

RECLAMATION

Managing Water in the West

Colorado River Basin:

- **Current System Conditions**
- **Basin-Wide Activities**

WaterSmart Innovations 2015

Las Vegas, NV

October 9, 2015



U.S. Department of the Interior
Bureau of Reclamation

Colorado River Basin Hydrology

- 16.5 million acre-feet (maf) allocated annually
- 14.8 maf average annual “natural” inflow into Lake Powell over past 110 years
- 13 to 14.5 maf of consumptive use annually
- Snowmelt dominated system
- Flow is highly variable year-to-year
- Approximately 60 maf of storage



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Colorado River Drought

- 2000-2015 is the driest 16-year period in over 100 years of historical records (2013-2015 are estimated)
- Tree-ring reconstructions show more severe droughts have occurred over the past 1200 years (e.g., drought in the mid 1100s)
- The preliminary observed 2015 April through July runoff is 94% of average¹ as of October 1
- Not unusual to have a few years of above average inflow during longer-term droughts (e.g., the 1950s)

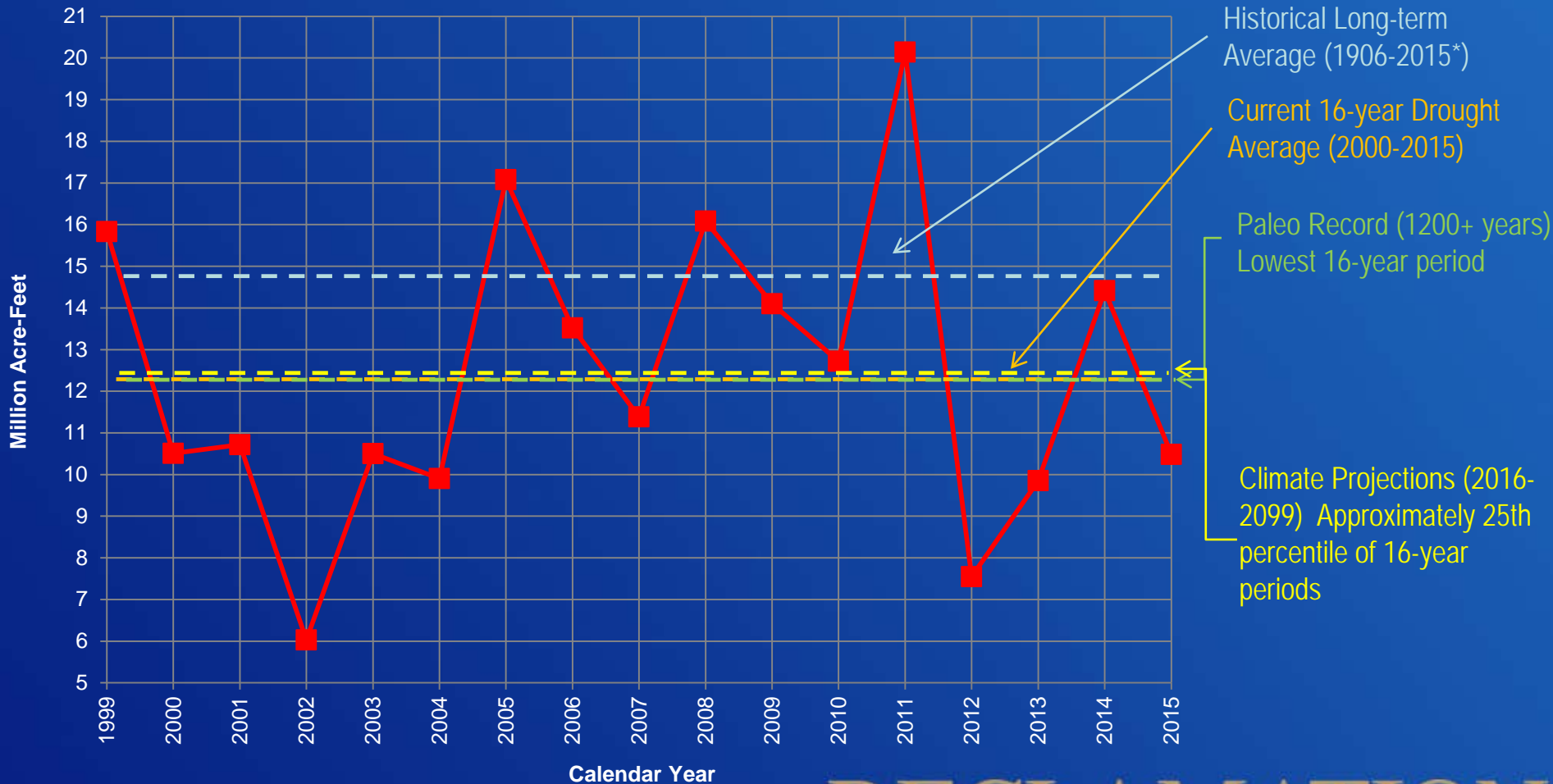


Lake Mead, February 23, 2015
Elevation 1,089 ft.

