



Upper Colorado River Basin Perspective

October 28, 2019

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The views expressed in this presentation are solely those of the speakers, and not the official position of the Colorado Department of Law or the State of Colorado

Upper Colorado River Basin – Compacts, Laws, Challenges and Problem Solving





Upper Basin Perspective

FOCUS ON:

- ▶ Key Elements of the Upper Colorado River Basin Compact
- ▶ Roles and Distinctions between the Upper Colorado River Commission and the Upper Division States
- ▶ Elements of the 2019 Colorado River Drought Contingency Plans
- ▶ Upper Basin perspective of issues to consider in managing the Colorado River going forward

Fun Colorado River Facts

- Supplies water to 40 million people
- Provides water to Denver, Cheyenne, Las Vegas, Phoenix, Tucson, Los Angeles, San Diego, Salt Lake City
- Irrigates 5.5 million acres of farmland
- 22 Tribes
- National Wildlife Refuges, Parks, Recreation Areas, and Monuments
- \$1.4 trillion economy annually

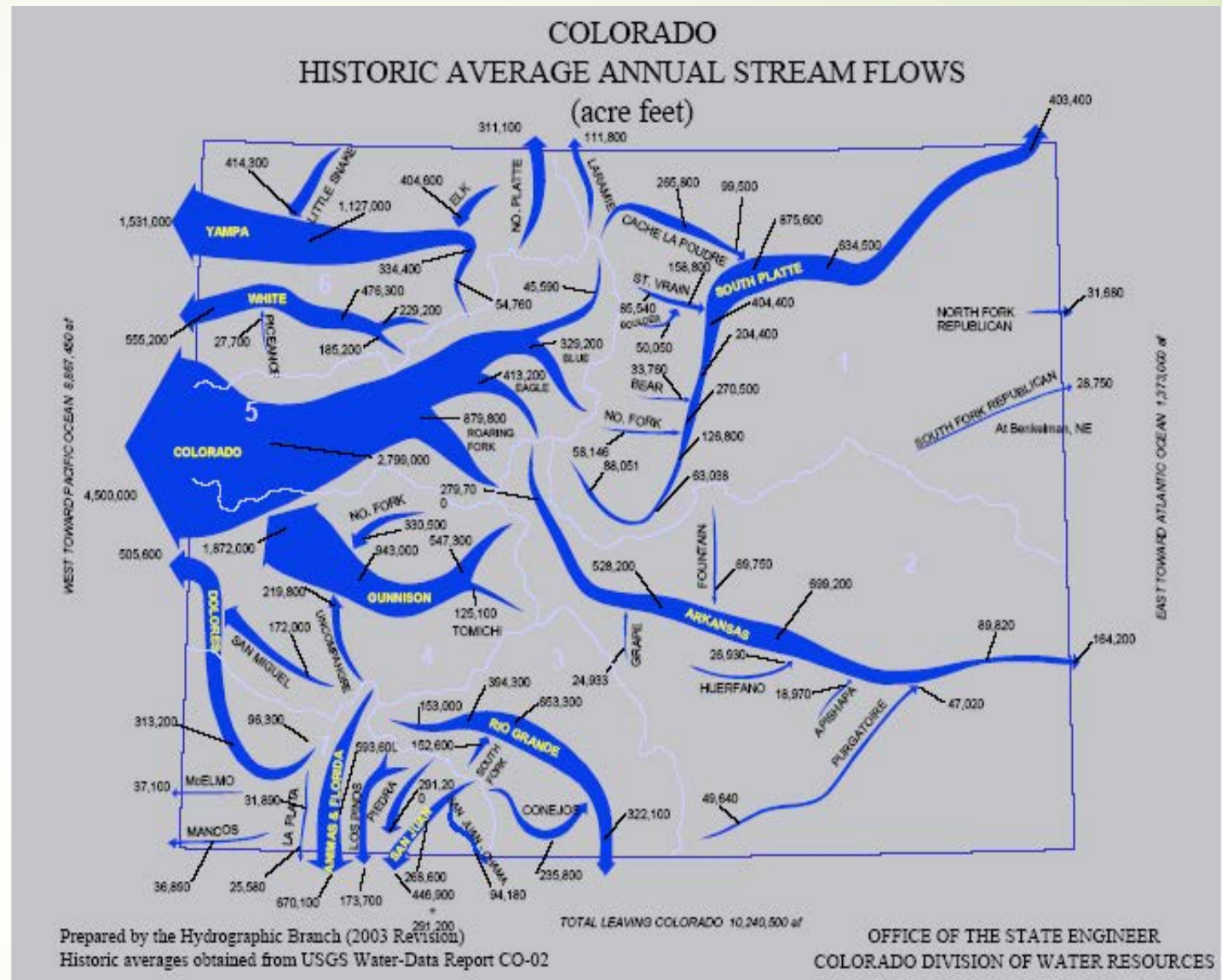


Colorado River Basin



8.5 maf

- The Colorado River is vital to the State of Colorado
 - The **majority of water consumed in Colorado** is diverted from the Colorado River and its tributaries



- 70% of the flows of the **entire Colorado River originate** in Colorado

Depending on the Issue - Parties and Stakeholders

- Upper Division States: Colorado, New Mexico, Wyoming and Utah
- Lower Division States: California, Arizona, Nevada
- U.S. Bureau of Reclamation
- Water User Groups
- Tribes
- Environmental NGOs
- Hydropower Interests (WAPA, CREDA, etc.)
- US Fish and Wildlife (FWS)
- National Park Service (NPS)
- Republic of Mexico
- Congress??



Context - What is a Compact?

- Definition - An agreement between two or more states approved by their state legislatures and Congress under the authority of the Compact Clause of the Constitution. (Art. I §10(3)).
- Purpose - To establish under state and federal law how the water of an interstate stream will be shared between users in different states in a manner that respects the states' sovereignty in a federalist system.



- Rationale - Authorizing compacts between states with sole limitation being consent by Congress respects states' inherent sovereignty in federalist system.

Context - Purpose of Compacts on Colorado River

- Provide for greater certainty and security in allocation of CR water supply
- Provide equitable division and apportionment of the use of the waters of the Colorado River system as determined by the States not SCOTUS or Congress.
 - Consensus that states would be in better position if they agree to terms, as opposed to a court or federal government mandate.
