

CAP ADD WATER CASE STUDIES SUMMARY TABLE draft 9-18-08									
KEY QUESTIONS	CAP	CAGR	SRP	MWD	SDCWA	CA Drought Bank	Aurora	SMWSA	TBWA
Entity	Central Arizona Project	Central Arizona Groundwater Replenishment District	Salt River Project	Metropolitan Water District of Southern CA & PVID following agreement	San Diego County Water Authority & Water Transfer with IID	California Drought Water Bank	City of Aurora - Arkansas Valley Ag Leases	South Metro Water Supply Authority	Tampa Bay Water Authority
Dispurement Mechanism	Allocation by U.S.	Market, CAP sets price	Allocation to member land & historic water rights	Market, negotiated contracts set prices paid by MWD	Market, negotiated contracts set prices paid by SDCWA	Market, state sets price	Market, negotiated contract sets price	Market	Market
State	AZ	AZ	AZ	CA	CA	CA	CO	CO	FL
End User	M, I & Ag	M	M, I & Ag	M & I	M, I & Ag	M & Ag	M	M, I & Ag	M
Service - wholesale or retail provider	Wholesale, mostly	GW Replenishment	Wholesale (M) & retail (AG & I)	Wholesale & retail	Wholesale	Wholesale, temporary transfers	Retail	Wholesale	Wholesale
Water Treatment ?	Raw	Raw	Raw	Raw & Treated	Raw	Raw	Treated	Raw	Raw
Water Source	Co River, mostly	Co River, effluent in future. Able to utilize any supply other than GW from within Active Management Areas	Salt River, Verde River, local Groundwater, excess CAP water	Co River	Co River supply of Imperial Irrigation District.	Three water sources for transfers from AG to M & Ag: following of riparian rights, groundwater substitution for irrigation, and reservoir storage in N. CA.	Arkansas River senior irrigation rights	Local groundwater with rights to 111,000 af, also surface water rights and leases with Denver Water & Aurora. Developing AS & R and other medium and long term supplies	Groundwater (74%), surface water (23%), desalination (2%). By 2011 goal is 45%, 45% and 9% respectively.
Basis for Delivery Volume & Reliance on Supply	Base supply, mostly. Some use for summer peaking demand. Unused allocations, if available, may be supplemental supply	Tied to excess groundwater use which must be replenished. Typically base supply, but can be supplemental drought supply also	Base supply, typically covers most or all water demands from member lands during non-drought years	Supplemental drought supply and additional base supply	Additional base supply and supplemental drought supply.	Drought supplemental supply.	Supplemental drought supply.		Full supply for member agencies based on annual report of water requirements as approved by TBWA.
Basis of Entitlements	Allocation: Individual customers, largely retail water providers, hold subcontract from Sec of Interior. Allocations originally were based on projections of unmet need. Limited re-allocations of future lower priority (Ag) water may be made.	CAGR is required to accept all members who apply and acquire renewable supplies to meet their replenishment obligation. New member service areas are however subject to limitations on the amount of replenishment they can require in any year.	Allocations are established by SRP pursuant to law and contractual obligations. In an average year member lands receive 3af/acre of stored water.	Contract specifies maximum transfer volumes and costs. All supplies from land following by PVID. MWD uses following calls for min of 7% and max of 28% of land, with avg of 13%.	Contract specifies water volumes by year and the source of the transferred water: following, on farm conservation, system conservation. First 15 years transfers come from temporary following program, but then transition to savings from efficiency conservation programs. Ramps up to 200k af/year by 2021.	Drought bank purchased supplies for \$125/af which it in turn sold for \$175/af plus conveyance charges (negotiated separately with SWP). Supply exceeded demand so no need to allocate or utilize the critical need priorities established with the program.	3 year lease program, renewable up to 40 years with option to pay for following up to 8,200 acres. Aurora must satisfy conditions related to low reservoir capacity, implementation of increasing block rate structure, drought surcharge, and mandatory outdoor water restrictions.	Each member agency will have a contract based on the individual augmentation projects and infrastructure components for which they "opt in". Entitlements will be based on the proportional share of each members contribution to individual projects.	Each member agency has a contract with authority. Prior to creation in 1998 previous authority operated on subscription basis with individual members. When authority created all members transferred most of their water supply facilities and ground water rights, and their rights to develop new facilities to the authority.
