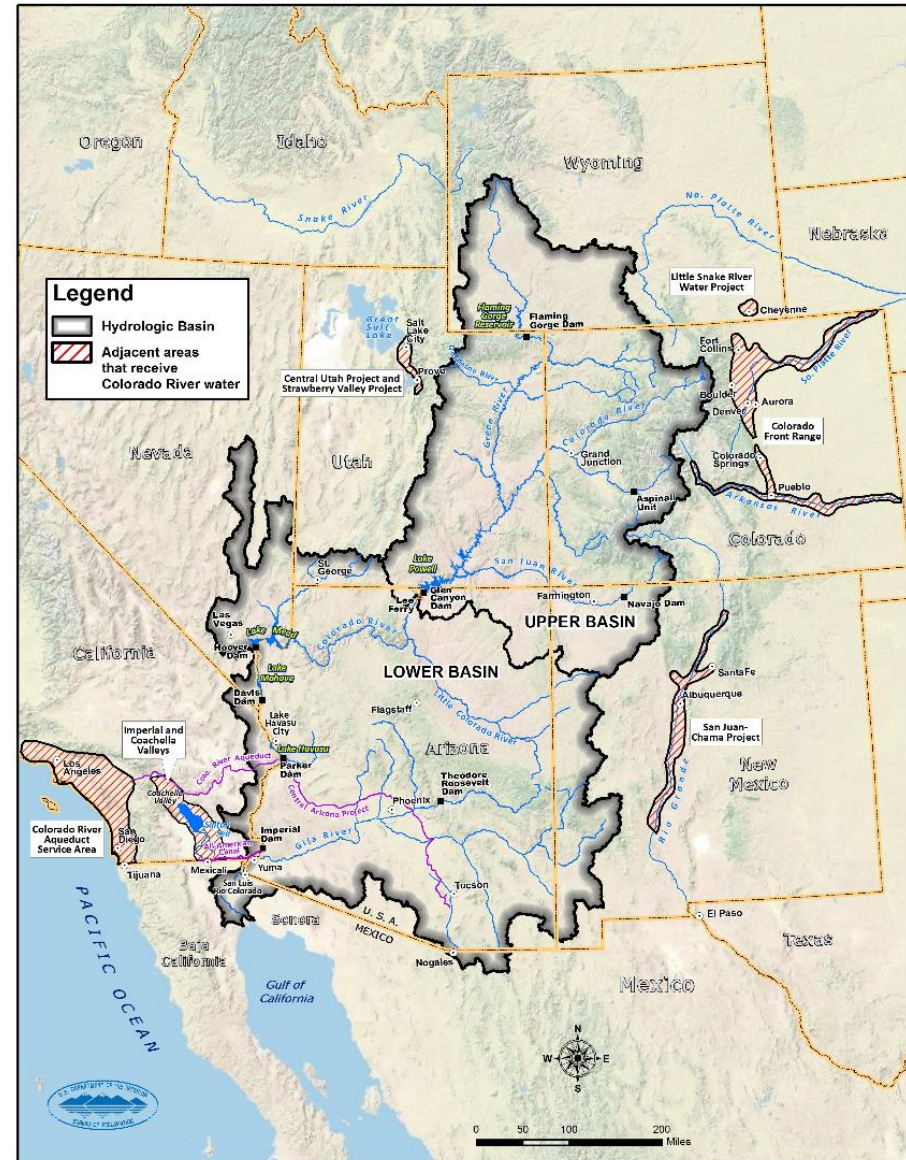


Long-Term Planning in the Colorado River Basin

**Lincoln Institute of Land Policy - 2019 Journalists Forum
March 29, 2019**

Colorado River Basin Water Supply and Demand Study

- Completed in 2012 and conducted by Reclamation and the Basin States, in collaboration with stakeholders throughout the Basin
- Objective was to assess potential future imbalances and options to address those imbalances
- A planning study – did *not* result in any decisions, but provides the technical foundation for future activities