- Allow upstream States to develop supplies at their own pace and protects Colorado's right to develop water for future uses.
- Promote interstate comity.
- Remove causes of present and future controversies



Context - Colorado River Compact, 1922

- **Establishes Upper/Lower Basin apportionment**
 - General allocation - 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. **Article III(a)**
 - Additional LB allocation - In addition to the apportionment in Art. III(a), the Lower Basin has the right to increase its beneficial consumptive use of such waters by 1 MAF per year. **Article III(b)**
 - Non-Depletion Provision - 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. **Article III(d)**

Context - Upper Colorado River Basin Compact of 1948

- Signed by Compact Commissioners for the Upper Basin States (Colorado, New Mexico, Utah, Wyoming and Arizona) and the Federal Government.
- Sets forth the allocation of Colorado River Water among the Upper Basin States.
- Establishes requirements for each Upper Division state with respect to the obligation not to deplete flows of water at Lee Ferry under Colorado River Compact.
- Establishes and sets forth the role of the Upper Colorado River Commission (UCRC).

Upper Basin Compact

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

Upper Basin Compact

➤ Article IV – Curtailment Provision

- If the Upper Division States have to curtail use to meet the 75/10 obligation, the Upper Colorado River Commission will determine the quantity each state must provide and the timing based on three principles:
 - (a) Curtailment must assure **full compliance** with the 1922 Compact;
 - (b) Overusing states must first **payback** the amount of their overuse over the last ten years;
 - (c) If overuse payback is insufficient to meet the flow target, then the states must deliver at Lee Ferry an amount of water that is **proportionate to their use** in the year immediately preceding the curtailment year.

Note - **present perfected rights** as of November 24, 1922 are expressly excluded from curtailment.

Upper Colorado River Commission

- **Article VIII** – Establishes the Upper Colorado River Commission
 - Interstate Administrative Agency
 - Comprised of one commissioner from each of the Upper Division States and one commissioner representing the U.S. (**NOTE:** Arizona is not an Upper Division State)
 - Run by and Executive Director (possibility of staff)
- **Directs the UCRC:**
 - Adopt rules and regulations as needed
 - Engage in cooperative studies
 - Collect and analyze river data
 - Make findings as to:
 - **“Extraordinary drought”** in the Upper Basin
 - Upper Basin water use
 - Lee Ferry deliveries (if necessary)
 - Necessity for and **extent of curtailment** if required
 - Reservoir losses (evaporation totals)