Who Holds Rights	Customers hold subcontract	Individual members hold rights to GW. CAGR holds rights to supplies used for replenishment	Water rights are tied to the member lands	PVID retains all water rights.	IID retains all water rights, agreement also prohibits anyone from requesting additional following by IID.	No transfer of water rights, year by year lease	No transfer of water rights	Assume held by district on behalf of the members who "opt in" and finance each individual supply	The Authority holds all water rights. Individual members continue to supply small amounts of gw to remote areas
Water Acquisition Costs - Allocation	No Significant Acquisition Cost for current subcontract supplies	Majority of costs (60 - 70%) paid through uniform assessment per acre foot of replenishment required. For member lands, uniform enrollment fees (covering 5 - 15%) and uniform residential unit activation fees (20 to 30% of cost) cover remainder.	SRP establishes rates (assessments, fees, other charges) for member lands.	Extra costs for MWD-PVID water development are not equally shared by all MWD customers. MWD has a 2 tier rate structure (Tier 2 approx \$120/af higher) for their customers whereby it recovers a greater proportion of water development costs from those member agencies that have increasing demands on MWD's system.	All SDCWA member agencies pay for the supplemental supplies from IID though higher water rates. The more expensive IID supplies are melded with other SDCWA supplies to produce a uniform water rate. However, those agencies that cause SDCWA to exceed the Tier 1 allocation (exceeded by 8,900 af in 2007) pay MWD's Tier 2 rates instead of this melded M&I rate.	Year 1 - \$175/af to acquire a 1 year lease from water bank. Year 2 price dropped to \$72/af	Average cost of transferred water, over the three year contract period, is \$146/af. Cost covered through \$0.68/1,000 gal drought surcharge on all residential customers	The Regional Water Master Plan does not specify water acquisition costs, but does specify that member agencies which "opt in" for different augmentation projects bear the costs of those projects.	TBWA was created in part to develop new water supplies. A uniform rate, with both fixed and variable portions, is set for all members. So, costs for supply acquisition are equally shared on a per unit of water use basis.

Infrastructure Costs - Allocation	Postage stamp rate based on average costs. M & I customers have take or pay contracts for portion of infrastructure repayment. Property tax revenues collected by district also utilized	Paid along with water acquisition costs as outlined above.	Same as above	All member agencies pay for incremental infrastructure costs based on their water use as rates include a capacity reservation charge. MWD also uses tiered pricing for supply meaning those agencies with strongest growth pay higher water rates for supplies above their base load. The level at which Tier 2 prices kick in (60 or 90% of base demand) depends on whether provider had contributed to developing system capacity.	All member agencies pay for incremental infrastructure costs based on their water use. A customer service charge is set to recover costs and is allocated among member agencies based on their 3 year rolling average of all deliveries. In years when SDCWA exceeds its MWD Tier 1 allocation it pays MWD Tier 2 rates which it passes onto to its member agencies whose excess demand caused the overrun. MWD rates also include capacity charges that incorporate marginal costing principles	Most of water delivered through State Water Project. Water purchasers paid conveyance costs which were negotiated separately.	Costs covered by drought surcharge on all residential customers	The Master Plan identifies infrastructure costs for individual augmentation projects and specifies cost sharing agreements required for member agencies to participate in the expanded capacity.	Costs are equally shared per unit of use. Fixed cost portion, 82% of the uniform water rate, covers O & M and financing and is assessed monthly based on previous years water use. When TBWA created all regionally significant infrastructure was purchased based on a uniform methodology from member governments.
