

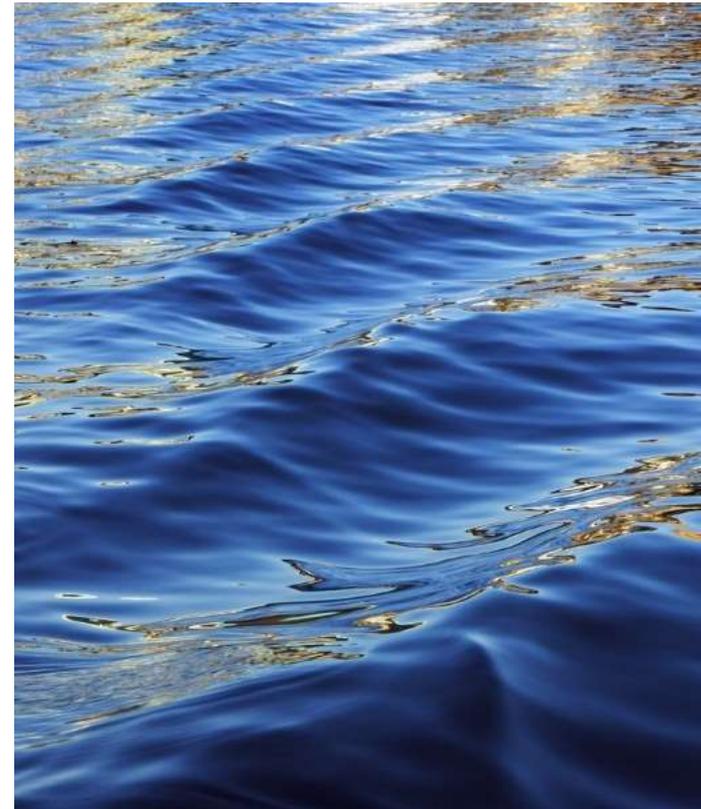
Drought Contingency Planning in the Colorado River Basin

Mesa State Water Course

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The views expressed in this presentation are solely those of the presenter, and not the official position of the Colorado Department of Law.



Interstate Drought Contingency Planning

What is it?

- ✓ Interstate planning for drought response to reduce risks associated with reaching critical reservoir elevations at Lake Powell and Lake Mead.



Interstate Drought Contingency Planning

*Why are we doing it?

- ✓ If critical elevations are breached, the system faces threats to ability to control our own destiny – drinking water supply, irrigation, natural resource preservation and hydropower production, economic stability, and overall sustainability.

*Low probability but **High Risk** in Upper Basin.

- ✓ Sensible to plan for the worst case scenarios to avoid potential controversy, conflict, and uncertainty.
- ✓ Preparation for but not predicting need for implementation.

Background Context (Legal)

Colorado River Compact, 1922

*Apportionment – Article III(a)

- ✓ The exclusive beneficial use of 7.5 MAF per year of water from the Colorado River System is apportioned to the Upper and Lower Basin respectively which includes all water needed for the supply of any future water rights. (Note: LB gets additional 1 MAF under Art. III (b)).

*Non-Depletion Clause - Art III(d)

- ✓ Upper Basin states will not cause the flow at Lee Ferry to be depleted below an aggregate of 75,000,000 acre-feet for any period of ten consecutive years.

❖ ***THIS IS NOT A DELIVERY OBLIGATION***

Context - Upper Colorado River Compact 1948

* **Article III(a)** – apportions “in perpetuity” the Upper Basin’s share of the consumptive use of water under the Colorado River Compact to individual states.

- Arizona gets 50,000 AF annually.
- The other states may use the following percentages:

State	Percentage of available supply	% of 7.5 MAF (full supply)
Colorado	51.75	3,855,375
New Mexico	11.25	838,125
Utah	23	1,713,500
Wyoming	14	1,043,000

Context - Upper Colorado River Compact cont'd

* **Article IV** – in the event curtailment of use shall become necessary to not deplete the flow at Lee Ferry below that required by Art. III of the Colorado River Compact, the extent of curtailment by each state shall be determined in such amounts and at such times as determined by the UCRC.

UCRC does NOT have authority to determine how to administer water within an individual state*

❖ We never have been in curtailment, and under historical hydrologic conditions, we will not face a curtailment in foreseeable future.

