

On the Beach II

One year ago, I wrote a piece based on the idea that climate change, and particularly wildfires, could be seen in the lens of Neville Shute's famous novel, *On the Beach*. Catastrophic fires had been raging for months across Australia, the setting of *On the Beach*, and in some cases the escapees had resorted to the ocean beaches as their only refuge from the fires. Somedays it felt like the entire continent might burn. It seemed apropos to compare the nuclear warfare survivors of the novel, awaiting their doom from radiation sickness, to present day Australians, and by extension to our circumstances here in California and Pacifica.

Little did I know that we were about to experience our own wildfire holocaust. In the 2020 fire season over 10,000 fires burned 4.2 million acres of California, 4% of the state's total area. The August Complex fire, at over a million acres all by itself, was the state's first 'gigafire', bigger than Rhode Island, the largest fire in state history. The total acreage of last year's fires was more than double the previous maximum from 2018. Luckily, 'only' 33 people died and 'only' 10,000 structures burned – 2018 holds the records for those statistics, when the towns of Paradise, among other places, went up in smoke.

The recent Santa Ana and Diablo winds in January, usually an autumn phenomenon, made it clear that in our drought-stricken state the fire season might be considered to be year-round. We got lucky this time: the power shutdowns were minimal and the fires were quickly contained, but it seems our State fire crews will need to become full-time employees. Perhaps not the best way to improve the unemployment rate.

Looking around at our current green hillsides and at the bubbling creek in my backyard, fire seems a distant threat. But it will surely come. Will we prepare our landscape and our homes, our forests and brushlands, or will we too be forced onto the beach? But then, thinking about a current controversy in Pacifica, ***will there be a beach to escape to?***

Our lovely seafront, six miles of sand, crumbling sandstone cliffs, with occasional rockier headlands, has been eroding since long before even the native Americans arrived. During the last glacial period, when the sea level was three hundred feet lower and megafauna ruled the pastures between here and the Farallons, our predecessors came to California over an ice bridge from Siberia. Then for thousands of years there was a great warming as the climate cycled into an inter-glacial period. The seas rose, the coast receded, and the Farallons became the familiar islands that appear and disappear from our view like Brigadoon. That all took ten thousand years or more, with sea level rise and shore erosion going hand in hand to sculpt our coast. The 'steady state' we all take for granted has never been steady, at least in geologic terms.

Climate change due to humans' burning of fossil fuels has accelerated that change multiple fold. The glaciers are melting, the ice caps are melting and slipping into the seas, the seas are expanding with warmth, and the sea level is rising. There is significant disagreement about how fast this will happen – partly because we don't know how well our civilization will respond to the climate crisis -- but little disagreement that it is happening and is accelerating. Estimates from the scientists' model range from 12 inches to more than 10 feet between now and 2100.

But it's not just sea level rise, it's the increase in weather variability. Winds and waves are getting stronger. Rain, when it comes, can come in the form of atmospheric rivers that dump a year's worth of rain in a few days. Pacifica, as we know, has lost houses, apartment buildings, roads and infrastructure to erosion into the sea over the last few decades. It is only a matter of when, not if, more losses occur.

The current controversy involves the condition of the seawall in the Sharp Park area, near the Palmetto Street 'downtown' (if Pacifica can be said to have one: it used to be said that Los Angeles was twenty

suburbs in search of a city; I think Pacifica is ten neighborhoods in search of a downtown), and what to do about it. More broadly, it involves the concept of 'managed retreat', the idea supported by the Coastal Commission that we need to acknowledge sea level rise and voluntarily move people and infrastructure away from vulnerable coasts in a coordinated and sustainable fashion.

Pacifica's seawall, which stretches for about seven blocks along Beach Boulevard, is over thirty years old and has in recent years been experiencing structural failures as well as many over-topping events when storm swells crash over the top and fill the street with sea water, threatening the beach facing houses. During the king tides earlier in January, when viewing the wave action at the seawall became a spectator sport, I saw a grown man get knocked down and thrown against the front yard concrete 'fence' of a house across from the seawall, such was the volume and power of the crashing waves. It's no longer a mystery to me why many of the houses along this stretch of road have solid raised barricades instead of picket fences along their front property lines.

Before the seawall was built, there was a beach along this stretch of coast, a beach which has now all but disappeared. But that's actually to be expected – scientific research has long since pointed out that as sea level rises, seawalls tend to lose the beaches in front of them. The sand has been swept away to the south, where a healthy beach still exists next to the berm at the golf course.

The current studies being sponsored by the city say that the seawall needs to be replaced or extended, possibly by as much as 8 feet above its current level, to account for expected sea level elevation and wave height. Fixing it may cost \$45 million or more. The study says one of the purposes of this project is to protect the tourist interests in the beach and the ocean vistas as seen from the sidewalk above. It's a bit of a mystery to me how enjoyable the views will be over an 8' high seawall or how tourists will enjoy a beach that is no longer there – or how they would get to the water's edge without going through a water-tight door.

Another reason stated for the project is to protect the vulnerable infrastructure under Beach Boulevard. A major sewer line runs under it, having collected much of Sharp Park's sewage, on its way to the pump station at the corner of Montecito Avenue. But what is the condition of that infrastructure, regularly inundated by seawater and possibly nearing the end of its life cycle?

The other reason stated for the project is to protect the homes and businesses on the edge of Sharp Park. But why, then, are the homes and businesses along northern Palmetto, in the Manor District, at Rockaway Beach, and in Linda Mar, which are at least if not more valuable in terms of property and infrastructure, not getting the same attention? Indeed, the city's general policy is that private property owners are responsible for the protection of their own properties; some homeowners have even provided their own rip-rap of boulders along the cliffs below their houses. So the city's policies and goals seem a bit confused.

At the same time that the seawall is being studied, the city is also making a special study of the Sharp Park downtown in an effort to make it a denser, more urban district; it's hard to see that this would be a successful venture without the protection of a stronger seawall. Is that the real reason for the seawall project, to make Sharp Park 'safe' for real estate developers? Dense urbanization is an excellent strategy for combating climate change, but perhaps Sharp Park isn't the best place to do it...

Pacifica's current policies and politicians do not acknowledge the idea of managed retreat; it seems to have become a non-word which is only whispered discreetly in private. The policy instead seems to be non-managed retreat, for retreat will inevitably happen, nature tends to win in the end. We don't, in any case,

have nearly enough money to armor the entire coast. I would urge my fellow Pacificans to study the issues, think about not just your own but your grandchildren's futures, and participate in the discussions. We may need those beaches.

Get the latest information about the city's seawall discussion at:

https://www.cityofpacific.org/depts/pw/engr/current_projects/beach_boulevard_seawall_replacement_project.asp

BOB BOLES