Marginal Delivery Costs - Allocation	Postage stamp rate based on average costs. Contractors & subcontractors pay fixed O & M and replacement charge (take or pay) and pumping energy charge (for delivery only)	These costs, for transporting water to a recharge facility, and replenishing the water are allocated uniformly with each individual Active Management Area and payed through a per acre-foot assessment on replenished required.	Same as above	Postage stamp rate is utilized to share variable delivery costs. However, wheeling rates are subject to a capacity charge.	Postage stamp, "Transportation Rate" is set to recover all capital, O & M costs and is levied on each acre-foot of water delivered.	Water purchasers were required to pay administrative (\$50/af year 1 and \$22/af year 2), treatment and conveyance costs.	Costs covered by drought surcharge on all residential customers	The individual member agencies would contribute only to the O & M cost for agumentation and infrastructure projects for which the "opted in"	Variable cost rate comprised approximately 18% of the uniform water rate in 2007. This appears to be a postage stamp rate with all members paying the same rate per unit of delivery. Except for the City of Tampa which pays a separate rate for water delivered through the Tampa Bypass Canal.
Other	Customers, except for narrow exceptions, can not transfer their CAP water. CAP holds junior priority on Lower Colorado River	The CAGR is operated by the Central AZ Water Conservation District (CAWCD)	SRP is a multi-purpose federal reclamation project that historically served primarily agricultural lands but currently delivers the majority of its water to 10 member municipalities with lands within the project	MWD serves 18 million residents through 26 member cities and water districts. Forbearance and Fallowing Program was finalized in 2004 for a 35 year term. Provides 29,500 af to 118,000 af /year of Palo Verde Irrigation Districts Priority 1 CO River water. MWD has instituted a water shortage penalty rate structure with charges up to 5 times Tier 2 rates for usage greater than 110% of allocation.	SDCWA supplies 90% of San Diego areas water through 24 member agencies. 3/4 of SDCWA supplies come from MWD. IID Agreement includes 3rd party and environmental impact compensation. Total costs for IID transfer water in FY 2009 is \$588 / af. Payments for actual water transfers from SDCWA to State of CA in 2003 were \$258/af, of this CA pays IID \$175 and IID pays their farmers \$75.	CA DWR created CA Drought Water Bank to forestall rationing and wildlife impacts. Operated in 1991, 92 and 94. Water purchases ranged from 193k af to 821k af, with urban purchaes ranging from 24k to 307k af. Land fallowing, provided 50% of the supply in 1991 but was discontinued for 2nd year.	City of Aurora is prohibited from purchasing or transferring additional water out of basin for 40 years. Also set limits on total transfers by city from any basin.	Located in Denver's south metro area. 13 Member Agencies, serving 320,000 customers plus agricultural customers. The long-term Master Plan identifies supplies being developed and allows individual members to "opt in" or "opt out" Projected demands, 2010 - 70,300 af and 117,000 af at buildout. District was established to develop new renewable supplies, share costs, reduce competition and reduce GW overdraft	The TBWA was created specifically to end the competition for limited supplies and manage supplies for the benefit of the region. Other goals are reduction of groundwater use and development of new supply. The authority is the sole wholesale water supplier for 2.5 million residents in three counties and three cities.