¹ Percent of average is based on the period of record from 1981-2010.

Current 16-year Drought (2000-2015)

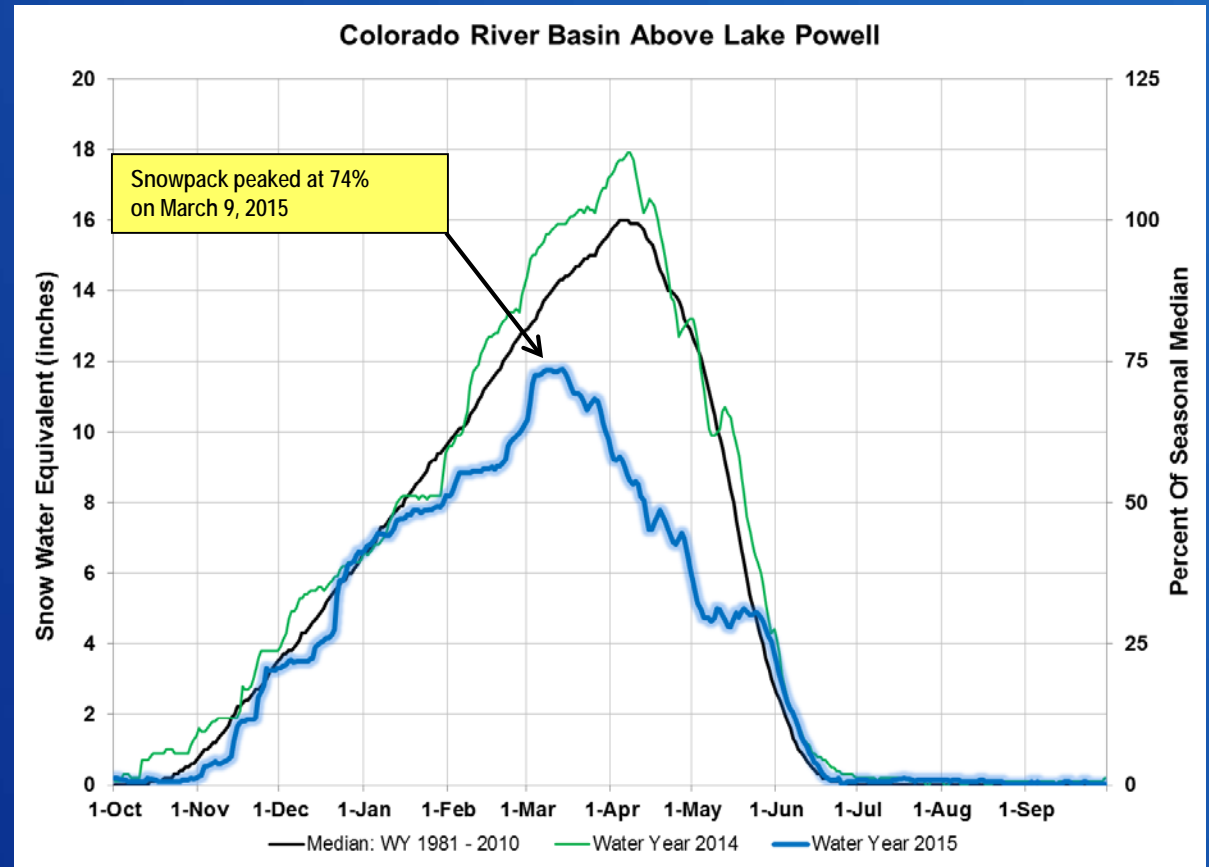
Natural Flow at Lees Ferry



*2013-2015 natural flows are provisional

Water Year Snowpack and Precipitation (as of October 4, 2015)

- Colorado River Basin above Lake Powell
- Water Year 2015 Precipitation to date: 90% of average
- Current Snowpack: NA



Colorado River Basin Storage

(as of October 4, 2015)

Reservoir	Percent Full	Storage (MAF)	Elevation (Feet)
Lake Powell	51%	12.30	3,606
Lake Mead	38%	9.88	1,078
Total System Storage*	51%	30.25	NA