Colorado River Compact (CRC)
signed

California Limitation Act passed

California Seven Party Agreement signed

Upper Colorado River Basin Compact
signed/approved

Arizona v. California, decision entered

Colorado River Basin Project Act passes

National Environmental Policy Act (NEPA)

Treaty Minute 242 – (*Salinity Agreement*)

San Juan River Basin Recovery
Implementation Program
established

Colorado River Interim Surplus Guidelines finalized

Colorado River Interim Guidelines for Lower Basin
Shortages and the Coordinated Operation of Lake
Powell and Lake Mead

Treaty Minute 323 – (*Interim Cooperative Agreement*)

NOV. 1922

MAR. 1929

AUG. 1931

1948 – '49

1963

1968

JAN. 1970

1973

1991

2001

2007

2017

DEC. 1928

JUN. 1929

1944 – '45

1956

1964

1970

DEC. 1973

1988

1992

2003

2012

2019

Boulder Canyon Project Act (BCPA) passes

Proclamation effectuating CRC and BCPA

Water Treaty with Mexico signed/ratified

Colorado River Storage Project Act passes

Arizona v. California Sup. Ct. Decree issued

Coordinated Long Range Operation of
Colo. River Reservoirs (LROC) issued

Endangered Species Act

Upper Colorado River Endangered Fish
Recovery Program established

Grand Canyon Protection Act

Quantification Settlement Agreement executed

Treaty Minute 319 – (5 Year Cooperative
Agreement)

Colorado River Drought Contingency Plan completed

**LAW OF
THE RIVER**

**Other Relevant
Laws**

**Specific Regulations/
Agreements**

COMPACTS, AGREEMENTS
AND ANY POSSIBLE
FUTURE PROGRAMS ARE

CONNECTED

Rights to
Colorado
River Water and
Compact
Compliance
(under variable
water supplies)

Colorado River Compact (1922 - Perpetuity)

- Divides watershed into UB and LB
- 7.5 MAF CU apportioned to UB & LB each
- Requires UB to not cause the flow to be depleted at Lee Ferry below 75 MAF over ten year rolling average

Upper Colorado River Basin Compact (1948 - Perpetuity)

- Colorado apportioned 51.57% of available consumptive use
- Tasks UCRC with determining volume of water each UB state must provide meet 75 MAF over 10 year rolling average

Interim Guidelines (2007 - 2026)

- Requires LB to take shortages
- Coordinates reservoir operations to stabilize system
- Secures UB right to release less from LP
- Avoids protracted litigation
- Will be re-negotiated by 2026

Drought Contingency Plans for the Lower & Upper Basins (2019? - 2026)

- TEMPORARY plans to help prevent system crash if drought worsens
- Allows states to control own destiny
- Helps assure 07 IGs can operate until 2026
- Avoids litigation
- Provides opportunity to identify best tools to continue UB compact compliance

Upper Basin Demand Management Program. (?)

- Potential tool under UB DCP **IF DEEMED FEASIBLE**
Only advances if each UB State agrees to terms

Colorado River Drought Contingency Planning

What is it?

- Planning for drought response to reduce risks associated with reaching critical reservoir elevations at Lake Powell or Lake Mead.



