



Adapting to Sea Level Rise and the Cost of Clean Water in San Luis Obispo County

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Last month, our chapter hosted a presentation from Cal Poly's Dante DeLany titled, "[Sea Level Rise and Coastal Erosion: A Cost-Benefit Analysis of Three Leading Management Techniques for San Luis Obispo County](#)". Dante's presentation came on the heels of "Stop Oil Trains" major victory against Phillips 66's Rail Spur project, the biggest environmental victory in SLO County since the California Coastal Commission's denial of a permit for P, G, & E to conduct High Energy Seismic Studies near Diablo Canyon. Dante's presentation also came at a time when our coastal communities in Cambria, Cayucos, Morro Bay, Pismo Beach, and South SLO County Sanitation District (SSLOCSD members include Arroyo Grande, Oceano, and Grover Beach) are engaged in planning and implementing major infrastructure projects focused on reclaiming and delivering new water sources.

These projects represent a significant investment for each of the communities involved. Designing the projects to adapt to sea level rise by placing infrastructure outside high risk areas while reducing ocean outfall is critical for each project's long-term success. Our chapter remains engaged with these communities to help protect our ocean, waves, and beaches from sewage spills, to reduce risk to our beaches and surf areas from coastal armoring, and to decrease ocean outfall while supporting wastewater reclamation projects which also incorporate the benefits of constructed wetlands.



"Sustainability" is an often over-used and occasionally deceptive term. The definition of Environmental Sustainability is "the ability to maintain the qualities that are valued in the physical environment. Cambria's (Sustainable Water Facility (SWF), a desalination project, has added negative impacts to the area's creeks and wetlands (with multiple Notices of Violation from the Regional Water Quality Control Board), drained Cambria CSD's financial resources, and hasn't created **any** usable water.

Our chapter's recommendations for improvement include a complete inventory and study of costs for importing local, non-potable water resources with distribution through the Cambria CSD. We also suggest studying a constructed wetland designed for discharging brine waste from desalination instead of adding truckloads of waste (up to 5 loads per day) to our highways. Wetlands can act as a buffer from storm surge, they sink Carbon Dioxide (a greenhouse gas), they act as a home for wildlife, and they bury salts and minerals which would otherwise be sent to ocean outfall along with usable water.

The Cambria CSD should start studying a constructed wetland approach at the site of their existing desalination salt pit (which is east of the San Simeon Beach State Campground). You can read our

[complete comments.](#)

In Cayucos, their Sustainable Water Project won't lead to "sustainability" either, but their water supply could improve when the California State Water Board allows Direct Potable Reuse (DPR: treating the wastewater, then directly distributing it for public consumption). DPR is a decision left totally out of local control, though [San Diego made lead the way to statewide DPR](#). On the short term, the Cayucos Sustainable Water Project will be built outside the existing 100 year floodplain and improve the quality of ocean outfall (from Primary to Tertiary treatment standards) for wastewater discharged near Morro Rock.

Additionally, on the short-term (Phase 1) about one-third of the reclaimed wastewater will be used by local agriculture near the site on Toro Creek Road. Phase 1 keeps short-term costs relatively low. On the long term (if DPR is allowed), there will be additional (Phase 2) costs to ratepayers. However, even after Phase 2 the plant will still discharge about 25 percent to the ocean outfall.



Our chapter comments on the project include a recommendation for the Cayucos Sanitary District to study constructed wetlands as a way of eventually replacing ocean outfall. The constructed wetland will naturally bury salts and minerals, provides habitat for wildlife, and help passively recharge groundwater supplies to help safeguard against seawater intrusion in the aquifer. Our complete comments are here: [click here](#)



In Morro Bay, there has been some frustration regarding the planned cost of their Water Reclamation Facility, especially compared to the lower projected costs of Cayucos' plan. However, Morro Bay will triple the capacity of Cayucos' plant while also meeting its promise to build the new plant outside the coastal zone. Other reasons for Morro Bay's WRF cost: The community has had problems deciding on a new site (which has delayed the project and increased costs to consultants), and the community wants their WRF to provide benefits the Cayucos project does not provide.

