INTER BASIN COMPACT COMMISSION (IBCC) MEETING DECEMBER 4, 2013 GOLDEN, COLORADO

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Main points

- The Basin Study Recap
- “Next Steps” Process
- Other Efforts
- Current Hydrology

Basin Study Recap

- Analyzed Options and Strategies to address the potential supply and demand imbalances through 2060.
- Options focused on the potential to increase supply and/or reduce demand.
- Potentially very large imbalances, which will require a variety of solutions…there are no silver bullets.
- Limitations recognized in the Study.
- "Call to Action" = Continuation of Ongoing Efforts.

The States' Commitments

Governor's Representatives on Colorado River Operations
States of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming

The Seven Basin States' Commitments to
Future Actions Following Release of the Basin Study

Background

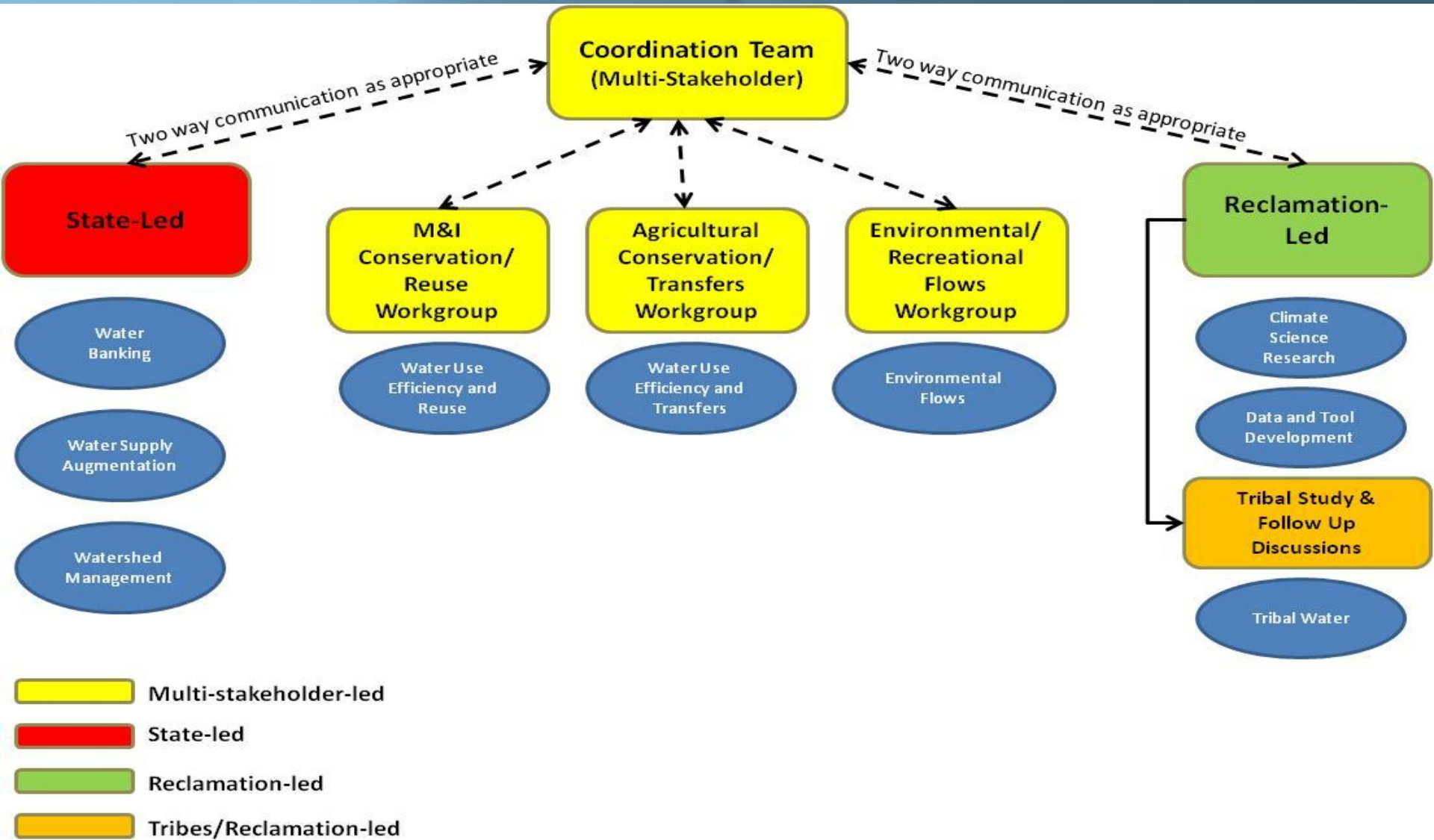
The Colorado River Basin Water Supply and Demand Study (Basin Study) is the most recent example of the Seven Colorado River Basin States (Basin States) and the Bureau of Reclamation (Reclamation) working together to address Colorado River water supply and demand issues. The possibility of future water supply and demand imbalances has been identified since the 1960's. For example over 30 years ago, the study, *The Westside Study Report on Critical Water Problems Facing the Eleven Western States (Reclamation 1975),* concluded that in spite of conservation, the Basin faces future water shortages unless its natural flows are augmented by more than 2.5 million acre-feet/year, or water-dependent Basin development is limited. With this knowledge, the Basin States and Reclamation have taken several actions to begin to address the potential for imbalance between future supplies and demands.

