

**SUMMARY OF AUGMENTATION OPTIONS**

Option	Water Supply Benefit	Water Quality	Technical Issues	Reliability	Environmental	Permitting
Brackish Water Desalination	New water, opportunity to use existing facilities	Highly saline, but treatable	Brine disposal	High	Brine disposal	Extensive
Coalbed Methane Produced Water	New water	Highly saline, but treatable	Extensive collection, treatment and delivery systems required	Low	Brine disposal	Significant permitting issues
Conjunctive Use	Site-specific options improve local supply, interstate water bank would improve systemwide supplies	Various constituents, but all treatable	No major technical issues	High	Not expected to be significant	Moderate, except for interstate banking projects in California
Ocean Water Desalination	New water, highly reliable, created near user	Highly saline, but treatable	Brine disposal	Excellent	Brine disposal, energy requirements	Extensive
Power Plant Reduction of Consumptive Use	Increase water use efficiency	Equivalent to present Colorado River quality	Reduced plant efficiency, air-cooled retrofit difficult	High	No significant impacts	Few permitting issues
Reservoir Evaporation Control (1) Chemical covers (2) Operations at lakes Mead and Powell	Firm up supply, reduce shortages	Equivalent to present Colorado River quality	(1) Unproven at scale required (2) Potential impacts on water intakes and wastewater discharges	(1) Negligible (2) Undetermined	Further analysis of impacts on habitat and recreation required	Extensive NEPA review required
River Basin Imports	New water	Ranges from good to excellent	Infrastructure requirements. High voltage power lines in remote areas	Dependent on water rights and compacts	Effects of reduced river discharge, construction within National Forests	Extensive
Stormwater Storage (Painted Rock Reservoir)	New water in years when high flows on Gila River	Wide range of water quality issues	Infrastructure requirements for canal	Low	Effects of reduced river discharge in Gila River	Significant
Vegetation Management <ul style="list-style-type: none"> <li>• Saltcedar control</li> <li>• Forest management</li> </ul>	Systemwide benefit	Equivalent to present Colorado River quality	Follow-up maintenance	Dependent on depth to shallow groundwater	Substantial long-term benefits, minor short-term concerns	Related to environmental issues
Water Imports Using Ocean Routes <ul style="list-style-type: none"> <li>• Undersea aqueduct</li> <li>• Tanker transport</li> <li>• Water bags</li> <li>• Towing icebergs</li> </ul>	Potential new water, but of variable reliability	Generally good to excellent	Major technical issues with undersea aqueduct, moderate technical issues with other options	Moderate	Potential flow impacts in source rivers	Extensive for aqueduct, moderate for other options
Water Reuse (Reuse of municipal and agricultural wastewater not returning to the Colorado River)	Increase water use efficiency	Various constituents, but treatable	Extensive treatment requirement, may require long-distance transmission	High	Site specific, primarily related to construction	Site specific due to urban environment
Weather Modification	Firm up supply, reduce shortages	Equivalent to present Colorado River quality	Difficult to quantify increase in supply	Moderate	Spread and disposition of silver iodide	Moderate requirements