*Total system storage was 30.09 maf or 50% this time last year

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System Conservation Pilot Program

- Funding Partners: Reclamation, CAWCD, SNWA, MWD, Denver Water
- Goal is to examine the effect of Basin-wide solutions on declining levels in Lakes Powell and Mead
- Provides \$11 million for voluntary pilot projects that create system water
 - \$2.75 million for Upper Basin
- The Program went into effect July 2014 for at least through 2016

Agreement No. 14-XX-30-W0574

AGREEMENT AMONG
THE UNITED STATES OF AMERICA, THROUGH THE
DEPARTMENT OF THE INTERIOR,
BUREAU OF RECLAMATION,
THE CENTRAL ARIZONA WATER CONSERVATION DISTRICT,
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA,
DENVER WATER, AND
THE SOUTHERN NEVADA WATER AUTHORITY,
FOR A PILOT PROGRAM FOR FUNDING THE CREATION OF COLORADO RIVER
SYSTEM WATER THROUGH VOLUNTARY WATER CONSERVATION AND
REDUCTIONS IN USE

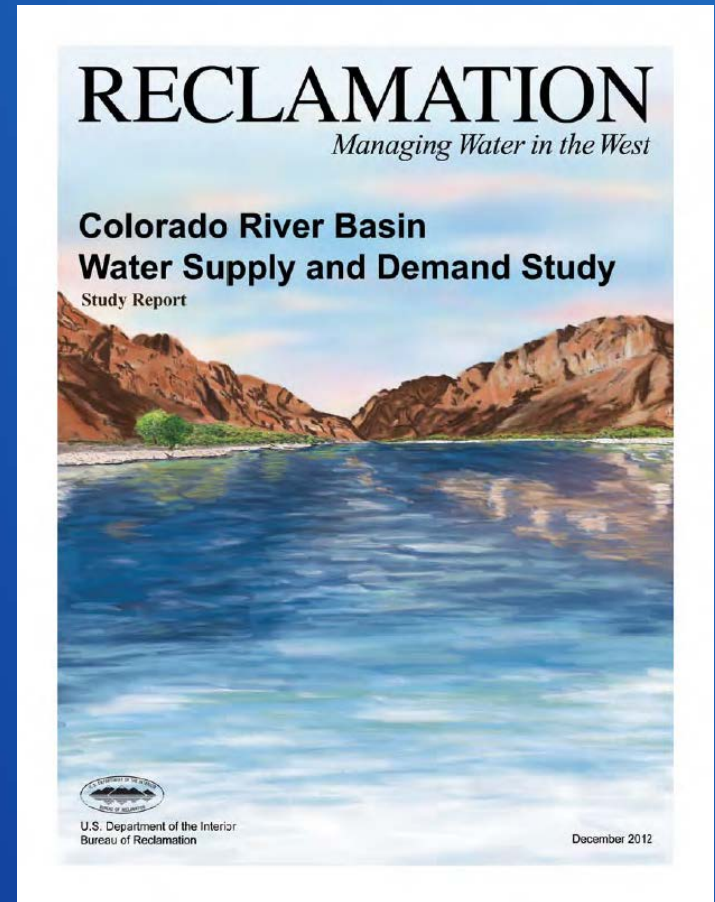
1. **PREAMBLE:** THIS AGREEMENT ("Agreement") is entered into this ~~30th~~ day of ~~July~~, 2014 ("Effective Date"), by and between the UNITED STATES OF AMERICA ("United States"), represented by the Secretary of the Interior ("Secretary") acting through the officials executing this Agreement, the CENTRAL ARIZONA WATER CONSERVATION DISTRICT, a multi-county water conservation district duly organized and existing under the laws of the State of Arizona ("CAWCD"), the METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA, a regional public water district duly organized under California law ("MWD"), DENVER WATER, a municipal corporation and political subdivision of the State of Colorado ("DW"), and the SOUTHERN NEVADA WATER AUTHORITY, a political subdivision of the State of Nevada ("SNWA"), each being referred to individually as "Party" and collectively as the "Parties", and pursuant to the Act of Congress approved June 17, 1902 (32 Stat. 388), designated the Reclamation Act, and acts amendatory thereof or supplementary thereto, the Act of March 4, 1921 referred to as the Contributed Funds Act (41 Stat. 1404, 43 U.S.C. § 395), the Act of January 12, 1927 (44 Stat. 957, 43 U.S.C. § 397a), the Act of December 21, 1928 (45 Stat. 1057), designated the Boulder Canyon Project Act, the Act of April 11, 1956 (70 Stat. 105), designated the Colorado River Storage Project Act; the Act of September 30, 1968 (82 Stat. 885), designated the Colorado River Basin Project Act, the Act of