Colorado River Drought Contingency Planning

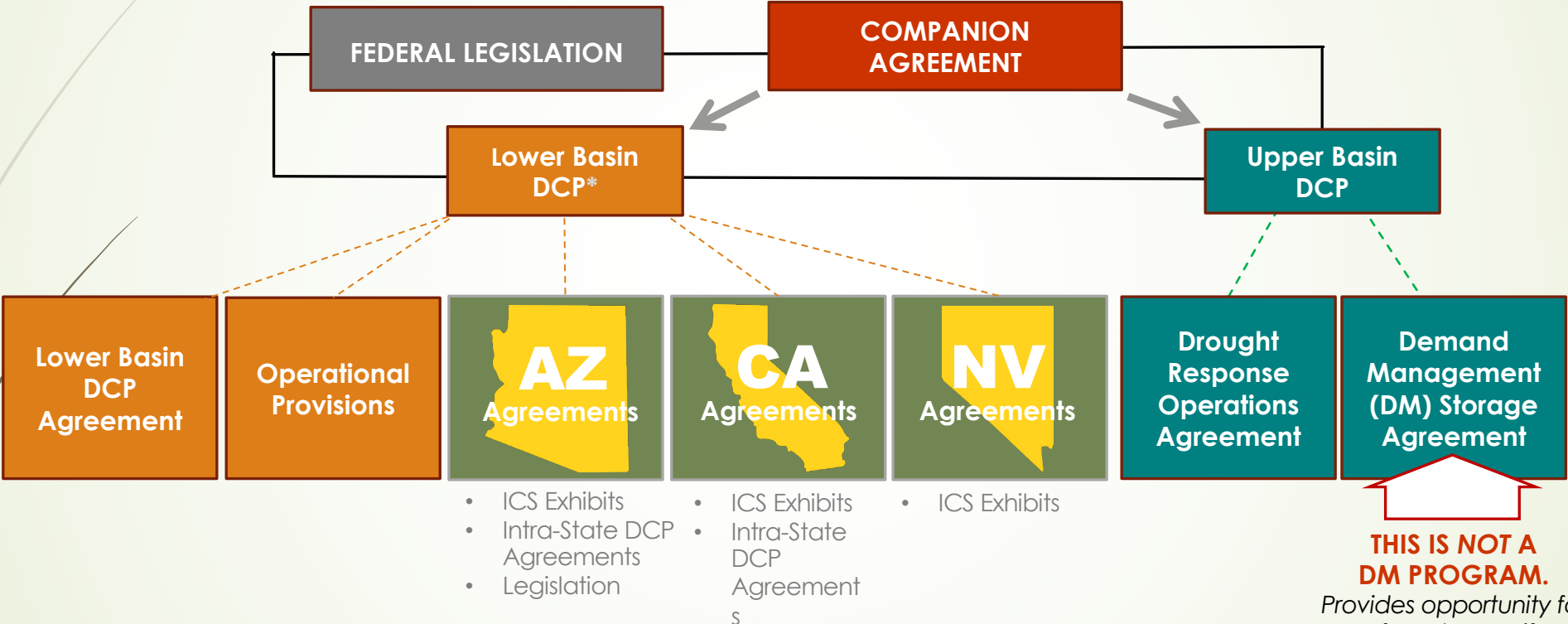
GOALS

- ✓ 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



THIS IS NOT A DM PROGRAM.
Provides opportunity for free storage if a DM Program is created.

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

Lower Basin Drought Contingency Plan



The Need:

Actual hydrology has significantly increased the risk of Lake Mead falling below el. 1025' by 2026 since approval of the 2007 Interim Guidelines.

Under "Stress Test" hydrology, the risk is about six times larger.

The Goal:

Reduce the probability of breaching critical elevations that could force conflict and draconian reductions in water deliveries.



Lower Basin DCP

✓ Contingency Planning

- ▶ Implement voluntary reductions in water use beyond the shortages required by the 2007 Interim Guidelines.
- ▶ Includes commitment by the U.S. to work to create or conserve Colorado River system water.
- ▶ Incentivize conservation banking.
- ▶ Commitment to protect elevation 1020' at Lake Mead (i.e., the "backstop")

✓ Sustainability Planning

- ▶ Recognizing need for longer-term mechanisms for addressing "Structural Deficit" in the Lower Basin. But DCP is not solving this deficit.

Mexico's Participation



- In Minute 323 (executed in September 2017), Mexico committed to a Binational Water Scarcity Contingency Plan (BWSCP) “in parity” with a Lower Basin DCP.
 - ✓ Mexico to conserve defined volumes of water at specific elevations “in parity and alignment” with DCP contributions, upon the authorization of a Lower Basin DCP within the U.S.
 - ✓ Mexico will also benefit from the same flexibility provisions applicable to ICS in the Lower Basin.

2007 Interim Guidelines Shortage Reductions and Incremental DCP Contributions

Lake Mead Elevation	AZ 2007	AZ DCP	AZ TOTAL	NV 2007	NV DCP	NV TOTAL	CA 2007	CA DCP	CA TOTAL	BOR DCP	MX Min 323	MX BWSCP	MX Total	TOTAL
≤1090 >1075	0	192K	192K	0	8K	8K	0	0	0	100k	0	41k	41k	341k
≤1075 >1050	320K	192K	512K	13K	8K	21K	0	0	0	100k	50k	30k	80k	713k
≤1050 >1045	400K	192K	592K	17K	8K	25K	0	0	0	100k	70k	34k	104k	821k
≤1045 >1040	400K	240K	640K	17K	10K	27K	0	200K	200K	100k	70k	76k	146k	1,113k
≤1040 >1035	400K	240K	640K	17K	10K	27K	0	250K	250K	100k	70k	84k	154k	1,171k
≤1035 >1030	400K	240K	640K	17K	10K	27K	0	300K	300K	100k	70k	92k	162k	1,229k
≤1030 >1025	400K	240K	640K	17K	10K	27K	0	350K	350K	100k	70k	101k	171k	1,288k
≤1025	480K	240K	720K	20K	10K	30K	0	350K	350K	100k	125k	150k	275k	1,475k