Context - 2007 Interim Guidelines

- * **Set criteria for shortages in the Lower Basin.**
 - ✓ Below elevation 1075 feet – 333,000 AF
 - ✓ Below elevation 1050 feet – 417,000 AF
 - ✓ Below elevation 1025 – 500,000 AF
 - * *Assumes Mexico will provide additional shortage savings*
- * **Creates option to bank water in LB = *Intentionally Created Surplus (ICS)*.**
 - ✓ Extraordinary conservation
 - ✓ System efficiency improvements
 - ✓ Tributary conservation
 - ✓ Importation of non-System water
- * **Specifies coordinated operating criteria for Lake Powell and Lake Mead**
 - ✓ To avoid UB curtailment and reduce impact of LB shortages under low water supplies.

Context - Coordinated Reservoir Operations

- ✓ Divides Lake Powell into 4 tiers based on elevation
- ✓ Each tier specifies the release volume to LM based on conditions at both LM and LP.
- ✓ Releases from LP according to tiers range from 7.0 to 9.5 MAF in Lower Elevation Balancing Tier, to 7.48 – 8.23 MAF in mid elevation balancing tier, to 7.0 to 9.0 MAF in Upper Elevation Balancing Tier to above 8.23 MAF in Equalization Tier.

Lake Powell Operational Tiers (subject to April adjustments or mid-year review modifications)		
Lake Powell Elevation (feet)	Lake Powell Operational Tier	Lake Powell Active Storage (maf)
3,700	Equalization Tier equalize, avoid spills or release 8.23 maf	24.32
3,636 – 3,666 (see table below)	----- Upper Elevation Balancing Tier release 8.23 maf, if Lake Mead < 1,075 feet, balance contents with a min/max release of 7.0 and 9.0 maf	15.54 – 19.29 (2008 – 2026)
3,575	----- Mid-Elevation Release Tier release 7.48 maf, if Lake Mead < 1,025 feet, release 8.23 maf	9.52
3,525	----- Lower Elevation Balancing Tier balance contents with a min/max release of 7.0 and 9.5 maf	5.93
3,370		0