MOU - Pilot Drought Response Actions

- Participants: Reclamation, Lower Basin States, CAWCD, SNWA, MWD
- Identifies goal to create 1.5 to 3.0 maf of protection volumes by 2019
- Commits Reclamation, CAWCD, SNWA, and MWD to “best efforts” to create 740 KAF of protection volumes by 2017
- Identifies consultation triggers
- Commits participants to continue to work on key issues during further consultation

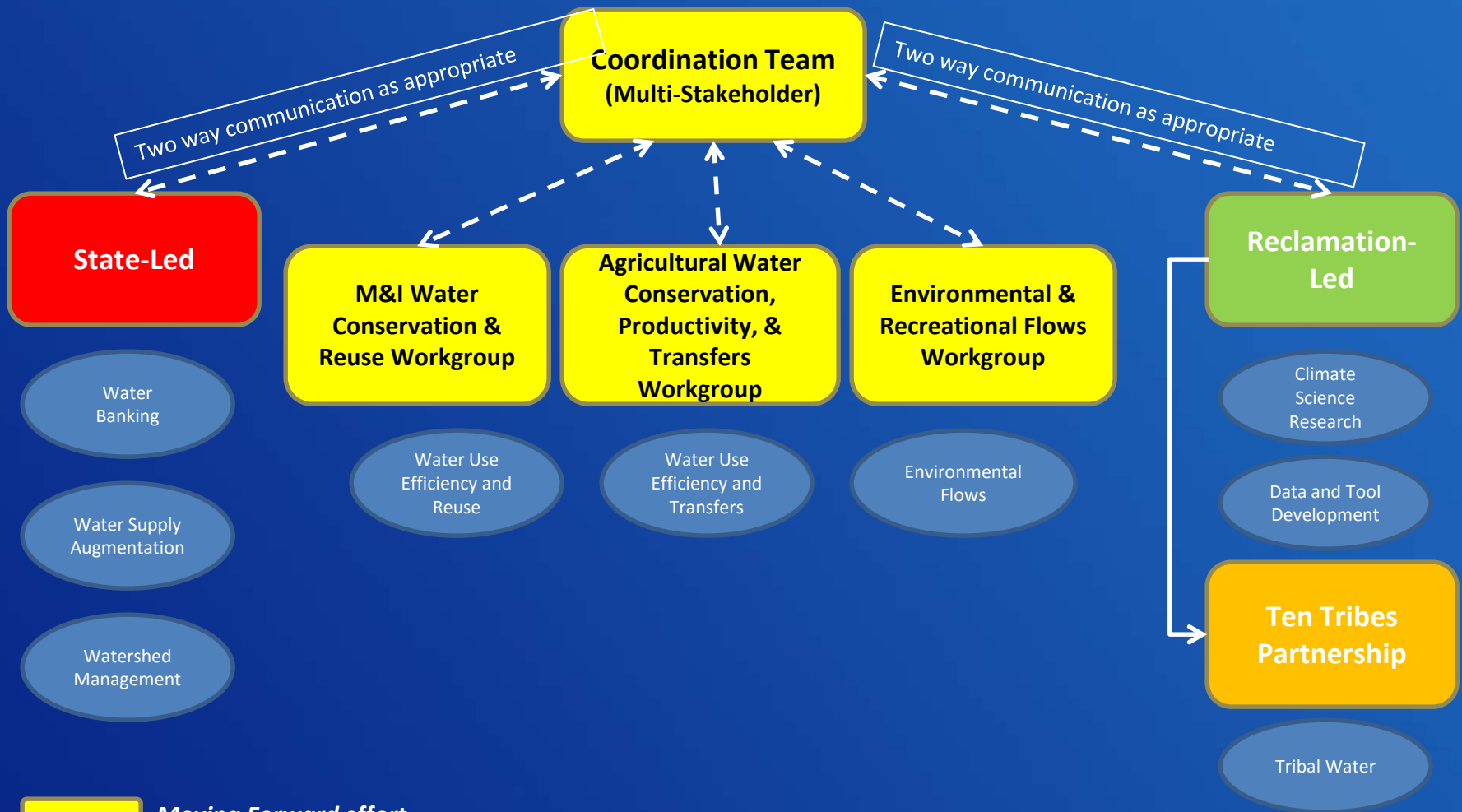
Study Summary

- The system is vulnerable if we do nothing
- Doing something greatly reduces that vulnerability and makes the system more resilient but does not eliminate vulnerability
- In the near term, all portfolios show that conservation, transfers, and reuse are cost-effective ways to reduce vulnerability
- In the longer term, more tradeoffs emerge to achieve an acceptable level of risk in terms of options, cost, resources, and other implications



