

Ensuring San Diego's water future

By Bruce Reznik
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Most San Diegans now recognize that with nearly 3 million people residing in a region with only enough rainfall to support 50,000, creative solutions to conserve and augment our local water supply are needed. Continuing to rely almost solely on importing water from the Colorado River is no longer a viable option. Once comprising 95 percent of our water portfolio, the San Diego County Water Authority has announced a goal of 60 percent imported water by 2030.

Almost everyone agrees that our first regional strategy must be conservation. While strides have been made over the past 15 years, we must make conservation a regional priority, not just a buzzword.

After conservation, though, there is little agreement as to the best strategies to ensure water security. Or is there?

Two options have gained the most notoriety – indirect potable reuse (or reservoir augmentation) and desalination. A 1994 legal settlement over the Point Loma Wastewater Treatment Facility required the city of San Diego to build the capacity to reuse 45 million gallons of reclaimed wastewater per day by 2010. While the North City and South Bay reclamation facilities were built, less than 8 million gallons of water per day is being reused; the rest is discharged into the ocean. Not only does this represent a monumental waste of taxpayer dollars, it is inexcusable considering the region's need for local water supplies.

As part of a subsequent legal settlement, the city was required to undertake a study to determine how it could actually reuse the 45 million gallons per day of capacity it already has developed. During a comprehensive public outreach campaign, the city engaged San Diegans from diverse backgrounds through the American Assembly process to review six reuse options, remarkably coming to a near-unanimous conclusion that indirect potable reuse was the preferred alternative.

Of course, a massive public education effort is needed to overcome nearly two decades of stigma over “toilet-to-tap.” People must be made aware that

the majority of our drinking water already comes from the Colorado River, fed by 650 permitted dischargers, before it reaches our tap as drinking water – with far less treatment and monitoring than what is proposed through reservoir augmentation.

Some, including the Union-Tribune editorial page, claim that desalination, which is being proposed by Poseidon at the Encina Power Plant in Carlsbad, presents a better option. They overlook, however, the technologies' current deficiencies, which are significant.

First, desalination is not cost-effective – not even close. Without public subsidies, water supplied by desalination would be at least one-and-a-half times more costly than water provided by recycling, and twice what it would cost to conserve the same amount of water.

In fact, the only way desalination can work is by “piggy-backing” on antiquated once-through cooling, or OTC, power plants that already take in massive amounts of water. The problem, though, is that OTC is on its death bed. Two state agencies have called for the phaseout of OTC power plants, and even the companies that own the Encina and South Bay power plants have publicly stated their intention to replace these facilities with “dry-cooled” technologies that would deprive desalination of its needed infrastructure.

Desalination also requires more energy than any other water supply or demand-management option in California. Even with recent technological innovations, it takes .6 megawatts of power to produce 1 million gallons per day of potable water, meaning desalination trades water security for energy insecurity.

By coupling with polluting OTC power plants, desalination also would contribute to continued devastation of our ocean environment. Some supporters of desalination claim the abundance of sea creatures in the vast ocean makes their loss in power plants negligible. Such a claim would be comical if it wasn't so serious. In the last three years, two independent studies of our oceans reached the conclusion that our oceans are in serious decline. According to the Pew Oceans Commission report, “What we once considered inexhaustible and resilient is, in fact, finite and fragile.”

As was pointed out this week in the Los Angeles Times' five-part “Altered Oceans” series, 90 percent of worldwide stocks of tuna, cod and other big

fish have disappeared in the last 50 years; 650 gray whales have washed up sick or dead along the West Coast in the last seven years; and 75 percent of kelp forests along the Southern California coast have vanished in the last 50 years.

Power plants play a profound role in the decline of our oceans. Energy production has now passed agriculture as the largest water user in the United States, killing trillions of fish, shellfish, plankton and other species at all life stages in cooling water intakes.

San Diego's three OTC plants – South Bay, Encina and San Onofre – are permitted to use more than 3 billion gallons of water daily. San Onofre, alone, has destroyed nearly 10 percent of the remaining kelp forests along California's coast, causing an estimated 80 percent decline in the area's kelp fish populations.

San Diego needs a smart, comprehensive and viable water and energy policy, which starts with aggressive conservation programs; replacing antiquated OTC power plants with cleaner, renewable energy sources; and investing in reservoir augmentation to reduce our dependence on imported water. Through these measures, San Diego can be America's “clean water capital.”

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