

Creeping Waters

A scenario of perceptions, facts, choices and engagement challenges in managing risks in coastal communities

Context

Perceptions of coastal hazards and risks, with or without sea level rise and other aspects of climate change, are caught up in the public 'debate' about whether and how familiar coastal landscapes are changing and what that means for the lives of people who live in coastal settlements. This debate is occurring in a context where everyone believes themselves to be an expert and where there is strong community distrust of both scientists and governments in terms of their capacity to justify predictions of significant change to communities; and their capacity to help communities to make sense of that change and participate meaningfully in discussion of risk mitigation options.

The scenario outlined below draws on some familiar issues facing communities and decision makers right around Australia's coastline. Creeping Waters does not exist, but you'll probably recognise some of the issues and players in this story.

Creeping Waters

Creeping Waters is a village of about 400 permanent residents, on the NSW coast. In peak holiday periods, its population increases to around 1000 people, as people come to town to relax in their holiday homes or set up camp in the beach front reserve. Many of these holiday makers have been coming back for more than 20 years. There is a surf club which provides a volunteer beach patrol over Christmas and New Year and on other summer weekends. Parts of the beach are popular for 4 wheel driving to reach remote fishing spots.

Most of the permanent residents are retirees. It is a very close knit local community and many people have known each other for decades. Most long term residents are members of the surf club and bowling club and many people have also joined Landcare, working on vegetation on the dunes near the surf club. The village has a bowling club, a church and a general store. Permanent residents travel to Summerville, about 50km away for other services. The local Council is based in Summerville, and draws its rate base from a rural hinterland, and some larger villages as well as small coastal villages like Creeping Waters. Overall income and rate base in this region is relatively low.

Coastal Hazards

Creeping Waters is located on a narrow coastal barrier; an estuarine creek runs parallel with the coast behind the frontal dune and back barrier landforms, so parts of the village are quite low lying. Houses and the camping reserve are located on the frontal dune. The barrier has high quality coastal ecology and other than the Creeping Waters village, it is managed as national park, in a joint management arrangement with local Aboriginal Traditional owners. Recently, trees on the frontal dune have been falling over onto the beach in the National Park. The NPWS managers have decided that they will not actively manage erosion in the Park and will let the beach and dune adjust to changing local conditions.

Long term residents of Creeping Waters remember the big storms in the 1970s, when the beach and dune were cut back about 30 metres, to within a few metres of people's homes and holiday houses. After that the beach and dune recovered. From the early 1990s, old holiday homes have been gradually transformed into permanent residences and people have

invested in extensions and upgrades to buildings and landscaping. Council has also upgraded the facilities in the camping reserve, so it's now branded as a beachfront resort. Since about 2000, the beach and dunes at Creeping Waters have been eroding again, after a couple of big east coast low events. The beach is flat and now even very high tide events are undercutting the frontal dune. The dune face has retreated to nearly where it was in the 1970s.

Coastal Hazard Study

A recently completed coastal hazard study, prepared by consultants for Council, concluded that recent erosion evidence is part of a long term recession trend and that the amount of recession will be exacerbated by sea level rise and climate change. The coastal hazard study indicates that without sea level rise, the camping ground and about 20 houses on the frontal dune, as well as all the existing beach access ways and a boat ramp used by local recreational fishers are likely to be affected by coastal erosion within the next 10 years. With an allowance for sea level rise, a further 20 houses are predicted to be undercut by erosion by 2050; and by 2100, every property on the frontal dune is likely to be affected by recession. At that time, waves could overtop the frontal dune in all major storms. The surf club and bowling club would be undermined. Council's water, sewerage and stormwater infrastructure would also be affected by shoreline recession. So over the next 40 to 90 years, Creeping Waters could become uninhabitable, without some measures to protect local assets from coastal hazards.

The talk at the bowling club is that we've seen all this before and the beach will come back. Vocal locals think that Council and its consultants have got it all wrong. But some people are also concerned about how erosion affects the reputation of the village for holiday makers and might reduce the value of their homes. Some residents are angry that their insurance premiums have increased dramatically and are blaming Council's reports. The local media is having a field day.

Management Options

Council's coastal management team have been considering options for the future of Creeping Waters and expect that none of the potential risk mitigation measures will get much support in the village. There have already been lots of letters to local papers and Councillors about the erosion and the condition of the beach. The potential options include lots of 'patch up' beach access maintenance and a sea wall to protect the whole village. But sea walls are expensive, especially for a Council that has limited resources; and sea walls usually mean a loss of beach amenity – the very thing that attracts people to Creeping Waters for surfing, fishing and safe swimming.

Council is considering planned retreat as the risk mitigation strategy. If it adopted that strategy, it would be the first time in Australia that an entire coastal community was relocated to another location. There is Crown land and private land on the outskirts of Summerville, overlooking the estuary, but outside of flood and erosion zones, that could be developed for housing for the people of Creeping Waters.

Council's task now is to make a strategic decision about how coastal erosion and recession will be managed in Creeping Waters – the short term and in the longer term.