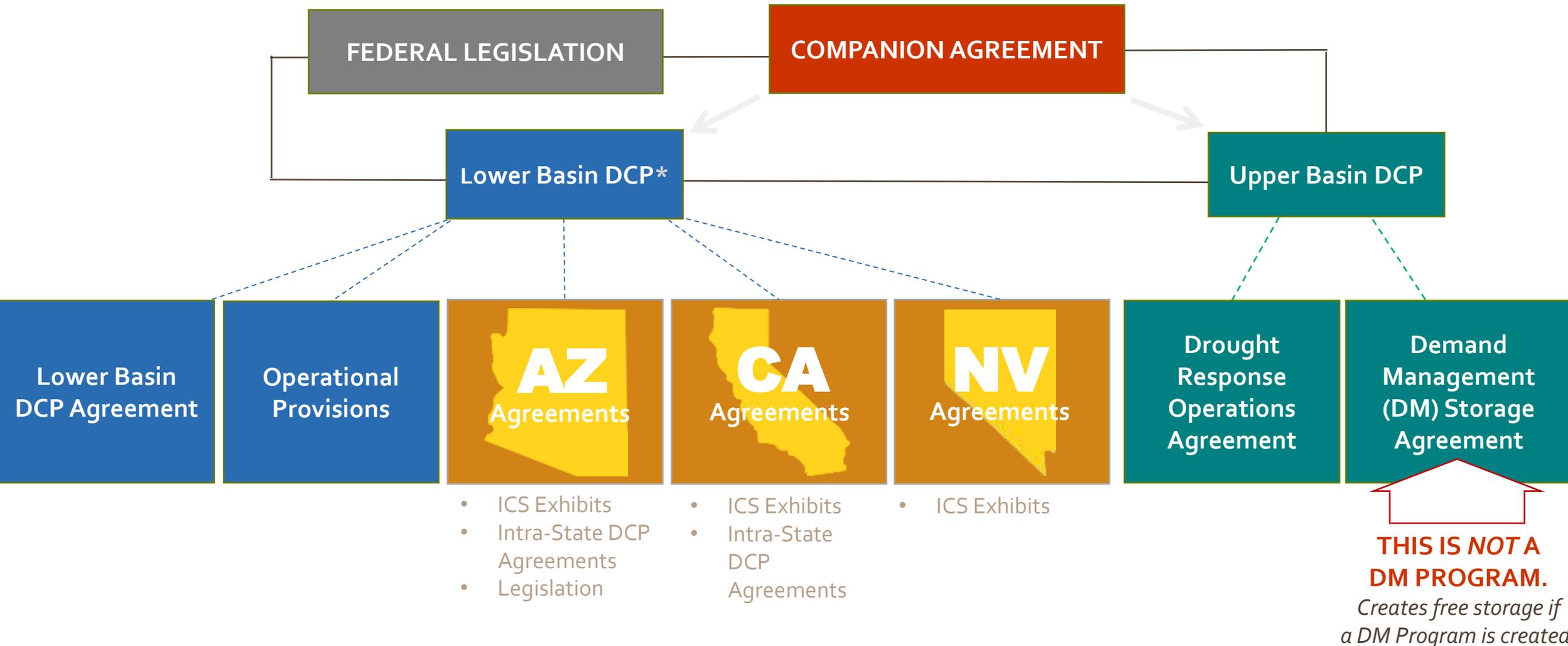
Interstate Drought Contingency Planning

GOALS

- ✓ Identify methods for providing additional flexibility and security in the Colorado River System in times of ongoing or extended drought
- ✓ Avoid unilateral and uncoordinated efforts that could provoke or lead to litigation or conflict.



COLORADO RIVER BASIN DROUGHT CONTINGENCY PLAN (DCP) DOCUMENTS AND AGREEMENTS



*Activates Section IV of Minute 323 (Binational Water Scarcity Plan)

Lower Basin DCP Elements

* Lower Basin DCP Agreement

- ✓ Sets terms for Secretary and Lower Basin agreement on LB DCP Operations.
- ✓ Includes Secretary commitment to work to create 100,000 acre feet of water per year.
- ✓ Term is until the end of 2026.

* Lower Basin DCP Operations

- ✓ Serves as the guidance, in combination with the 2007 Interim Guidelines, to control operations in the Lower Basin through 2026.
- ✓ Requires each Lower Division State to conserve specified volumes in Lake Mead at certain elevations.
- ✓ Recognizes that the DCP contributions may be created by converting banked storage (ICS) to DCP ICS, but restricts when such water can be delivered.
- ✓ Incentivizes creation of additional banked storage (ICS).

❖ Overall, requires LB conservation and provides for additional flexibilities to accomplish.

Lower Basin DCP – cont'd.

Lake Mead Elevation (ft)	2007 Interim Guidelines Shortages (kaf)		Voluntary Reductions (kaf)			Combined Reductions (kaf) (2007 Interim Guidelines Shortages + Voluntary Reductions)			
	AZ	NV	AZ	NV	CA	AZ	NV	CA	TOTAL
1,090	0	0	192	8	0	192	8	0	200
1,085	0	0	192	8	0	192	8	0	200
1,080	0	0	192	8	0	192	8	0	200
1,075	320	13	192	8	0	512	21	0	533
1,070	320	13	192	8	0	512	21	0	533
1,065	320	13	192	8	0	512	21	0	533
1,060	320	13	192	8	0	512	21	0	533
1,055	320	13	192	8	0	512	21	0	533
1,050	400	17	192	8	0	592	25	0	617
1,045	400	17	240	10	200	640	27	200	867
1,040	400	17	240	10	250	640	27	250	917
1,035	400	17	240	10	300	640	27	300	967
1,030	400	17	240	10	350	640	27	350	1,017
< 1,025	480	20	240	10	350	720	30	350	1,100

DRAFT

Treaty Minute 323



* **Signed** - Santa Fe, October 2017, along with domestic agreements necessary to implement the Minute.

* **Key Results**

- ✓ Helps cement drought planning in the Lower Basin (Mexico participating).
 - ✓ Continues problem solving consistent with Treaty.
 - ✓ Does not compromise state authorities or rely on use of state water to accomplish.
- ❖ For Mexico's participation in drought contingency to be operational, Lower Basin must effectuate a Drought Contingency Plan.

