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The Planning Report

Insider's Guide to Planning & Infrastructure

February 26, 2014 - From the **March, 2014** (/issue/march-2014) issue

Katherman: SoCal Water Supply Crisis Necessitates Conservation and Reuse

*As California's water infrastructure ages and grows increasingly vulnerable, the need for water supply alternatives has become a critical priority. Yet the state cannot muster up the resources and political capital necessary for a comprehensive infrastructural response. **Rob Katherman**, Board Director of the **Water Replenishment District of Southern California**, argues that Californians, especially Southern Californians, should look to conservation and reuse as the solution to their water problems. In this **MIR** exclusive article Katherman details projects currently underway, from conservation education to expanded water treatment facilities, designed to mitigate California's water crisis sooner rather than later.*

We can't wait for the State to fix the Sacramento Delta. Our water supply from the Sacramento Delta faces potential catastrophe from even a moderate earthquake. The unreinforced earthen levees built more than 100 years ago to prevent the Sacramento and San Joaquin Rivers from flooding farms in the Delta would give way to the shaking caused by an earthquake.

Many of the "islands" in the southern portion of the Delta, which consist of spongy peat moss material, have subsided from farming use over a century and are now 20-30 feet below the level of the rivers. A breach in these levees would cause seawater to intrude and contaminate our drinking water supply from the Delta for several years.

We need to take advantage of the Bay Delta Conservation Plan to finance the co-equal goals of restoring the Delta ecosystem and providing a conveyance facility under or around the Delta.

However, a new Delta conveyance fix will require a vote in the November General election to approve an \$11 Billion Bond measure to be paid back over 30 years by the State's General fund which is facing a \$9 Billion deficit next fiscal year. The political challenges for such a bond measure are great in light of Governor's proposed tax increase and anticipated political opposition to the bond measure from environmentalists and Delta landowners. Moreover, completion of a conveyance facility would still be at least a decade away.

My Grandmother always said, "hope for the best, but prepare for the worst". So how do we prepare for the worst case during the next decade or two it will take to complete the new water conveyance system and ecosystem restoration?

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Rob Katherman

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Southern Californians have cut our daily water consumption in half over the past 20 years to less than 90 gallons per person. We need to continue those successful efforts.

The Water Replenishment District (WRD), where I am one of the Board members, was formed in 1959 by voters in southern Los Angeles County to protect and manage our groundwater, which supplies 40% of the water consumed by more than 4 million residents in our 420 square mile service area.

Several years ago the Water Replenishment District embarked on a Master plan which we dubbed Water Independence Now (WIN), with the goal of completely eliminating the need for imported water in the next 5 years by capturing and conserving more storm water and increasing the use of recycled water for replenishing our local aquifers. We are well on our way to reaching complete independence from imported water for groundwater replenishment. Groundwater is not only safe and reliable, but also one-third of the cost of imported water.

This month WRD will complete a Groundwater Master Plan that calls for increased aquifer recharge that will enable pumping to be increased by 50% in our Basins. This increased use of our groundwater aquifer capacity will eliminate the need for imported water to serve the needs of more than 2.5 million people in the Central Basin. Groundwater currently provides 75% of the water needs for this area. It will also reduce the need for more than 90,000 Acre-feet (30 billion gallons) of Sacramento Delta imported water in the West Basin.

Construction Plans are being prepared that will double the capacity of our Advanced Water Treatment Facility in East Long Beach, completely eliminating the use of imported water at the Alamitos Barrier to protect against seawater intrusion and provide replenishment for the southern portion of Long Beach.

Preliminary engineering and planning has started on our Groundwater Improvement Reliability Program to use highly treated recycled water and more stormwater capture for the San Gabriel and Rio Hondo Spreading grounds that ultimately will completely eliminate the need to purchase imported water for groundwater replenishment in the Central Groundwater Basin.

We are partnering with the West Basin Municipal Water District who is building phase 5 of the Ed Little Advanced Water Treatment Plant in El Segundo. When completed this Fall, it will replace 2 billion gallons of imported water with purified recycled water that is injected into the West Coast Seawater Barrier wells protecting and replenishing groundwater in South Bay communities. This will make the protective sea water barrier system, which has injection wells from LAX to the Palos Verdes Peninsula, 100% free of any imported water.

West Basin MWD is also working hard to reduce its reliance imported Sacramento Delta water with its Water Reliability 2020 program. This program aims to reduce imported water to the South Bay from 66% of total supply all the way down to 33% by the year 2020. . As part of their plan, West Basin MWD will more than double the use of recycled water and double the amount of water conservation in its service area.

With an ever growing need for outdoor water conservation in the landscape, WRD has partnered with WaterWise Consulting to educate homeowners as well as landscape professionals on water efficient landscaping techniques. After all, nearly half of the water we use in our homes is used for our yards and gardens.

Reducing our reliance on imported water from the Sacramento Delta will not only protect us from a disruption of our water supply but will also save us money and greatly reduce our energy consumption for pumping water more than 440 miles from the Delta over the Tehachapi Mountains. Energy costs for pumping have helped drive up MWD water rates by 75% in the last 6 years and it takes twice the power to pump water from the Delta than it does to recycle local wastewater with sophisticated treatment processes.

Since 2008, MWD has no longer made available discounted “interruptible” seasonal water that can be used for recharging our aquifers using the San Gabriel and Rio Hondo River Spreading grounds. We must now use the retail priced imported water used to replenish the local groundwater basin. The cost of this “firm demand” imported water has gone up over 110 percent in the past 3 years. This year, MWD is proposing to raise the price of this imported water for groundwater replenishment another 9%.

Studies show that local advanced treated recycled water is not only more reliable, but will cost one third less than imported water over the next 15-20 years.

We need to fix the Delta ecosystem and our State water system, but we can't afford to wait for the Delta fix which will take billions of dollars and more that 15 -20 years to finish. What are the odds of an earthquake happening in the meantime?

Are you feeling lucky?