Colorado River Basin Study

Phase 1: Assess Water Supply

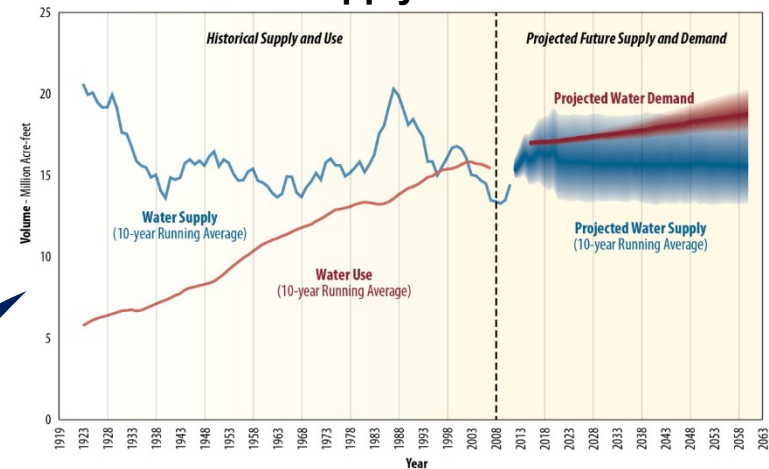
Observed Resampled
 Paleo Resampled
 Paleo Conditioned
 Downscaled GCM Projected

Phase 2: Assess Water Demand

Current Projected
 Slow Growth
 Rapid Growth
 Enhanced Environment

Phase 3: Assess System Reliability

Future Supply and Demand

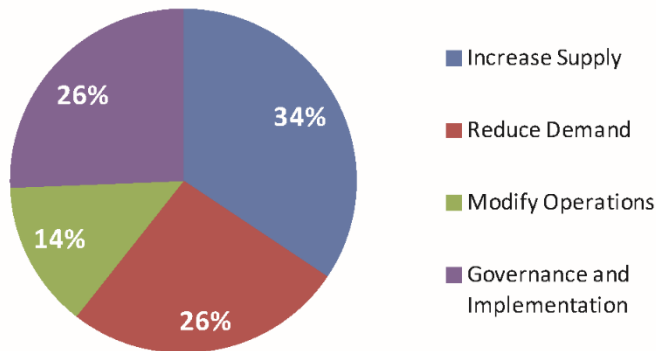


Notes:

Water Supply represents natural flow as measured at the Colorado River above Imperial Dam, Arizona
 Water Use and Demand include deliveries to Mexico in accordance with the 1944 Treaty with Mexico and losses such as those due to reservoir evaporation, native vegetation, and operational inefficiencies.
 Projected Water Supply is computed as the average 10th, 50th (median), and 90th percentiles of the Study's 4 water supply scenarios. The average of the medians is indicated by the darker shading.
 Projected Water Demand is represented by the Study's 6 water demand scenarios. The median of the scenarios is indicated by the darker shading.