Upper Basin Drought Contingency Plan



Agreements:

- ▶ Weather Modification (ongoing/programmatic arrangement)
- ▶ Drought Response Operations Agreement
- ▶ Demand Management Storage Agreement

Goals:

- ▶ Reduce the risk of Lake Powell reaching critically low elevations (minimum power pool elevation - 3490 ft / 3525 ft)
- AND
- ▶ Help maintain compliance with the 1922 Colorado River Compact

Drought Response Operations Agreement

Navajo



Flaming Gorge



Curecanti (Aspinall Unit)



Glen Canyon

- A process to develop plans to implement only when necessary to keep Lake Powell above the target elevation, and subsequently recover storage as needed in the Initial Units.
- Steps in the process are triggered by certain forecasts in the 24-Month Study Reports.

Demand Management Storage Agreement

The Agreement – 2 Parts

- ❖ Authorization for storage of demand management water at Initial Units
- ❖ Agreement on how the Upper Basin can access and use that storage under a Demand Management Program

*Does not mandate or guarantee
an Upper Basin Demand Management Program will be instituted*



Demand Management Storage Agreement

Why included in the DCP?

- ▶ May provide a second line of defense against extended drought.
- ▶ Provides foundation for Upper Basin to be able to explore and potentially develop a demand management program in the future without impairing existing water rights.
- ▶ Intended purpose is to explore feasibility of operations to help ensure continued compliance with the Colorado River Compact in times of extended drought.





Demand Management

- ▶ Consistent with UCRC Resolutions in 2014 and 2018, and Colorado Water Conservation Board's 2018 Statement of Support and Policy – focus is on exploring the feasibility of:
 - ▶ Temporary
 - ▶ Voluntary
 - ▶ Compensated
 - ▶ Reduction in diversions to conserve water that is otherwise consumptively used
- ▶ To help avoid potential need for involuntary curtailment of Colorado River uses. Specifically geared to help ensure Compact compliance.

Demand Management Storage Agreement

AUTHORIZATION

* Provides for Secretarial authority to allow storage:

- ✓ At CRSPA Initial Units
- ✓ For water conserved as part of an Upper Basin Demand Management Program
- ✓ Free of charge

❖ **Does not expire, but subject to operational Demand Management Program in the Upper Basin**

Demand Management Storage Agreement

AGREEMENT TERMS

* Sets forth minimum requirements for Upper Division States to access the storage provided pursuant to the Authorization

(Identifying key considerations or terms for any UB Demand Management Program)

*** Generally, minimum requirements are subject to terminate at the end of 2025, and be the topic of discussion as part of future negotiations on reservoir operations.**

Demand Management Storage Agreement – Min. Requirements

Feasibility Analysis

- Verification and Accounting
- Sheparding
- Storage and Release
- Funding
- Compliance with Law

THIS IS WHAT WE ARE STARTING TO LOOK INTO REGIONALLY AND WITHIN EACH STATE

Develop DM Prgm

- Minimum reqs for
 - Water Conserv
 - Storage
 - Release

Agmt with SOI

UCRC/SOI agreements on water conveyed to and stored at Initial Units
Pre-req - Consultation with Lower Basin

UB Approvals

UCRC Finding of Need for DM
Comm'n Approval
State Approval

Need For Federal Legislation

- The LBDTCP contemplates delivery of ICS, or surplus water, during shortage conditions at Lake Mead, and the ability to request more than decreed apportionments in a given shortage year, both of which are inconsistent with the Decree in *Arizona v. California*.
- The UBDCP contemplates allowing the Upper Basin to store conserved water for future compact compliance purposes, free of charge and outside the coordinated reservoir operations between Lake Powell and Lake Mead under Section 602(a) of the Colorado River Basin Project Act and the 2007 Interim Guidelines.



