VOICE OF SAN DIEGO

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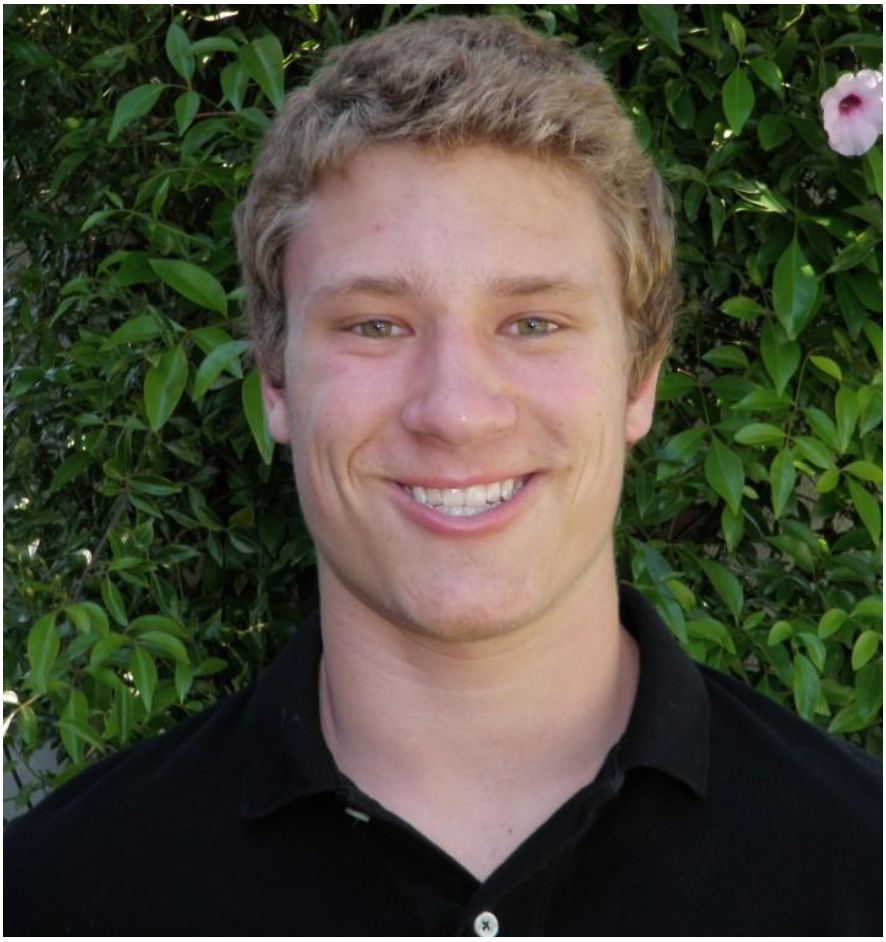
Toilet to Top of the Line Purification System to Tap



2010
Essay Contest
Finalist

For years, bottled water companies have advertised their water as being collected from springs high atop mountains or from crystal clear rivers that meander through secluded meadows. This water is often seen in the hands of movie stars and politicians. This water is socially acceptable. This water is not "disgusting." Imagine the shock that would appear on the faces of those drinking this water, however, if they were to be told that the water they are drinking is of lower quality than purified poop water.

In the past, San Diego has relied on receiving approximately 40 percent of its water from the Colorado River and another 40 percent from the Sacramento Delta. These numbers, however, have decreased due to a federal court decision to protect the endangered Delta Smelt fish in the Sacramento Delta and a heavy influx of people fighting for the continually decreasing amount of water in the Colorado River.

Due to decreased water allocations from these vital import sources, San Diego "could need 25 percent more water in 2030." San Diego must find an affordable, environmentally friendly and socially acceptable solution to fill this void. Failure to do so will lead to decreased water allocation rates and increased price rates on water.

A viable solution to this problem is the introduction of a toilet to top of the line purification system to tap water distribution system -- otherwise known as the indirect potable reuse of water. The purification of wastewater can be a large part of the solution to the problem of supplying ample quantities of reasonably priced water to the entire San Diego population.

When San Diego residents are first informed of the indirect potable reuse of water, the common first reactions are facial cringes. They imagine human waste particulates floating in their water glasses and massive E. coli outbreaks.

What these people must first understand, however, is that the purification standards of wastewater have no fewer or less harsh restrictions than the purification of water from the Colorado River or the Sacramento Delta. The proposed indirect potable reuse treatment system "ensures that not even the tiniest bacterium, virus, chemical

or hormone can survive." The final product of purified wastewater, therefore, is no more polluted than the water that San Diego imports and purifies.

Secondly, it should be noted that water imported from the Sacramento Delta and the Colorado River are also infiltrated with waste. In fact, "400 million gallons of treated sewage are discharged into the Colorado River before it becomes our drinking water" along with all of the freshwater marine life's waste and large amounts of chemical runoff that end up in sources from which San Diego imports its water. A San Diego resident that has drank tap water has, without a doubt, drank water that was once contaminated by fecal waste, urine or other harmful chemicals. The purification of human wastewater is no more dangerous or disgusting than the purified water that San Diegans are currently drinking.

Another option being considered to help fix San Diego's water crisis is the introduction of a desalination plant in Carlsbad, CA. This plan would avoid importing additional water and dampen the effects of the "disgusting" factor.

There are drawbacks, however, to the desalination option. In addition to the fact that ocean water contains a plethora of waste and chemicals, it is "economically and environmentally far more expensive than [the indirect potable reuse method]." The freshwater produced by the desalination plant would cost "between $800 and $2,000 per acre-foot to produce"; whereas the water produced from a sewage recycling plant would cost "$525 per acre-foot." The desalination plant would also use more energy than the indirect potable reuse system, kill certain marine organisms, and produce a chemical byproduct that is placed back in the ocean and can harm marine ecosystems.

The desalination plant is economically and environmentally inferior to the indirect potable reuse system. While a desalination plant, however, does present a facade that avoids the "disgusting" factor, it has already been demonstrated that recycled sewage water is no more harmful than water that would come from a desalination plant.

The indirect potable reuse of water has unjustifiably been slandered with the title "toilet to tap." If it were appropriate, however, to deem water purification systems

with misleading names, then the purification systems that San Diego is currently using could be called "fish excrement to tap" or "toxic chemicals to tap."

The fact of the matter is that no matter the source from which the water comes, it is all purified under the same quality standards and it is all equally safe to drink. Not only is the indirect potable reuse system safe, but it would also be economically cheaper and more environmentally friendly than a desalination option.

What is preventing San Diego from adopting this indirect potable reuse system appears to be the social repercussions associated with drinking purified wastewater. With declining amounts of water coming from vital import sources, however, the time is now for San Diego to get serious about local freshwater sustainability.

The indirect potable reuse of water is the most viable option to provide local, safe drinking water while ensuring that San Diego saves money and reduces its carbon footprint.