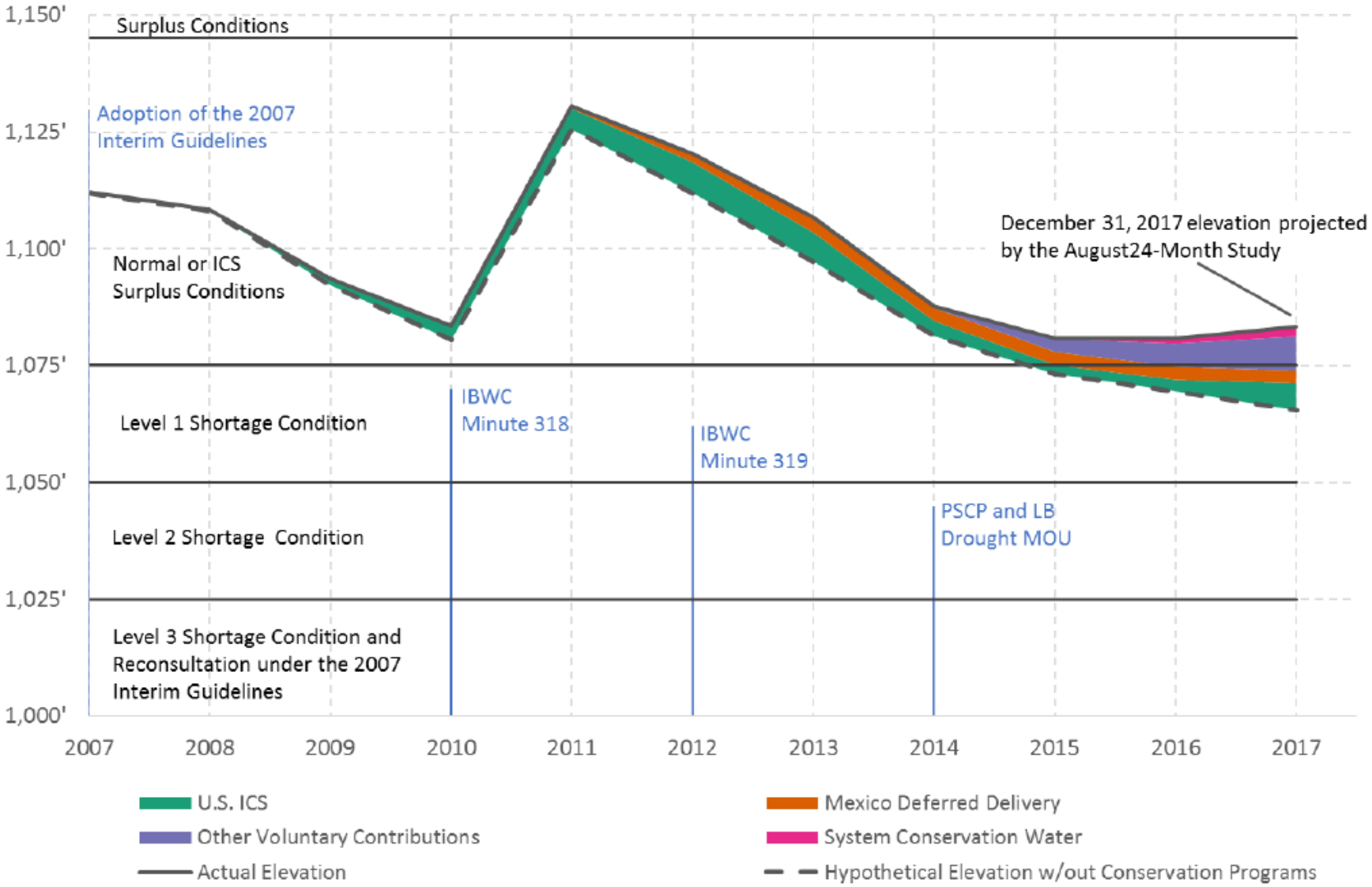
Risk of Lake Mead Reaching Critically Low Elevations (1,000' in any month)