The Basin Study is the most comprehensive effort to date to quantify and address future supply and demand imbalances in the Colorado River Basin. The Basin Study evaluates system reliability and also outlines potential options and strategies to meet or reduce imbalances that are consistent with the existing legal framework governing the use and operation of the Colorado River. A range of future water demands are quantified in six different demand scenarios that include varied assumptions about future economic conditions, population growth, and water needs for agricultural, municipal and industrial, energy, minerals, and fish, wildlife, and recreation purposes.

States' Commitments

- Basin States confirmed their commitment to future actions
  - Highlighted the potential for additional conservation and reuse and recognized the constraints
  - Focus on regional solutions – banking, weather modification
  - Desalination and importation – longer term
- Basin Study is another tool the Basin States can use to plan for the future.
  - The tools in the Basin Study provide a common technical platform.
- Opportunity for continued partnership with BOR
- Inclusion of other groups
  - Non-Governmental Organizations
  - Academic institutions
  - Trade organizations
  - Individual water users

States Role in the "Next Steps"



M&I Conservation/Reuse Workgroup

- Co-Chairs – Denver, MWD, AZ

- Quantify Existing Conservation and Reuse
- Categorize Savings by Types of Use
- Highlight successful programs
- Quantify Potential Additional Savings
- Evaluate Additional Reuse Technologies

- "Conservation" is part of "Supply"

- Challenges – Not One Size Fits All

Agricultural Conservation/Transfers Workgroup

- Co- Chairs – Colorado State, IID, BOR

- Quantify existing conservation and transfers
- Document impacts of conservation and transfers

- Challenges

Environmental and Recreational Flows Workgroup

- Chairs – Colorado, the Nature Conservancy, BOR

- Identify potential modeling improvements
- Coordinate with Landscape Conservation Cooperative project

- Identify hydropower benefits and impacts

State Led Efforts

- Upper Basin Water Banking
- Weather Modification
- Tamarisk Removal
- Augmentation/Desalination

Colorado River Other Efforts

Upper Basin Compliance Planning

- Review risks to Upper Basin states
  - Results of Basin Study
    - Examine specific results for Upper Basin
    - When/where/why study underestimates risk, shortage
    - When/where/why study overestimates risk, shortage
- Explore strategies for Upper Basin states to work together to reduce risk and increase likelihood of continual Compact compliance

Colorado River Compact Compliance Strategies Study

- Goals:
  - Protect water rights and use within Colorado
  - Ensure Compact Compliance with minimal impact to Colorado water users
- Water Right Analysis
  - Examine all pre-Compact rights
- Consumptive Use Analysis
  - Analyze historic and current consumptive use of pre-Compact and post-Compact water rights
- Analyze alternatives and strategies to avoid, delay or minimize curtailment
  - In concert with Upper Basin Compliance Planning, Water Bank Working Group

Water Bank Working Group

- Examine potential for Water Bank to avoid, delay or minimize the likelihood of (or negative impacts from) a compact deficit
  - Allows risk and shortage to be shared voluntarily with compensation
  - Investigate potential amount available to a Water Bank
  - Increase understanding of how fallowing and deficit irrigation work, the challenges and possible impacts
  - Increase understanding of existing systems and how they might contribute to a Water Bank in the future, if interested