<http://www.usbr.gov/lc/region/programs/crbstudy.html>

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Moving Forward effort

State-led

Reclamation-led

Tribes/Reclamation-led

Area identified in Basin Study where next steps should be taken

Next Steps Areas Identified in the Basin Study

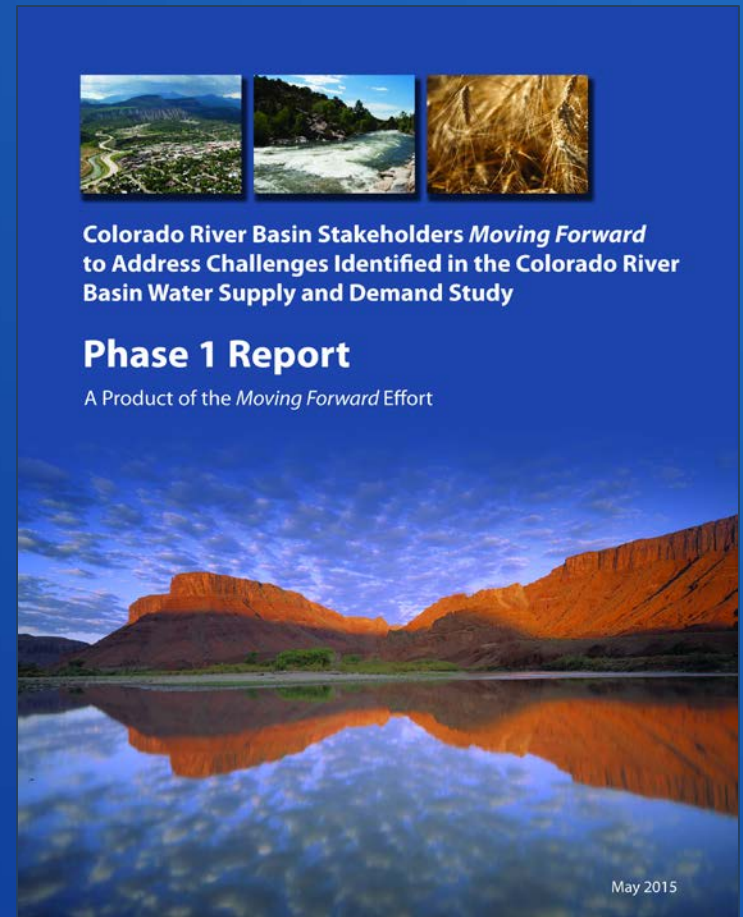
Moving Forward Effort

- Stakeholder kickoff in May 2013
- Ultimate goal: identify actionable steps to address projected water supply and demand imbalances that have broad-based support and provide a wide-range of benefits
- Phase 1 began with the formation of:
 - Coordination Team
 - M&I Water Conservation and Reuse Workgroup
 - Agricultural Water Conservation, Productivity, and Transfers Workgroup
 - Environmental and Recreational Flows Workgroup
- Coordination Team and Workgroups multi-stakeholder
 - Workgroups comprised of subject matter experts throughout Basin

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Phase 1 Summary

- Phase 1 Report published in May 2015
- Twenty-five opportunities were identified by the workgroups
 - Identified potential actions associated with each opportunity
- Similar findings between workgroup's include opportunities related to:
 - Funding and incentives
 - Data and tools
 - Outreach and partnerships
 - Coordination and integration
 - Infrastructure improvements
 - Flexible water management



Commenting encouraged!

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Moving Forward Effort, Phase 2

- Phase 2, which will begin in 2015, signals the transition from study to action
- Building from the Phase 1 workgroups' proposed opportunities for future actions, several pilot projects will be identified and implemented
- The specifics of the pilot projects are unknown at this time but will be related to M&I and Ag conservation and environmental and recreational flows

Colorado River Basin Updates



Questions?

For more information

- Lower Colorado River Operations: <http://www.usbr.gov/lc/riverops.html>
- Basin Study: <http://www.usbr.gov/lc/region/programs/crbstudy.html>
- Moving Forward:
<http://www.usbr.gov/lc/region/programs/crbstudy/MovingForward/index.html>

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