Federal Action

- ▶ Both Senate and House introduced identical bills, which passed April 8.
- ▶ President Trump signed the Colorado River Drought Contingency Plan Authorization Act on April 16.
- ▶ The DCP Agreements were executed by all parties on May 20, 2019 at a signing ceremony at Hoover Dam.



NEXT STEPS

- ✓ Implement terms of Binational Water Scarcity Plan to include Mexico in process.
- ✓ Lower Basin developing ICS as desired in preparation for DCP contributions in upcoming years.
- ✓ Reclamation continuing 24 month study modeling to inform triggering of plans and consultation if needed.
- ✓ Upper Division States initiating Demand Management Feasibility Investigations.
- ✓ UCRC commencing regional considerations for Demand Management Feasibility Investigations.
- ✓ All preparing for negotiation of next agreements as part of the Renegotiation of the 2007 Interim Guidelines.

Colorado River Issues

- Conflicts will continue to arise over:
 - Rights and responsibilities to what is an increasingly limited resource.
 - How the management and operation of the Colorado River will best maximize this resource for all interested stakeholders

And

- How the use of the River affects environmental, hydropower and other concerns.



Upper Basin Considerations Going Forward

- Issues and processes to keep in mind:
 - Goal is certainty and security – how to achieve that in the face of drying hydrology and increasing demands
 - Timing of actions???
 - Lower Basin addressing the structural deficit
 - Data – measuring, modeling, verifying tracking of water in each basin
 - Differences in approaches, laws and views in each UB State
 - Need for Congressional help at times
 - Adapting to changing conditions (variability)
 - Front Range v. Western Slope posturing (Muni v. Ag)
 - What a curtailment looks like ???
 - Transparency and inclusion – takes us all – how to achieve in effective manner
 - Tribal role in the entire process
 - Resources, money and commitment to problem solve

Colorado River Issues: How to Respond

Litigation

- Scorched-earth-cannot manage risk and not in control of our own destiny
- Fight over all these outstanding issues in numerous courts
- Uncertain and possibly undesirable outcomes as to issues concerning Mexican Treaty releases, Lower Basin tributaries, Upper Basin uses and reservoir operations.
- Risks:
 - 10-20 years or more of uncertainty and harmful impacts
 - Significant cost
 - Limited resources
 - Interfere or prevent decisions as to Colorado River management
 - Unresolved issues



Colorado River Issues: How to Respond

Collaboration-Negotiation

- Does not “break” the LoR
- Maintain open lines of communication-can better manage risk
- Respect competing interests and navigating differences while protecting positions.
- Problem solve and work within the existing framework
- Find flexibilities to adapt to changing hydrologic conditions that require reservoir management and operations to evolve.
- Risks:
 - Ongoing
 - Significant cost
 - Requires trust and compromise
 - Fail to protect legal rights in an effort to increase certainty





Thank you!