SNWA	NTMWD	JVWCD	MDBMC
Southern Nevada Water Authority - New Supply Acquisition	North Texas Municipal Water District	Jordan Valley Water Conservancy District	Murray-Darling Basin Ministerial Council: Interstate Water Transfers
Allocation based on cooperative agreements	Market	Market	Market
NV	TX	UT	Australia
M	M & I	M, I & Ag	Ag
Wholesale	Wholesale	Wholesale, mostly	Water transfers
Treated (minor Raw)	Treated potable	90% Raw, 10% treated	Raw
Co River (vast majority of current supply), Virgin River, Muddy River, Local GW and imported GW from Coyote Sp Valley and Lincoln County	Lakes, plus a permit to blend with effluent	GW & remediated GW, imported SW from Ag exchanges, Utah Lakes from CUP	Surface water - Murray & Goulburn rivers
Full supply for member agencies. Allocation of new supplies and unused supply is based on need as evidenced by members water budget	Base supply. District has served full supply demanded, which varied based on climate and conservation practices	Base & supplemental supply. Contract types include: perpetual contracts with take or pay provisions, fixed terms, and spot market sales	Base supply. Separate program exists for temporary transfers
Cooperative agreement specifies allocation of Co River rights to each member. Authority utilizes Co River allocations (transferred to authority when formed), purchase and transfer of prior appropriate surface water rights, groundwater rights approved by State Engineer	Historical use: "Contract Minimums" are the highest annual use of customers. New demand will raise contract minimums.	Contracts with district	Prior appropriation rights that are transferred. Trades must be approved by respective state authorities and exchange rates of either 100% or 90% are set based on hydrologic conditions.
SNWA holds rights	The District	The District	Individual irrigators
New supplies shall be allocated based on needs of members and costs are equitably allocated to members receiving the new supplies so that members creating the demand cover the extra costs. SNWA also receives revenue from federal land sales and uses new connection charges to fund aggressive conservation program	For new supplies, customers (cities) that create demand pay their fair proportional share of the increased costs to develop new supplies	Water district property taxes pay for some portion of supply acquisition. Current property tax for average SL Valley home is \$94/year. Property taxes comprise approximately 14% of district revenues	Prices for water rights exchanges are market based through negotiations between buyer and seller. Prices of individual sales vary significantly

<p>New infrastructure costs shared between existing and new customers. For capital expense contributions through 2006: new connection charges covered 61%, commodity and reliability charges 5%, raw water facilities charges (very little historically but 15% in 2007 and these attributed to those requesting facilities above what in CIP) and for revenues not targeted to water users - sales taxes 17% and federal land sales 16%.</p>	<p>Customers creating demand for additional treatment and other infrastructure costs also required to pay their fair proportional share of increased costs. The contract minimum requirements basically serve as a "take or pay" provision.</p>	<p>New retail customers pay impact fees to connect. Impact and installation fee of \$2845 in 2006.</p>	<p>The MDBMC recovers the costs of operating, maintaining and upgrading assets. Prior to 1998 capital costs were divided between state and federal government and operating costs were shared between the states</p>	
<p>Postage stamp rate for water delivery. Wholesale delivery charge for treated Co River water of \$257/af in 2008.</p>	<p>Addressed in annual budget process. Cities may receive rebate on variable costs if they use less than their contract minimum. Cities using more pay the variable cost to produce excess water and in subsequent years the city's "Contract Minimum" is raised meaning it will pay proportionately more to cover the costs of the larger supply.</p>	<p>District applies seasonal pricing to it's wholesale customers with rates approximately 25% higher in summer due to higher cost of delivery for summer peak use. The District also charges a pumping surcharge on customers where water has to be pumped to the elevation of the home.</p>	<p>Principles for allocating costs between users and government are still being developed. For now, the Federal government is still taking significant responsibility for project costs</p>	
<p>The SNWA was created in 1991 through a cooperative agreement among 7 member agencies in the Las Vegas metro area and delivered 483,300 af of water in FY 2007. Concerns over adequacy of regional water supply and promoting conservation were key driving forces in the creation of the authority</p>	<p>Serves 1.5 million customers in 13 member cities and 32 water system customers. Deliveries range from 237,000 to 308,000 af in recent years. District anticipates 50% population growth by 2020</p>	<p>Customer of Central Utah Project for portion of supply. 18 M & I customers in Salt Lake Valley region, 125,000 af deliveries in 2007</p>	<p>From pilot program initiated in 1998 for permanent, interstate transfers of senior water rights. Transfers in individual years have ranged from 4% of on farm water use up to 18% in a drought year. Water rights sales, though for permanent supplies have been higher in dry years. Water transfer approvals are subject to a comprehensive environmental impact evaluation.</p>	