Colorado River System Status

Colorado River Drought

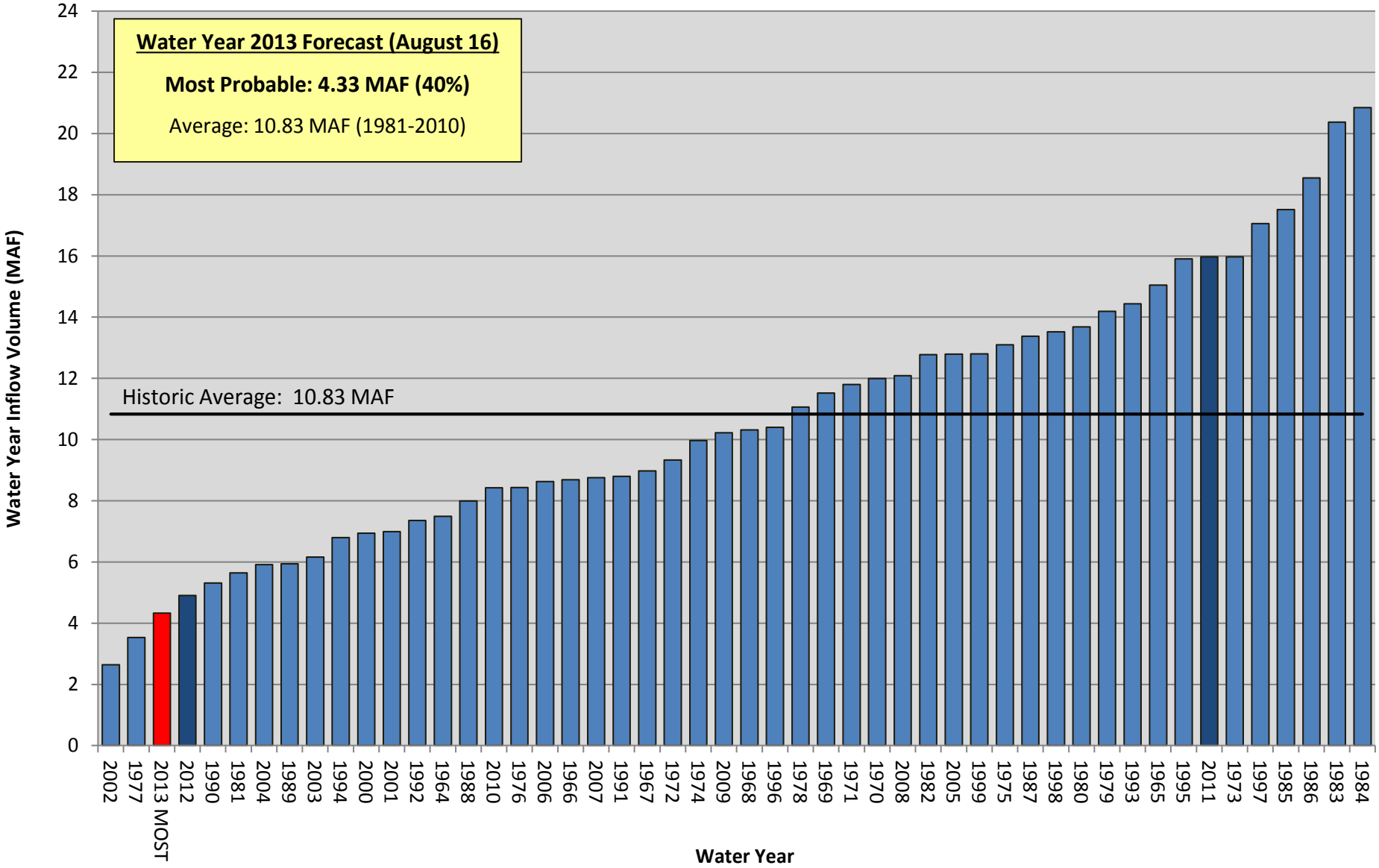
- Inflow into Powell has been below average 11 of the past 14 years (2000-2013)
- The period from 2000-2013 was the driest 14-year period in over 100 years of historical record
- Tree-ring reconstructions show more severe droughts have occurred over the past 1200 years (e.g., drought in the mid 1100s)
- However, based on the paleo-record, only four 14-year periods were drier than the current period from 2000-2013

Unregulated Inflow into Lake Powell

Water Year 2013 Forecast

(as of August 1)

Comparison with History



Colorado River Basin Storage
(as of December 4, 2013)

Current Storage	Percent Full	MAF	Elevation (Feet)
Lake Powell	45%	10.6	3,589
Lake Mead	47%	12.3	1,106
Total System Storage*	50%	29.6	NA

*Total system storage was 33.3 maf or 56% this time last year

Annual Operating Plan (AOP)

- A report on the current year's operations and the upcoming year's projected operations
  - published by December of the current calendar year
- Three consultations held annually
  - May, July, and September
- Under the 2007 Interim Guidelines:
  - August projections are used as the basis for decision for Lake Powell and Lake Mead *annual* operations for the coming year
  - April projections are also important due to potential adjustments to Lake Powell's annual operation at the higher reservoir levels
- Draft 2014 AOP currently available at:
  - http://www.usbr.gov/lc/region/g4000/AOP2014/AOP14_draft.pdf
- Current status and projected monthly operation available at:
  - http://www.usbr.gov/lc/region/g4000/24mo.pdf

Lake Powell and Lake Mead Operation – 2014

Lake Powell Release
Water Year 2013 and 2014 Projected
Comparison with History