Upper Basin DCP Agreements

* Drought Response Operations - (CRSPA Initial Units)

- ✓ Conserve water in LP or move available water from Upper CRSPA Units (Aspinall, Flaming Gorge, Navajo) to protect LP target elevation.
- ✓ Allow for subsequent recovery of storage at same facilities.
- ✓ Take actions consistent with authorities, permits, contracts for water and power, etc.

* Demand Management Storage

- ✓ Secure authorization to store, at no charge, any intentional reductions in consumptive use made to help assure Upper Basin's continued compact compliance.
- ✓ Provide the UCRC and Upper Division States sufficient flexibility to explore the feasibility of, and evaluate viable options for, developing an Upper Basin Demand Management Program.

❖ **NOTE: DCP actions also include continuation and expansion of Cloud Seeding in the Upper Basin, but doesn't require additional interstate agreements and federal legislation to accomplish.**

UB DCP

Drought Response Operations Agreement

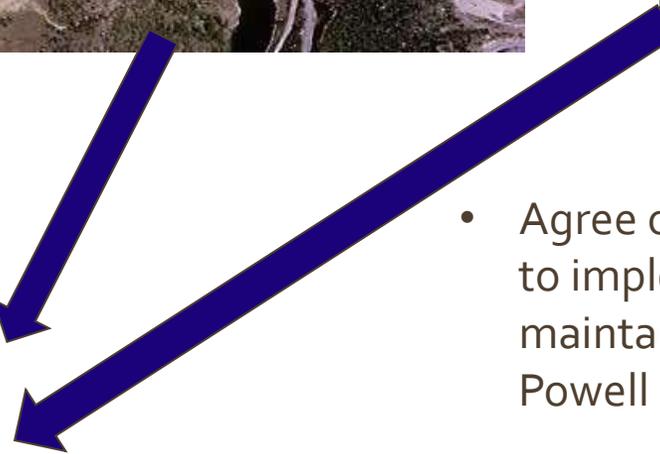
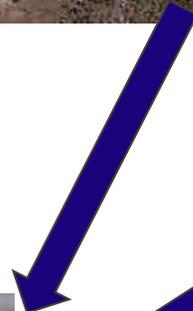
Navajo Reservoir



Flaming Gorge Reservoir



Blue Mesa Reservoir



Lake Powell

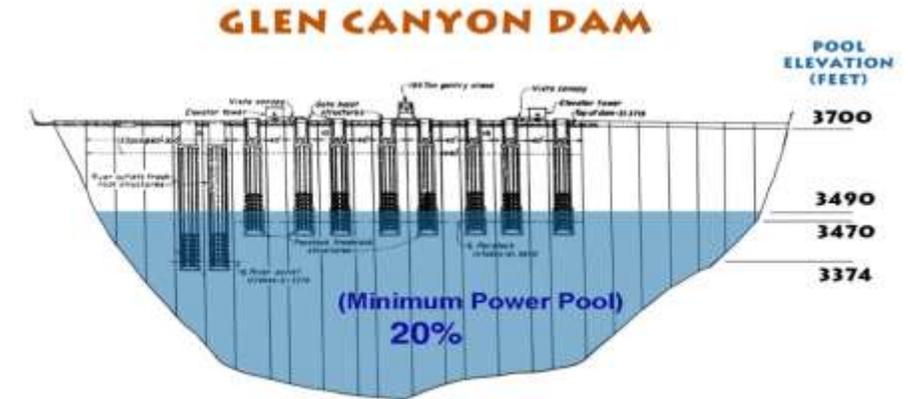
- Agree on process for developing operational plans to implement based on specific triggers to help maintain minimum power pool elevation at Lake Powell
- By conserving water (temporarily) in Lake Powell or moving water available (and subsequently recovering the storage) from upper CRSP facilities

UB DCP - DROA

Why Minimum Power Pool?

Loss of power generation impacts:

- ✓ Clean power supply
- ✓ Funding for:
 - Repayment for construction of CRSPA projects.
 - Operating and maintaining Glen Canyon, Aspinall, Flaming Gorge, Navajo, etc. reservoirs.
 - Complying with Endangered Species Act, NEPA, and Grand Canyon protection obligations.
 - Salinity mitigation.
 - Upper Basin projects funded by current Basin Fund MOA.
- ✓ Threat to maintaining compact compliance



❖ Directly implicates ability to utilize existing water supplies.

