Lower Santa Cruz River Basin Study
Demand SubTeam Meeting Minutes
August 15, 2017

I. Participants

Kathy Jacobs – University of Arizona
Kathy Chavez – Pima County
Eve Halper – Bureau of Reclamation
Ken Seasholes – Central Arizona Project
Wally Wilson – Metro Water
Bob Hedden – USC/PUG
Doug Greenland – CMID
Elaine Kawaii – Central Arizona Project
Jeff Yockey – Tucson Electric Power
Patrick Hartly – PAG
John McKinney – FICO
Asia Philbin – Town of Marana
Pam Muse – ADWR
Chanel Fitch Kirkpatrick – ADWR
Dick Thompson – Tucson Water
Kip Volpe – Vail Water
Jessica Baxter – University of Arizona

II. Stakeholder Meeting Update – Eve Halper

A. Comments from public
B. A suggestion was received at the Stakeholder Advisor Meeting on 4/24/17 that per capita water use might increase due to a potential influx of new, affluent residents. Discussion and general consensus was that while per capita water use for a certain segment of the population may increase, this would be balanced out by increased water efficiency over time. There was general agreement that a scenario in which a part of the population increased their water demand was already included, but should be stated more explicitly.
    1. Ken Seasholes: climate change might result in higher ET that could affect outdoor water use. The West Valley (WestCAPS) Basin Study accounted for this effect by keeping the per capita level constant (assuming that higher ET in outdoor water demand offsets increases in water use efficiency).
    2. Eve Halper: one of the LSCRBS higher-risk scenarios assumes water demand stays level, therefore we are already taking the stakeholder suggestion into account. However, we should be more explicit in emphasizing that this scenario can include increases in per capita use by a part of the population.

III. Allocation of Growth Areas to Water Providers (Existing, New, or on Exempt Wells) – Ken Seasholes

[Map]

A. TAZ (Transportation Analysis Zones) have projected population for 2045. The projections are based on the Pima Association of Governments (PAG) estimates taking into consideration zoning, transportation, and other factors, including input from jurisdictions.
B. Northern Green Valley (TAZ 5300) is an area that needs input from the Study partners. This area has yet to be developed, but its future water provider is unknown. Assigning a specific water provider may not make a large difference relative to groundwater model because it will likely be groundwater dependent. However, the future water providers to areas adjacent to the Tucson Water service area may have a large impact on the distribution of water resources within the basin, because Tucson Water has access to CAP water, whereas a new provider might not. This decision then affects whether a new area uses directly renewable supplies or pumps groundwater with replenishment somewhere within the Tucson AMA.
C. Southwest Diablo Village Area (Metro Service Area) needs input from the Study partners. Wally Wilson commented that Metro Water is not planning to expand its service area due to the limited water supply. Areas adjacent to the Tucson Water Service Area would have to be annexed by Tucson in order to receive their supplies.
D. Northwest Diablo Areas is constrained by water resources.
E. Ken Seasholes will make adjustments in the Diablo area based on input from Metro Water.
F. Other areas (further from Tucson) - half will be assumed as groundwater dependent (CAGRD lands) and half will be assumed lot-splits (exempt wells, no replenishment required.)
G. Vail Water has a CAP allocation. Any future annexation in the Vail Water service area will not be groundwater dependent, as Vail has direct delivery access through a wheeling agreement.
H. CAP:SAM can account for Long Term Storage Credit Use (tracks the balance of credits); CAP water surplus (in excess of demand - either stored locally or not delivered (intentionally created surplus)); and rate of growth (including compact or outward growth)
I. Bob Hedden: vacant areas in Green Valley will require developer investment in water infrastructure.
J. Wally Wilson: the worse-case scenario is that areas without Assured Water Supply designations use groundwater without replenishment and drive land use and development policies. If Tucson Water

does not expand their water service area and keeps their current policies, the peripheral areas will be groundwater dependent, which should be considered a higher risk option

K. Eve Halper: how does CAP:SAM account for wheeling? Answer: CAP:SAM translates location (where) and method (how) water is delivered. The groundwater model translates this into artificial recharge and groundwater pumping within its cells.

IV. Discussion of Initial Supply/Demand Scenarios – Ken Seasholes

A. CAP:SAM can account for Colorado River shortage scenarios, but each run requires single time-series of supply.

B. To address climate impacts on CAP supplies, the West Valley (WestCAPS) Basin Study created three shortage traces (including the Drought Contingency Plan and projected increasing frequency of CAP shortages). The West Valley Basin Study used the "business-as-usual" as a baseline scenario. Worse outcomes, based on climate change, are consistent with of the magnitude of shortage increasing and more frequent severe shortages. There is also a scenario that reflects a wetter future with fewer predicted shortages.

C. The West Salt River Valley (WESTCAPS) Basin Study considered other surface water supplies (SRP and Roosevelt Water Conservation District (RWC)). There are no surface water supplies in Tucson, but deep CAP or SRP shortages in Phoenix could affect the supply of CAP water available to Tucson

D. Assumption (CAP:SAM): Assured Water Supply (AWS) rules remain in place for entire project period and CAGRD in place and has supplies to replenish.

E. The requirement for the Tucson AMA to stay in safe yield can be addressed through adaptation measures (e.g. use of reclaimed water)

F. Demand Adjustments using CAP:SAM
   1. Annual change in GPHUD for existing and new housing/development
   2. Agricultural efficiencies and replacement of high water use crops offsetting consumptive use (note – it would be helpful to have more input from agricultural partners about the impact of higher temperatures on water demand)

V. Next Steps

A. Ken will run initial scenarios (CAP:SAM) by mid-October.

B. Demand SubTeam will review results and provide feedback at next meeting.

VI. Follow-up meeting date

Kathy Chavez will schedule the next Demand SubTeam meeting (doodle poll: Mid-October)