In Morro Bay, the plant may be scaled to provide recycled water to the community **without** Direct Potable Reuse. The city will utilize the recycled water for groundwater injection, increase their groundwater allocations, and decrease their potential for seawater intrusion to their primary local water source. Presently, Morro Bay groundwater has to be treated in their desalination plant, tripling the cost of groundwater because of Nitrate concentrations in their aquifer. With smart management of reclaimed water, the city can reduce their reliance on expensive and unreliable State Water Project resources. The State Water Project is very energy intensive, the 2nd largest energy user in California, so Morro Bay would be decreasing their carbon footprint with the design of an efficient WRF.

While Morro Bay's WRF offers the opportunity for reclaiming approximately 1 million gallons per day, Pismo Beach and the SSLOCSD (Grover Beach, Arroyo Grande, and Oceano CSD) can reclaim over three times that value (3.5 million gallons per day) with a successful Regional Groundwater Sustainability Project. Pismo Beach has taken the lead by planning to treat water to tertiary standards at their plant. However, Pismo does not have the ability to store groundwater within city limits. So, they have asked

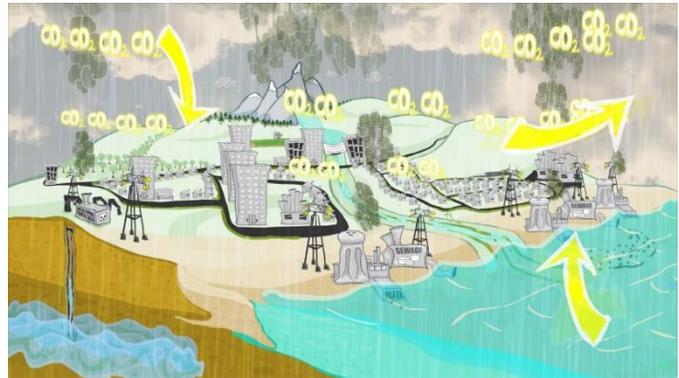
the others to partner on a plan to utilize reclaimed water from Pismo and SSLOCSO to build freshwater supplies in the Northern Cities Management Area (essentially the Five Cities area) through groundwater injection. We support treatment of wastewater to higher standards, and we support reduction in ocean outfall.

However, we do not support needlessly adding wastewater treatment infrastructure inside the coastal flood zone. SSLOCSO has a wastewater treatment plant in Oceano which was overcome with floodwaters and had a massive Sanitary Sewage Overflow in December, 2010. The spill combined with floodwaters in an Oceano neighborhood near the plant, and sewage was spilled into the neighboring creek, wetlands, and escaped treatment through their ocean outfall.



The California Coastal Commission staff anticipates growing risks to the site due to continued sea level rise and will be reviewing SSLOCSO's request to build new infrastructure to the existing site. You can read our [chapter's letter](#) regarding the CCC's conditional approval of the SSLOCSO's request.

Surfrider Foundation's feature "Cycle of Insanity" illustrates the problems with moving fresh water resources over long distances, or by pumping it from the ground, to use it once then discharge it to the ocean.



With the exception of Cambria's Sustainable Water Facility (which should be scrapped and started over with improved analysis and intense environmental review), new wastewater treatment and reclamation plans in Cayucos, Morro Bay, and the Five Cities area are steps in the right direction.

However, climate change and the risks posed by sea level rise to our county's ocean, waves, and beaches means moving vital infrastructure outside the coastal zone is becoming a necessary expense to our coastal communities. "Prevention is the best policy" as we advocate for managed retreat of vital infrastructure, no ocean outfall, and wide-spread implementation of constructed wetlands.

Our approach will not only respond to the risks of climate change, but efficiently designed projects will bring beneficial results which can preserve coastal resources and buffer our communities from the risks of imported water shortages and pollution to our aquifers from seawater intrusion.