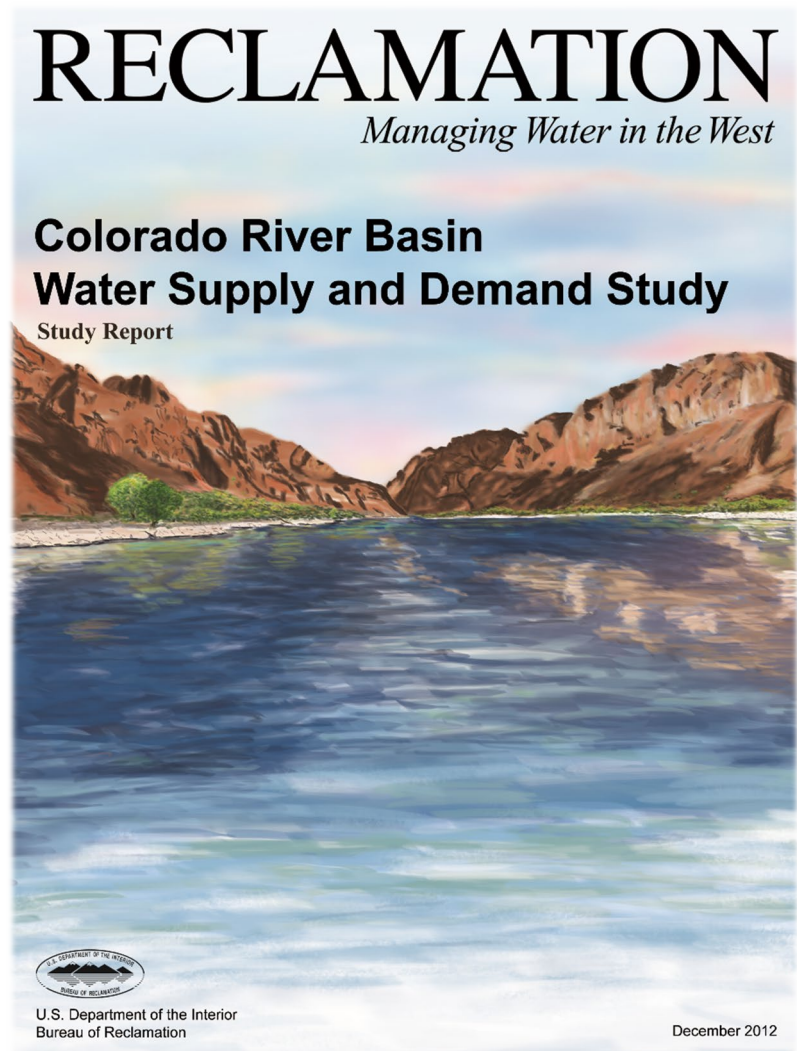
Phase 4: Develop/Evaluate Opportunities

Distribution of Options Received

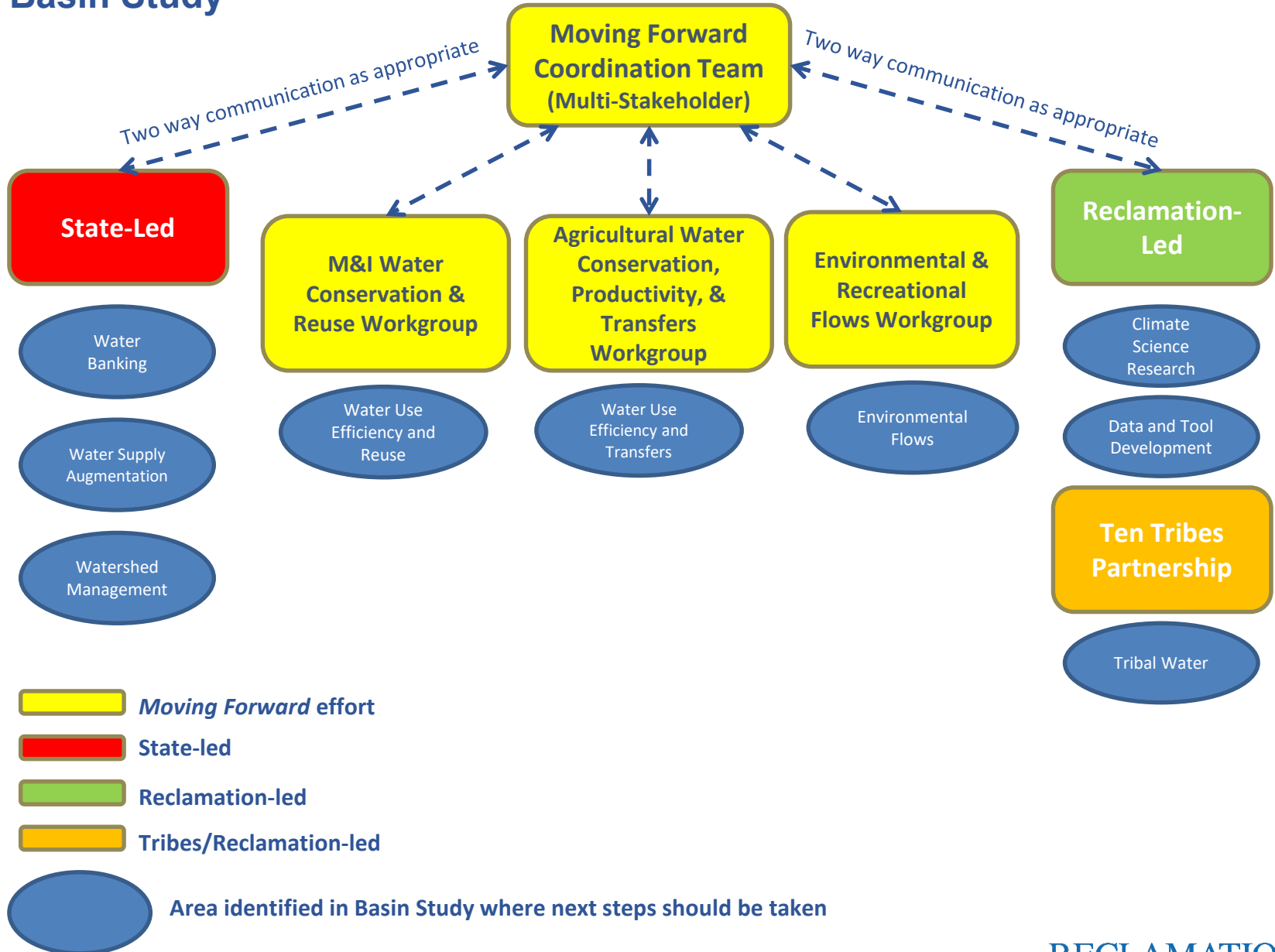


Colorado River Basin Study Summary

- 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

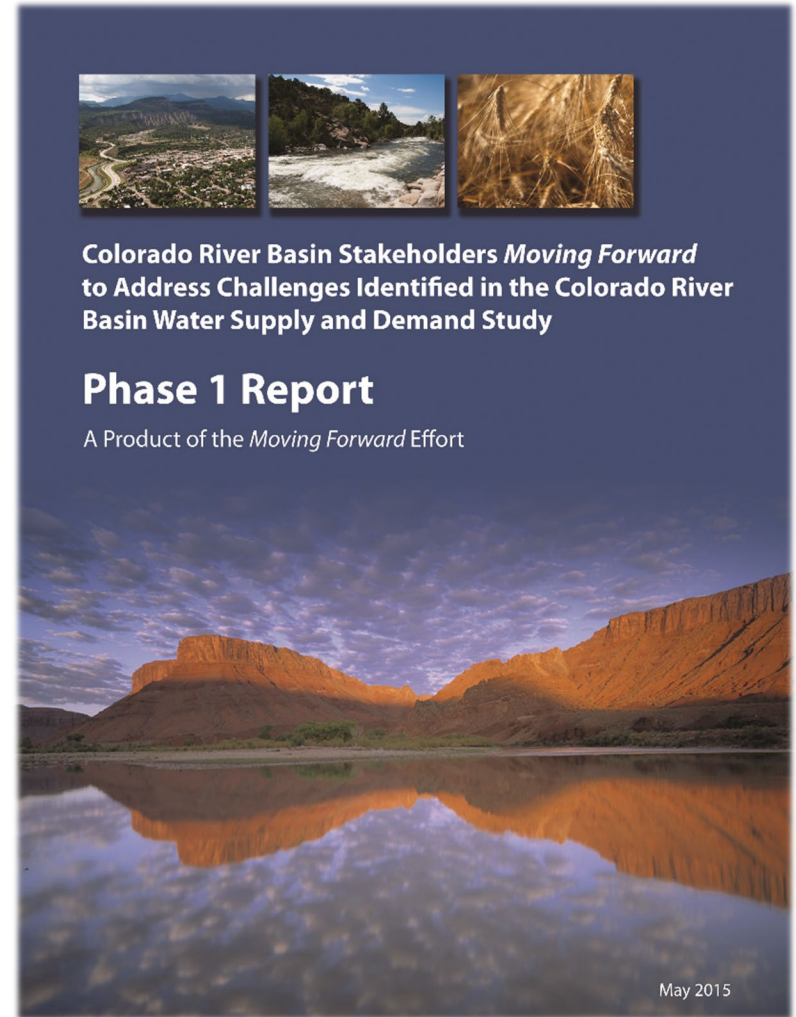


Next Steps Areas Identified in the Basin Study



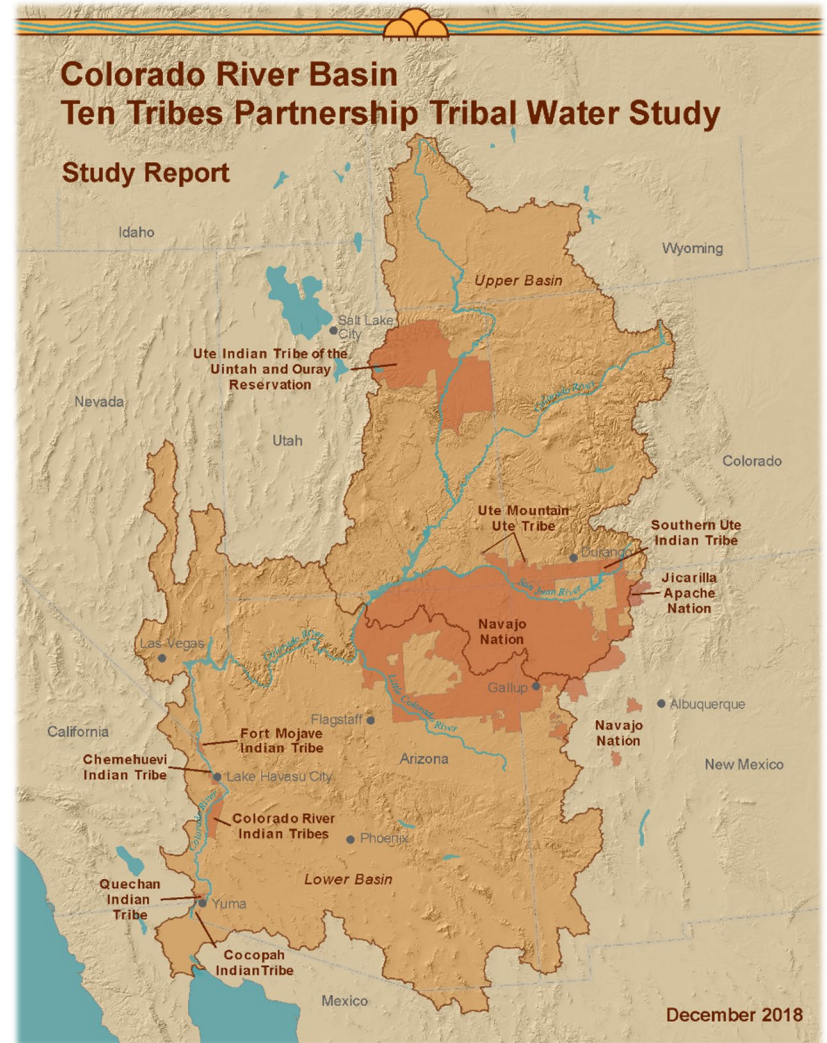
Moving Forward Phase 1

- Work together to identify positive solutions that can be implemented to address challenges
- 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



Colorado River Basin Ten Tribes Partnership Tribal Water Study

- Builds on limited assessment of tribal water issues in Colorado River Basin Study
- Conducted jointly by Reclamation and TTP Tribes
- Objectives:
 - Assess current and future water development for TTP Tribes
 - Assess system impacts resulting from development of tribal water
 - Identify tribal water development challenges and opportunities



Tribal Water Study

Phase 1: Assess Water Supply

Observed Resampled
Downscaled GCM Projected

Phase 2: Assess Water Development

Current Trends
Slow Development
Rapid Development (2)