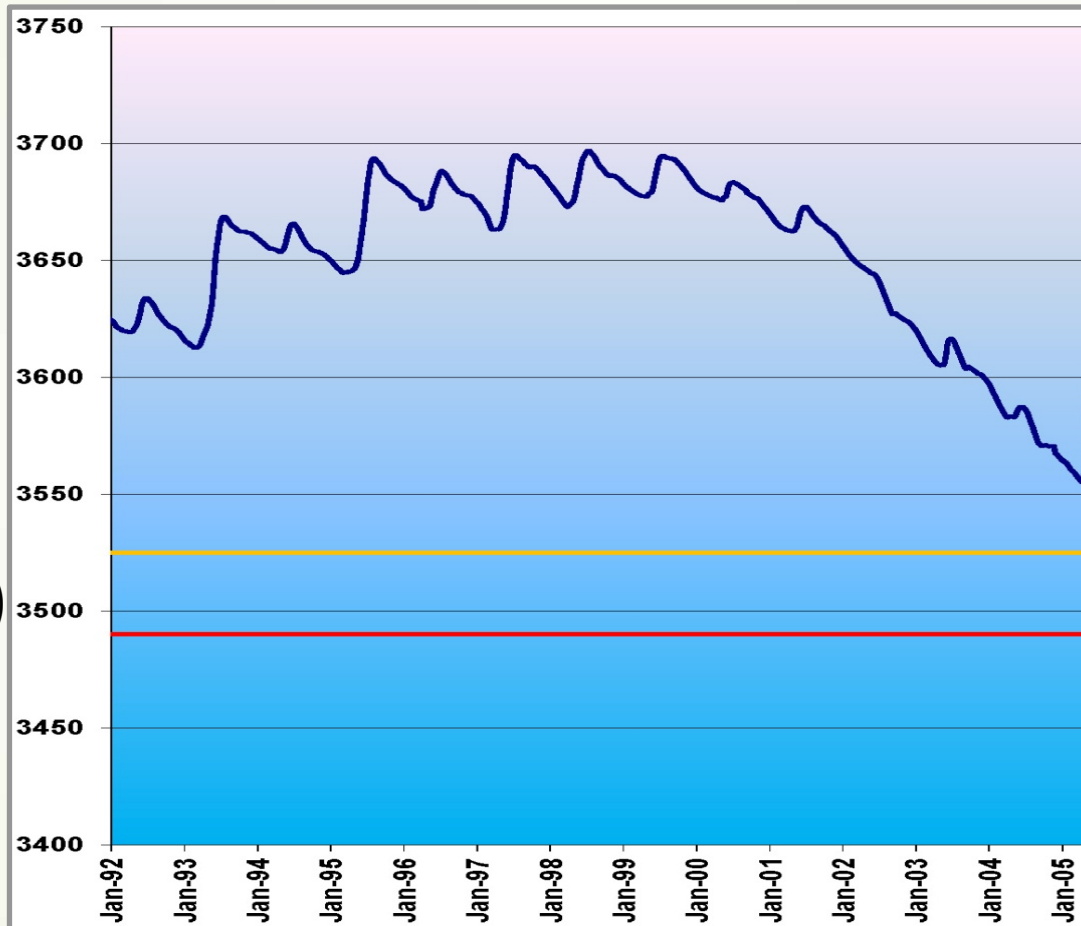
Questions Related to the 1948 Upper Colorado River Compact

- The Compact provides that any state that has **overused** in the preceding ten years must supply a quantity at Lee Ferry equal to its **aggregate overdraft** (IV(B))
- The Compact provides that except for the makeup of overdraft, **the extent of curtailment is to be proportional** to the consumptive use by each state in the preceding water year, excluding use of water **“under rights perfected prior to November 24, 1922.”**
 - When should the need for **curtailment** be determined?
 - How can this be accomplished in compliance with the 1922 Compact?
- How is an Upper Basin State’s **overuse** determined?
 - How is this determination reconciled with determinations as to the available supply in a particular year that would be the subject of an assertion of overuse?
 - How can this be reconciled with the apportionments under the 1922 Compact?
- How is the **proportionality of a curtailment** determined between the Upper Basin States?
- How to **measure** to satisfy a curtailment obligation?
- How to account for **transit losses**?
- What does **“rights perfected”** mean? Does the 1948 Compact limit the scope of **“present perfected rights”** in relation to the 1922 Compact?
- Would a UCRC finding of **“extraordinary drought”** affect its meaning in the Treaty with Mexico?

Need for Shortage Guidelines Lake Powell Storage

Percentage of 30-
year average
(1971-2000): 12.04
maf)

- 2000 – 7.32 maf (62%)
- 2001 – 6.96 maf (59%)
- 2002 – 3.06 maf (25%)
- 2003 – 6.36 maf (51%)
- 2004 – 6.13maf (49%)
- 2005 – 12.62 maf (105%)
- 2006 – 8.77 maf (71%)
- 2007 – 8.23 maf (68%)



Tensions were high and litigation risk was significant

2007 Colorado River Interim Guidelines for Lower Basin Shortages

- **Interim Agreement to gain experience on the River and adjust as needed**
- **Sets 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 participate in additional shortages*
- **Creates flexible mechanism for Lower Basin to bank water = Intentionally Created Surplus (ICS)**
 - Examples: fallowing, ditch lining
 - Total allowable ICS account in Mead – 2.1 MAF
- **Specifies coordinated operating criteria for Lake Powell and Lake Mead** to help avoid Upper Basin curtailment and reduce impact of Lower Basin shortages when water supplies are low.

Benefits of the 2007 Interim Guidelines

- Releases at Lake Powell can be reduced when storage is low
 - Recognizes releases from Powell can be less than 8.23 MAF (minimum objective release)
- Recognizes shortages in the Lower Basin
 - Sets criteria for Lower Basin shortages at key elevations
- Intended to help stabilize the system
 - Coordinated operation was intended to allow the Upper Basin to release less water during drought conditions when Lake Powell is lower than Lake Mead
- Avoided Litigation
- Helped to mitigate against curtailment