

Sites	Sustainability of Supply	Brine Disposal Challenges	Land Availability/Cost	Location Issues/End User	Cost (Cap and O&M)	Local Issues	Regulatory/Legal Issues
Yuma Brackish GW Mound (Yuma Groundwater Basin)	75,000 AFY supply -Potential to extract 75,000 AFY, sustainable withdrawals are predicted for the next three decades. -Recharge is dependent on the existence of agriculture.***	COST: LOW -Discharge to the MODE. -Maximum TDS level of 5,000 ppm in the MODE.	-Yuma Mound within the Yuma Mesa. -Either a 30 well array around the southeastern circumference of the mound, or an additional 12 well array to the northwest of the mound. ***	-Upstream exchange with water users that could benefit the state. -Actual end users may be local stakeholders bound by contract, or Mexico.	-\$600 - \$1200 per AF [likely on the low end due to disposal method]; Costs could be driven by brine disposal methods or distribution infrastructure; 30 year project life	Negative perceptions on augmenting Colorado River water for benefits outside of Yuma -The Mound could be used for a local supply in times of shortage in the Yuma area (some level of concern) -Ownership of the water (shared entitlements) -Transportation/exchange of water out of the Yuma area -Need to define local benefit -Local input would be required. -Impact of product water on agricultural users	-Permit from ADWR to develop wells. -Classification of the water and how it is used. - Requires consultation with Mexico with regards to brine disposal -Coordination with Bureau of Reclamation for utilizing their facilities
West Salt River Valley (Phoenix AMA)	30,000 AFY for 30-40 years. -Supply may become unsustainable with declining recharge rates as a result of urban development as it replaces agricultural land uses.* -ADWR 2025 Study to determine if it will remain a water-logged area [conduct the study ASAP?] -Impact of Salt Cedars on supply? Incease of supply could be significant. Tamarisk beetle (Crete breed) to possibly arrive in Salt/Gila River within 3-4 years from the Rio Grande.	3,000 AFY of Brine COST: HIGH -Expensive to locate near the Palo Verde Plant. -Deep well injection requires a change in the law. -Construct 250 mile pipeline to Sea of Cortez for \$500M -Salt sink away from municipal space and in partnership with an industrial body to share costs. - 650 acres for evap ponds	-Substantial costs driven by evaporation ponds (\$400K-\$500K per acre) -Land prices will increase due to housing development	-Possible to freight the water to CAP canal for current users if Buckeye shares the supply. - Within an Active Management Area. Created for agricultural users who benefit from the legal exemption of the water. Expand benefits to include users across all sectors?	-\$600 - \$1200 per AF; Costs could be driven by brine disposal methods or distribution infrastructure; 30 year project life	-Surface water users could be negatively impacted by redirecting of existing drainage pumping. -Overlapping jurisdictions. - Define local benefit - Ownership of the resource	- Uncertainty of the duration of the designation of the water; can ADWR reconsider duration of the "waterlogged" determination? - Will ADWR consider brackish groundwater treated through desalination in an alternative manner under state law?
Yuma Non-Groundwater through YDP to Bypass Drain (Yuma Groundwater Basin)	MODE: 100,000 - 120,000 AFY Supply One-third Capacity: 31,000 AFY** Two-third Capacity: 67,000 AFY** Full Capacity: 91,000 AFY** -Requires brackish water from the Wellton-Mohawk Irrigation District and/or the Drain Pump Outlet Channels (DPOCs).	COST: LOW -Discharge to the MODE. -Maximum TDS level of 5,000 ppm in the MODE.	-Infrastructure is in place.	-Project developed for reliability purposes rather than augmentation. Lake Mead is the end user.	-\$400 - \$500 per acre foot for capital costs and O/M costs over the course of 30 years.** -\$20M for 12" vessels. -\$50M to retrofit aluminum bronze. -Reference legal issues for additional costs -Cost should be shared with all Colorado River Basin States, Mexico, and the United States	- Issues are low or limited if the YDP is operated as authorized	-Political capital to push BOR to seek appropriations OR real money from Basin States and Mexico. -NGOs may ask for an EIS (2 years + to complete). - Requires consultation with Mexico
Winslow-Leupp Area (Little Colorado River Plateau)	11,600 AFY for 60 years. -Offers an alternate water source as opposed to Colorado River water via pipeline from Lake Powell*	1,000 AFY of brine COST: HIGH -Deep well injection into the Coconino Aquifer faces regulatory hurdles.	-Operations will be located off reservation.	-Supply for Native American Community demands, farms and development near Flagstaff.	-\$600 - \$1200 per AF; Costs could be driven by brine disposal methods or distribution infrastructure; 30 year project life	-Define benefits of the local community; distribution of costs -Possible Native American water settlement implications. Some portion of the NIA / CAP water could be replaced.	-Unresolved claims of federal reserved rights to groundwater
Gila Bend (Gila Bend Groundwater Basin)	20-30M AF of GW above 1,200 ft -Water table has dropped nearly 100 ft in the last 30-40 years.*	COST: HIGH -Creation of a common brine disposal site between WSRV and Gila Bend Basin to reduce costs.	-There is a great amount of land available.	-Large farming operations and the Phoenix AMA.	-\$600 - \$1200 per AF; Costs could be driven by brine disposal methods or distribution infrastructure; 30 year project life	-Ownership of the land and water highly protected -Many end users are not within a close proximity; 50 mile pipeline could add \$100M to the costs	-Many regulatory hurdles transporting treated water from Gila Bend into the Phoenix AMA.
Willcox Playa (Willcox Groundwater Basin)	Significant amount of groundwater in storage; -Not enough recharge (20,000 AFY) to compensate for current withdrawal rates of 200,000 AFY*	COST: HIGH	-Much land available for use.	-Rising water demands in Sierra Vista. -Differences in the last 8 years from ADWR's groundwater model. Is the supply still present?		-Local stakeholders protective of water rights. Very politically charged.	-Many regulatory hurdles for transporting water from Willcox Basin to Sierra Vista.
Picacho-Eloy Area (Pinal AMA)	Greater than 10,000 AFY for many decades -Earth fissuring may worsen as a result of groundwater withdrawal.*	COST: HIGH -A geological formation in the area may be able to accept brine	-Only the western portion of the basin remains feasible for a project due to earth fissuring on the east side of the basin. *	-There is no foreseen end user with an immediate need in the area. -10-20 miles to the CAP canal.	-\$600 - \$1200 per AF; Costs could be driven by brine disposal methods or distribution infrastructure; 30 year project life	-Worsening of fissures may create political backlash towards a project.	-AMA regulatory issues such as moving groundwater outside of a basin to reach the end user. - Will ADWR consider brackish groundwater treated through desalination in an alternative manner under state law?

The information presented in this table is a summation of a discussion that transpired on 2/1/17 and 3/22/17 between members of the Desalination Committee under the Governor's Water Augmentation Council.

Members present were Wade Noble, Bob Lotts, Chuck Cullom, Zack Richards, Gerry Walker, Bruce Hallin, Brian Payne, Scott Miller, and Philip Richards.

*Montgomery & Associates, 2008, Phase 1 Brackish Groundwater Inventory for Arizona, Prepared for Central Arizona Water Conservation District, August 2008.

**U.S. Bureau of Reclamation, 2012, Yuma Desalting Plant Pilot Run Final Report, prepared for Metropolitan Water District of Southern California, Central Arizona Project, and Southern Nevada Water Authority, July 2012.

***Black & Veatch, 2016, Yuma Conceptual Groundwater Mound Evaluation, prepared for Central Arizona Project, July 2016.