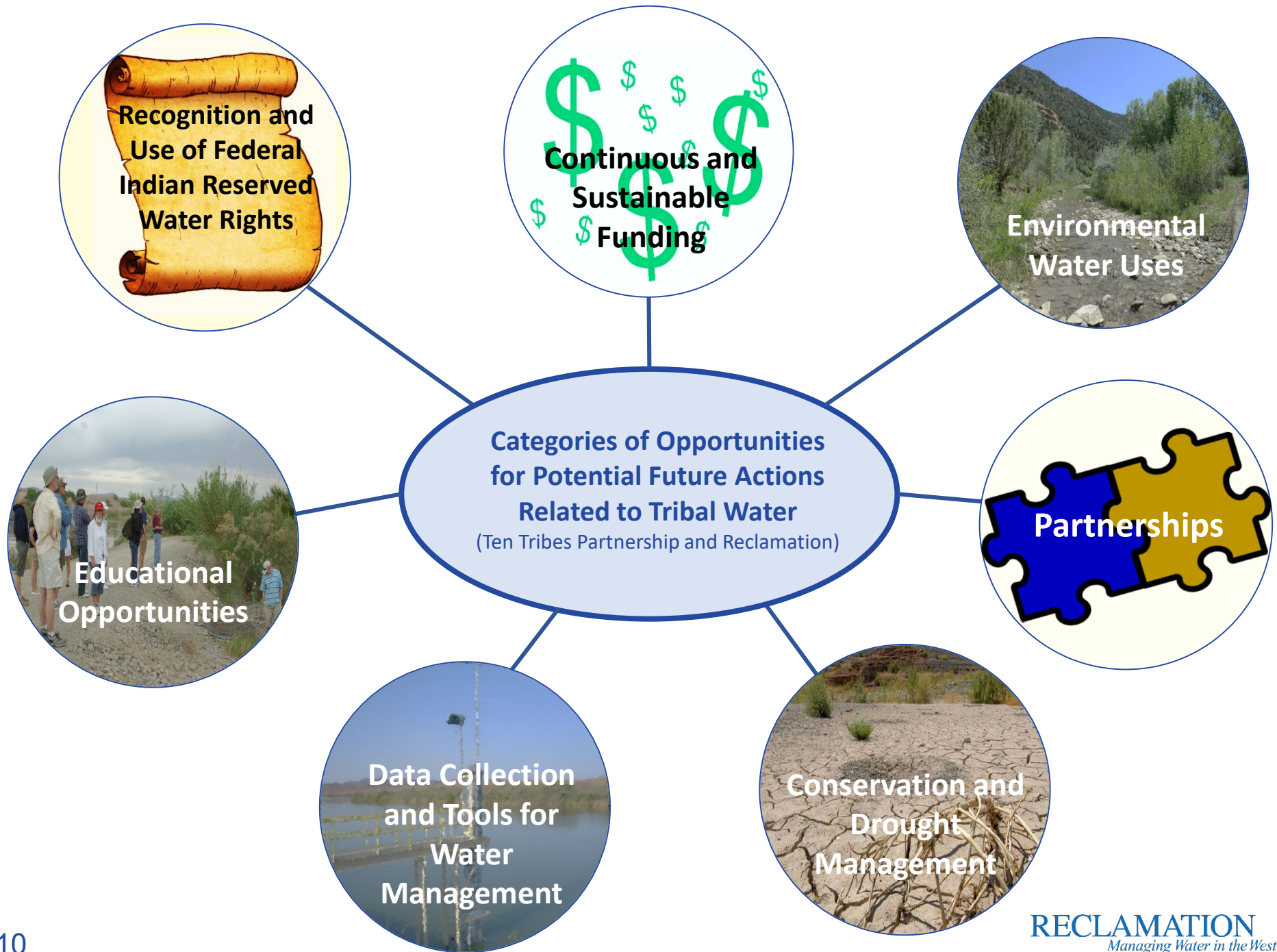
Phase 3: System Reliability

	Metric
Upper Basin Metrics	Inflow to Lake Powell
	Lake Powell Elevation
	Upper Basin Shortage
	San Juan Sub-basin Historical Shortage Analysis
Lower Basin Metrics	Lake Mead Elevation
	Lower Basin Hydrologic Shortage
	Water Deliveries to Lower Basin Non-Tribal Users
	Lower Basin Present Perfected Rights Analysis

Phase 4: Develop/Evaluate Challenges and Opportunities

Water Use and Development Findings

- Total Partnership tribes' water rights, including unsettled diversion claims, nearly 2.8 MAFY
- Partnership tribes currently divert approximately 1.4 MAFY, mostly for agricultural purposes
- Under rapid development scenarios, most tribes anticipate diverting full rights by 2040
- Modeling metrics indicates that Colorado River System more impacted by future hydrology than tribal development
- Modeling indicates a slight decrease in Lake Powell elevations and increase in Lower Basin shortage due to higher rates of tribal water development



Questions and Discussion

Contact

Pam Adams, Lower Colorado Region Native American Affairs Program Manager

702-293-8501; padams@usbr.gov

Patti Aaron, Lower Colorado Region Public Affairs Officer

702-293-8189; paaron@usbr.gov