

# **Colorado River Basin Water Supply and Demand Study**

**Update to the  
Four West Slope Roundtables**

***May 26, 2011***

## Scope of Work

- ▣ “Plan of Study” provides the purpose and objectives of the Study
  - Evaluate future water supplies
  - Evaluate future water demands
    - ▣ Assess imbalances
  - Assess risks to Basin resources (system reliability)
  - Develop and evaluate options and strategies to resolve imbalances and mitigate risks

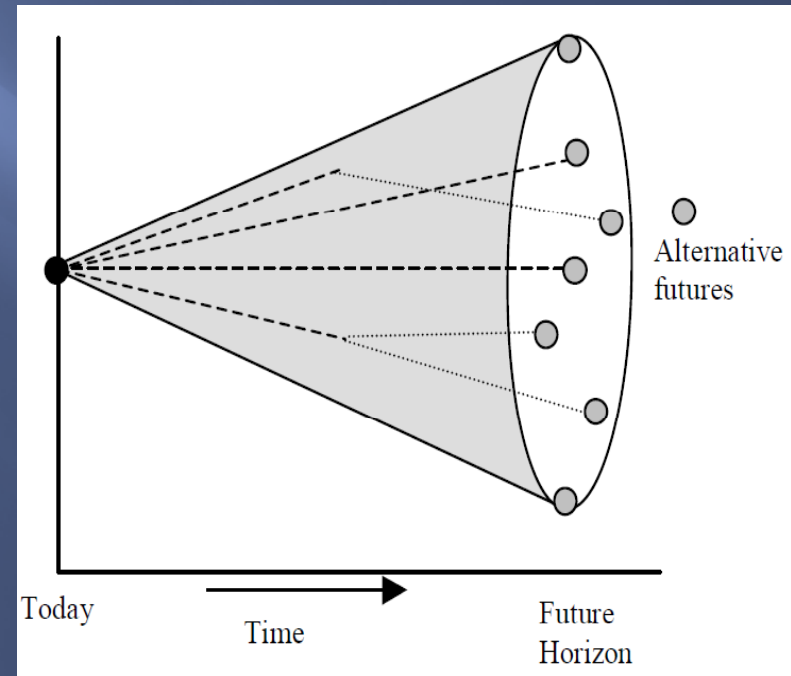


# Water Supplies (Phase I)

- ▣ Objective - Identify the quantity and location of current and future water supplies in the basin considering potential effects of climate variability and change.
- ▣ Water Supply Indicators
  - Streamflow (observed, paleo, paleo conditioned, future).
  - Historical and future gridded climate datasets.
  - Meteorological model input for hydrologic model (observed / future).
  - Hydrologic model results (streamflow, snowpack, ET, soil moisture).
  - Climate models.

## Water Demands (Phase II)

- ▣ Objective - Assess the quantity and location of existing and future water demands, including the potential effects of climate variability and climate change.
  
- ▣ Scenario based planning
  - Current trends
  - Economic Slowdown
  - Expansive Growth
  - Enhanced Environment and Healthy Economy



# Categorization and Selected Driving Forces for Storyline Development

General Driving Force Category	Key CRBS Driving Forces Identified in Survey
Natural Systems (Hydroclimate)	<ul style="list-style-type: none"> <li>• Changes in streamflow variability and trends [1]</li> <li>• Changes in climate variability and trends (e.g. temperature, precipitation, etc.) [2]</li> </ul>
Demographics & Land Use	<ul style="list-style-type: none"> <li>• Changes in population and distribution [4]</li> <li>• Changes in agricultural land use (e.g. irrigated agricultural areas, crop mixes, etc.) [5]</li> </ul>
Technology & Economics	<ul style="list-style-type: none"> <li>• Changes in agricultural water use efficiency [8]</li> <li>• Changes in municipal and industrial water use efficiency [9]</li> <li>• Changes in water needs for energy generation (e.g. solar, oil shale, thermal, nuclear, etc.) [12]</li> </ul>
Social & Governance	<ul style="list-style-type: none"> <li>• Changes in institutional and regulatory conditions (e.g. laws, regulations, etc.) [10]</li> <li>• Changes in flow-dependent ecosystem needs for ESA-listed species [13]</li> <li>• Changes in other flow-dependent ecosystem needs [14]</li> <li>• Changes in social values affecting water use [15]</li> <li>• Changes in water availability due to tribal water use and settlement of tribal water rights claims [17]</li> </ul>

# System Reliability Metrics (Phase III)

- ▣ Objective - Develop a metric system to characterize water supply and demand imbalances and measure the effectiveness of strategies to remedy those imbalances.
- ▣ Metric Categories:
  - Water Allocations & Deliveries
  - Electrical Power Resources
  - Water Quality
  - Recreation
  - Ecological Values
  - Operational Resources

# Evaluation of Opportunities (Phase IV)

- ▣ Options will include structural and non-structural opportunities.
- ▣ Options will be identified, developed analyzed.
- ▣ Options will be evaluated and refined:
  - Feasibility
  - Cost comparisons
  - Environmental Impacts/Permitting
  - Economic and Socioeconomic impacts
  - Legal and Policy Considerations
  - Risk and uncertainty
  - Assessment of effectiveness
  - Potential yield

## Process will consider the options that were identified in the Augmentation Options Report from March 2008

- ▣ 12 alternatives were explored in that report.
- ▣ There will be a public process to invite additional opportunities (Spring 2011).
- ▣ We will look at supply options and demand options.
- ▣ We will bring back the options for this Board's review and comment once we have the options identified.

# Current Schedule

- ▣ Drafting and Reviewing Interim Report No. 1.
- ▣ June 6, 2011, target date for publication of Interim Report No. 1.
- ▣ This Interim Report No. 1 will be followed by a public comment period.
- ▣ June-August – Work on System Reliability and Evaluation of Opportunities Reports.

# Colorado Advisers for Study

- ❑ Coordinating with CWCB Intrastate Water Management & Development, Water Conservation and Drought Planning, the Water Information Sections.
- ❑ Also coordinating with Division of Water Resources and the Office of the Attorney General.
- ❑ Coordinating with representatives from Denver Water, Colorado Springs Utilities, Colorado River Water Conservation District, Southwestern Colorado Water Conservation District, the Southern Ute Tribe, Ute Mountain Ute Tribe, and The Nature Conservancy.

For more information...

Questions?

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