UB DCP

Demand Management Storage Agreement

*Purpose

- ✓ Secure ability to use unfilled storage space in CRSPA Initial Units to promote continued compliance with compact obligations in times of extended drought.
- ✓ Provide foundation on which the Upper Basin may explore and potentially develop a demand management program in the future.

* Need

- ✓ For any demand management to be effective, multi-year storage is required. Water must be conserved and stored over several years to provide a meaningful benefit.
- ✓ There is little incentive to investigate some of the key outstanding issues related to demand management without securing some assurances to mitigate risks and justify expending time and resources.

UB DCP

DM Storage Agmt. Elements

*Authorization

- ✓ Secures Secretary's authority to allow, over the long-term, storage at CRSPA Initial Units of water conserved as part of an Upper Basin Demand Management Program.
- ✓ Ensures such storage will be at no charge.
- ✓ Authorization does not sunset.

*Agreement

- ✓ Sets forth minimum conditions under which the Upper Division States can access the authorized storage space between now and 2026.

❖ Neither element authorizes, mandates or guarantees that an Upper Basin Demand Management Program will be instituted.

❖ Rather sets requirement that there be an Upper Basin Demand Management Program before the Upper Division States can access storage authorized under the agreement.

UB DCP -DM Storage Agmt.

Summary of Agreement Conditions

* To access the storage, the UCRC must develop and approve an UB Demand Management Program.

* To approve a program:

- ✓ The Upper Division States, through the UCRC, must determine demand management is **feasible**;
- ✓ The UCRC must **make findings** that demand management activities are necessary to help assure compact compliance;
- ✓ The UCRC must to **consult** with the Lower Basin States on terms of Upper Basin Program;
- ✓ The UCRC must **enter into an agreement** with Secretary on verification and accounting of water conserved, conveyed, and stored as part of a program.
- ✓ The UCRC must **formally approve** the program; and
- ✓ **Each Upper Division State must approve the program.**

Companion Agreement

* Signatories: Secretary of the Interior and Bureau of Reclamation Commissioner, Upper Basin and Lower Basin parties.

* Elements:

- ✓ Attaches and incorporates UB DCP and LB DCP documents
- ✓ Provides mutual understanding of DCP documents as tools to be used in an effort to protect each Basin and benefit the system.
- ✓ Establishes mutual willingness to obtain federal legislation to implement the DCPs.
- ✓ Sets forth provisions to resolve claims and controversies, reserve rights and legal positions, and implement a consultation process among all entities/states.
- ✓ Serves as mechanism to enforce the terms of the DCPs.

❖ **The Bridge between the UB and LB DCPs**

Federal Legislation

*Purpose

- ✓ To authorize and direct the Secretary to execute the UB and LB DCP agreements and implement the DCP operations.

* Need

- ✓ To avoid claims or controversies that any element of the DCPs conflicts with or is otherwise not authorized by existing law.



TENTATIVE TIMELINE

* Interstate DCP Agreements/Alternative

✓ Outreach

- Ongoing

✓ UB, LB Approvals

- UB Achieved;
- LB – ICS Exhibits to allow them to prepare for DCP contributions early March; Complete approvals???

✓ Federal Legislation

- Spring 2019???

✓ Alternative – Respond to Feb. FRN

- March 19, 2019

* Intrastate Demand Management Discussion

✓ Outreach / Coordination

January 2018 - . . . ONGOING Iterative Process

Moving Forward

*Protect UB interests in reliability and availability of water supply

- ✓ Work cooperatively with interstate partners to finalize DCP efforts.
- ✓ Evaluate and set forth credible options for Federal Government and States to consider in operating the System in the absence of a DCP.
- ✓ Prepare for longer-term negotiations.

*CWCB demand management outreach will continue

- ✓ Do NOT want to set up any program in a vacuum
- ✓ Will develop scope of work for next steps and continue to work with stakeholders to consider observations, concerns, and ideas of Coloradans directly affected or impacted by potential program.
- ✓ Iterative process – will continue to revisit with interested parties to evaluate options and possibilities.

Colorado River issues affect the entire state – success on this front will require all water users and stakeholders being actively engaged, involved, and informed as we move forward.

THANK YOU

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