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Some Thoughts on Regional Self Reliance for Water Supply

I see a lot of talk and writing in Delta planning about regional self sufficiency as a way to reduce water exports from the Delta. I think much of this is not realistic and ignores the basic water facts of California geography. Most of our natural supply is in the north during the winter season; most of the water need is in the south during the dry summer season.

The most extreme imbalance is in the Tulare Lake region, with net annual water requirements around 8.0 million acre-feet (maf). Total estimated stream runoff is 3.3 maf, supplemented by perhaps 0.1 maf ground water recharge from other non-stream sources. Today imports from the north add 3 to 4 maf in most years. That still leaves a deficit of a bit over 1 maf per year which we see in ground water. None of the 9 strategies offered later on in Chapter 4, "A More Reliable Water Supply for California, 4th staff draft" can produce more than a token amount of water in this region. Regional self sufficiency would mean reducing irrigated land by more than half.

Neither is Southern California able to be self sufficient. South Coast region net water needs are around 4 maf. Estimated natural runoff is only 1.2 maf supplemented by perhaps 0.2 to 0.3 maf ground water recharge from precipitation. Here there is more opportunity to capture some additional uncontrolled runoff, but again only a small fraction of total needs. Reclaimed urban waste water has the biggest potential, but there is the yuk factor and salts to deal with. Theoretically, ocean desalting could be an answer for this region but that doesn't seem promising for now, except in small amounts.
I come to the conclusion that, with the reduction on the Colorado River supply, it would not be realistic to expect much of a reduction in South Coast need for Delta supplies.

I have tried to understand your 2 color wheels on page 58. I think you short the major water projects quite a bit. I don't have access to 2004 figures, but they should not be much different than year 2000, where I can match the water use in the 3 categories exactly. In terms of net supply, the Colorado River (at 4.4 maf) would be around 10 percent; the CVP about 15 and the SWP around 8 percent.

The second paragraph in your chapter, Page 55, is puzzling. It would be

simpler to say that the majority of precipitation is consumed where it falls by evapotranspiration, about 65 percent of the 200 maf. The rest turns into runoff, some 71 maf, which mostly flowed naturally into the Pacific Ocean, with some going to Nevada and some closed lake basins. This runoff, with some imports from the Colorado River and inflow from Oregon, and some withdrawals of ground water, nearly 80 maf, is the source of supply for urban , agricultural, and environmental purposes—some directly and some stored in surface and ground water reservoirs during the wet for later use. (I am not sure in this introduction that the 80 maf needs to be mentioned—just the concept of storage maybe).