* Results from April 2018 CRSS with 2018 end-of-calendar year reservoir conditions as forecasted by MTOM's "most probable" run

RECLAMATION

Lake Mead End-of-December Elevation



* End of calendar year 2017 balances of U.S. ICS and Mexico deferred delivery, system conservation water, and other voluntary contributions to Lake Mead reflect plans as of August 2017 and are subject to change

RECLAMATION

Lower Basin Drought Contingency Plan

The Need:

Risks of Lake Mead falling below 1025' doubled between development of 2007 Interim Guidelines and 2013

The Goal:

Reduce the probability of reaching critical elevations that would cause draconian reductions in water deliveries

The Strategy:

- Avoid and protect against the potential for Lake Mead to decline to elevations below 1,020 feet by collectively taking additional actions
- Includes a commitment by the U.S. to work to create or conserve Colorado River system water
- Recovery of additional reduction volumes would be allowed under certain conditions

Lower Basin Drought Contingency Plan

The Need:

Risks of Lake Mead falling below 1025' doubled between development of 2007 Interim Guidelines and 2013

The Goal:

Reduce the probability of reaching critical elevations that would cause draconian reductions in water deliveries

The Strategy:

- Incentivize ICS creation/storage
  - *Agree that ICS may be withdrawn at lower Lake Mead elevations, similar to ICMA arrangements under Minute 319*
  - *Modification of the evaporative losses currently applied to ICS*

Lower Basin Drought Contingency Plan

The Need:

Risks of Lake Mead falling below 1025' doubled between development of 2007 Interim Guidelines and 2013

The Goal:

Reduce the probability of reaching critical elevations that would cause draconian reductions in water deliveries

The Strategy:

- Agreement between Arizona, California, Nevada & Reclamation
- ADWR Director needs Arizona Legislature authority to sign (Pursuant to A.R.S. § 45-106)
- Will seek Congressional authorization of Lower Basin DCP

Intra-Arizona Plan

The Need:

To partially mitigate the impact on Arizona water users from the additional reductions resulting from the inter-state DCP

The Goal:

Reduce Probability of First Tier Lake Mead Shortage

The Strategy:

- Targets a buffer at elevation 1,080 feet
- Makes projections of Lake Mead's end of year elevations using 24-Month study data
- Determines required conservation (based on August 24-Month Study)

Intra-Arizona Plan

The Need:

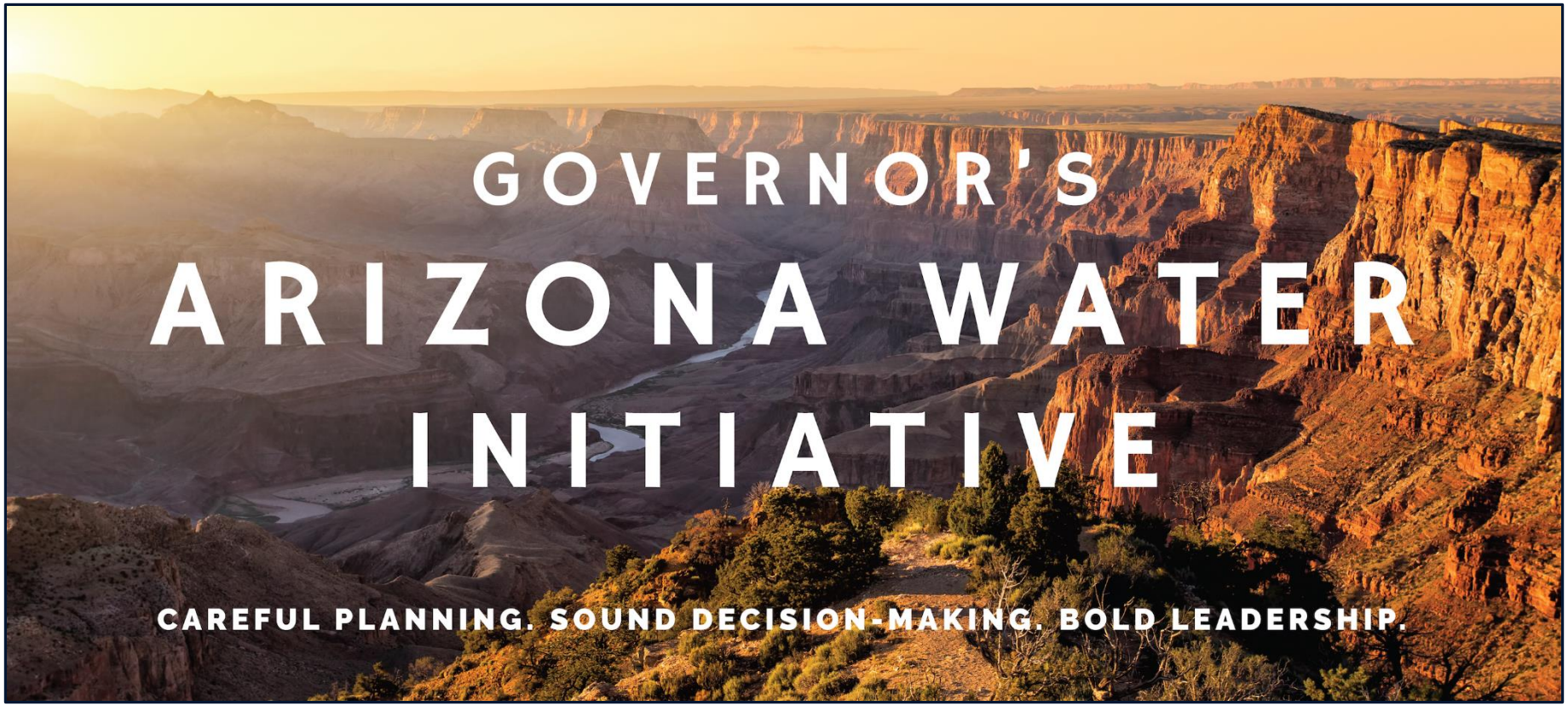
To partially mitigate the impact on Arizona water users from the additional reductions resulting from the inter-state DCP

The Goal:

Reduce Probability of First Tier Lake Mead Shortage

The Strategy:

- Achieves conservation through Arizona system conservation & ICS
- Continues to monitor hydrologic conditions & adjust as necessary



Purpose: To help ensure the certainty and vitality of Arizona's water supply long into the future.

Governor's Water Augmentation Council

Planning Area Process

State Planning Areas

- Arizona is divided into 22 Planning Areas.
- The Planning Areas have been identified based on possible short-term and long-term solutions available to meet the water supply imbalances.
- Strategies have been identified on a generalized basis and may include the same option described for a different Planning Area. This is important to provide all viable options, but does not mean that there is sufficient water available to meet the needs for all Planning Areas.

Augmentation Efforts to Address Long-Term Challenges

- Long-Term Water Augmentation Committee (GWAC)
  - Tasked with investigating weather modification, watershed management, recharge, storage, and other types of augmentation.
  - Working on a project to assist planning areas with the greatest water demand imbalances.
- Desalination Committee (GWAC)
  - Tasked with researching and identifying potential locations for brackish groundwater desalination projects.
- Recycled Water Committee (GWAC)
  - Increase use of treated effluent
  - Indirect potable reuse
  - Direct potable reuse

Water Solutions Conversation

In the Spring of 2017, the Governor's Office began holding a series of meetings with business and water leaders from across the State

- Asked what water issues need attention

Water Solutions Conversation

- Most of the responses focus on two areas:
  1. **Colorado River**
     - *Important that the State speak with "one voice" on water issues to fulfill the ADWR Director's statutory role representing the State on Colorado River issues*
  2. **Groundwater**

Questions?

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PROTECTING
ARIZONA'S WATER SUPPLIES
for ITS NEXT CENTURY