Written Submission to Busselton City Council

By

Port Geographe Land Owners Association

on

Coastal Hazard Risk Management and Adaption Plan [CHRMAP]

August 16, 2021

Introduction

This submission by the Port Geographe Landowners Association (PGLOA) responds to an opportunity to provide commentary on the draft Coastal Hazard Risk Management and Adaption Plan (CHRMAP) released in January 2021.

Landowners at Port Geographe have a pecuniary interest in coastal matters as the Special Area Rate they pay goes exclusively to coastal management. As Port Geographe is one of the jewels in the crown of the City of Busselton, PGLOA also takes a wider community view on matters that may indirectly relate to Port Geographe.

It is accepted that in planning along the coastal zone, the City of Busselton is required to take into consideration the guidelines within State Coastal Planning Policy SPP2.6, of the State Planning Commission.

Consequently, CHRMAP 2021 identifies areas and assets that could be potentially impacted by coastal erosion and inundations due to storm events and projected sea level rise (over the next 100 years), and makes recommendations for an adaptation framework.

Background

PGLOA made a submission to the City of Busselton on 17 December 2018 in respect of the proposed Structure Plan for the Newport (Aigle Royal) development, to which SPP2.6 was to be applied to developments that were already in train.

That submission noted the guidelines for SPP2.6 *inter alia* attempted to prescribe finished floor levels of 3.8m AHD. That figure was calculated as the sum of the 500-year Average Recurrence Interval (ARI) of 2.9 metres to cover storm surge, plus 0.9 metres, being one of several Intergovernmental Panel on Climate Change (IPCC) projections of sea-level rise to the year 2110.

The PGLOA submission of 2018 argued that a 100-year ARI, as is adopted by the WA Water Corporation, is more appropriate than the 500-year ARI. In respect of sea-level rise, it was also argued that the adoption of the upper bound of the worst-case scenario of the IPCC CMIP model was an unwarranted application of the precautionary principle, whereas the median of the most likely case was more appropriate. That median figure was 0.38m AHD by 2110.

It is relevant to note that satellite altimetry in the period 1993 – 2020 indicates global sea-level rise of 0.34mm/year, or 0.34 m per century, with no evidence of acceleration. Moreover, the most obvious reference marker for Geographe Bay is the 51-year tide records for the Port of Bunbury which indicates a mere rise of 1.22mm/year, equivalent to **0.12 metres per century** (Haig et al, 2011).

Finished Floor Levels

The determination of 3.0mAHD for FFLs for the Port Geographe Precinct is most welcome and supported by PGLOA.

We have previously expressed concern that the prescription of 3.8m AHD for future residences in Port Geographe would disrupt current and future development plans, tarnish the image of Port Geographe and destroy landowner wealth, for no beneficial outcomes. The unfortunate uncertainty of the last two years has indeed stalled development at Port Geographe. We now understand developments will resume with the resolution of this issue.

CHRMAP 2021 also aims to prohibit private development (other than landscaping works) on the seaward side of a line that would be determined by identifying the line behind which development could be considered 'infill development'. (Note – currently seeking clarification on this ambiguous statement.)

In the wider residential and commercial areas of Busselton City, which mostly lie 1.5m – 2.5m AHD, we note that CHRMAP 2021 recognises it is not practical to lift existing developments to 3.8m AHD. It is also noted that the city has been applying 3.0mAHD on sites directly adjoining the coast for around the last 20 years on the basis of technical advice from the (former) Water and Rivers Commission. We wonder why this could not have been applied to Port Geographe three years ago. Nevertheless, we consider the agreed determination is a positive step forward, and are deemed acceptable for almost all of the eleven coastal management units around Geographe Bay, as well as Port Geographe. This determination is set for that next 20 years.
We see the setting at 3.0mAHD, not so much as a compromise, but a recognition of the flaws in the Guidelines to SPP2.6.

10-year Review Periods

We acknowledge the wisdom of undertaking reviews at 10-year intervals to re-assess risk and management options (Recommendation 7, P57). These reviews are to take into account new information as it emerges. We urge that such reviews focus on the actual measurements for global temperature and sea-level trends, as well as time-series data directly relevant to Geographe Bay. By the threshold year of 2040 (the end of the first 'adaptation pathway'), there will be 60 years of real data, equating to two climate periods.

Erosion control

It is possible the erosional threat to the Geographe Bay coastline is over stated in the CHRMAP document. Page 12 acknowledges that Geographe Bay coastline has been generally accreting since historical records of 1941, with some "local variations". Rates of accretion are in fact, phenomenally rapid. The added sediment has come not from coastal erosion or river input, but from the off-shore continental shelf, and is brought ashore by storm-driven wave action. Long-shore drift is simply the dispersal route for the enormous influx of sand added into the system. It can be argued that any increase in storm activity or rising sea level will **increase** the rate of accretion and build-up of dunes.

We therefore dispute the statement on P54 that "the most pervasive hazard for most of the City's coastline in the Study Area, especially over the short to medium term, is coastal erosion".
The abundant use of groynes, which is mooted to increase in future years, is questioned. It seems pointless to attempt the stabilise long-shore sand movement when such movements are an integral part of the accretionary dynamics of Geographe Bay.

It is indeed appropriate that CHRMAP recommends further study to specifically investigate local geomorphological influences on coastal erosion risk (P21). Some members of PGLOA have the technical competence to contribute to these studies.

Protection Strategy for Port Geographe

We are comforted that CHRMAP 2021 advocates retention of:

- public foreshore reserve and recreational assets.
- residential, tourist and commercial properties.
- marina infrastructure.
- Layman Road and other local roads/utilities.

It is worth remembering that the present revetment is already 3.4m AHD, and Port Geographe residential area is higher than anywhere else in Busselton.

We note a future feasibility assessment of storm surge protection of the marina entry channel is planned for the year 2040. This may be useful, but we see no need to provide funds for this in the interim.

Concluding Statements

1. PGLOA is pleased to see a resolution of the FFL issue at a reasonable 3.0m AHD, which should enable developments at Port Geographe to recommence.
2. The formally scheduled 10-year CHRMAP reviews should focus on actual climate measurements of both global and local significance.
3. There is a need to review the use of groynes with a better understanding of sediment dynamics of Geographe Bay.
4. Overall, we see CHRMAP 2021 as a useful overarching concept plan that informs, but does not dictate, other planning instruments of the City of Busselton.
5. State Coastal Planning Policy SPP2.6 is an outdated document.