FACT SHEET

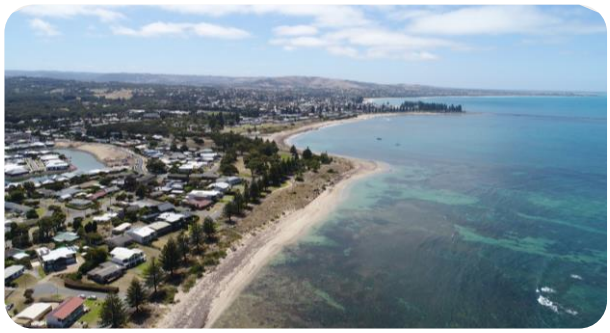
A STRATEGY FOR PROTECTING VICTOR HARBOR'S COASTLINE

The Victor Harbor coast is changing. Find out more about how our shoreline may be impacted by rising sea levels and help us shape a positive future for our coast.

Council has been undertaking a project with consulting team *Integrated Coasts* to identify key coastal issues and vulnerabilities and subsequently identify management and mitigation options.

In Stage 1 of the project (early 2021), Council conducted a Coastal Adaptation Study to: understand how the coast has been changing over time; set a baseline to compare future changes; and assess how people, the natural environment and built assets might be impacted by rising sea levels in the future. At the start of the Study, the community was encouraged to submit information and evidence of coastal changes and storm events in the Victor Harbor area. The Draft Study was presented to the community in April 2021.

Council is now in the final stage of this project which involves developing a Coastal Adaptation Strategy. The Strategy provides Council with options for coastal adaptation over the next ten years and the long-term impacts of climate change are also taken into consideration.



GET INVOLVED WITH THIS PROJECT

The community is encouraged to learn more about the Draft Coastal Adaptation Strategy and share feedback on the information. There are several ways you can get involved.

- **READ THE STRATEGY**
  Read the summary information on the following pages or download the Draft Coastal Adaptation Study and Strategy at **www.yoursay.victor.sa.gov.au**

- **JOIN THE COMMUNITY WEBINAR**
  Join our webinar from 4:00pm on Wednesday, 15 September 2021. This is an opportunity to hear from Council's consulting team, *Integrated Coasts*, and learn more about the project. Registrations can be made at **www.yoursay.victor.sa.gov.au**

- **COMPLETE A FEEDBACK FORM**
  Complete the online survey at **www.yoursay.victor.sa.gov.au** or collect a hardcopy form from the Civic Centre at 1 Bay Road, Victor Harbor. All feedback must be submitted before 5pm on Friday, 1 October 2021

For more information, contact the City of Victor Harbor at localgov@victor.sa.gov.au or by calling 8551 0500.

Following the public consultation period, feedback will be considered by Council and used to inform the final Coastal Adaptation Strategy.

WHAT DOES THE STRATEGY RECOMMEND?

Based on the findings of the Coastal Adaptation Study, the Draft Coastal Adaptation Strategy provides options for adaptative management of the Victor Harbor coastline, from the Investigator Car Park to the Bluff Boat Ramp.

Because the environment varies along our coastline, and vulnerabilities differ in different sections, the Strategy separates the coastline into three areas that can be seen on Page 3: McCracken to Hayborough (Cell 10), Victor Central (Cell 11), and Encounter Bay (Cell 12).

ADAPTATION OPTIONS

The Strategy adopts the framework and understanding of coastal adaptation from CoastAdapt, which notes that there are generally five categories of adaptation options:

AVOIDANCE – Avoid the impacts of coastal hazards by ensuring that assets are not placed in areas that could be impacted in the future.

HOLD THE LINE – Install protection infrastructure that reduces the impact of coastal hazards or use environmental practices to strengthen natural protective forms such as dunes.

ACCOMMODATE – Accept some degree of hazard and conduct limited intervention to manage the hazard (e.g. in areas that may be subject to inundation, raise houses on poles).

MANAGED RETREAT – Progressively move assets or services away from areas that could be impacted by coastal hazards now or in the future.

LOSS ACCEPTANCE – Accept that coastal hazards will cause negative impacts on assets and services and when this occurs, they will not be replaced.

ADAPTATION RESPONSES

There are a range of adaptation responses, including:

PLANNING – Planning responses are options that use planning legislation and regulations to reduce vulnerability and increase resilience to climate change and sea level rise.

ENGINEERING – In the context of climate change, adaptation 'engineering' has come to describe adaptation options that make use of capital works, such as seawalls and levees.

ENVIRONMENTAL MANAGEMENT – Environmental management includes habitat restoration and enhancement through activities such as revegetation of coastal dunes or developing artificial reefs to reduce wave erosion of shorelines.

ADAPTATION TIMING

There are two broad ways in which adaptation can occur in relation to timing:

INCREMENTAL APPROACH – A series of relatively small actions and adjustments aimed at continuing to meet the existing goals and expectations of the community in the face of the impacts of climate change.

TRANSFORMATIVE APPROACH – In some locations, incremental changes will not be sufficient. The risk created by climate change may be so significant that they only can be addressed through more dramatic action. Transformation adaptation involves a paradigm shift: a system-wide change with a focus on the longer term.

WHAT DOES THE STRATEGY RECOMMEND?

STRATEGY RECOMMENDATIONS ARE ORGANISED INTO THREE 'CELLS'

CELL 10: MCCRACKEN–HAYBOROUGH

CELL 11: VICTOR HARBOR CENTRAL

CELL 12: VICTOR HARBOR CENTRAL

COASTAL ADAPTATION TAKES PLACE IN LOCALITIES

In comparison to other climate change hazards, sea level rise and associated erosion is very unique. Therefore, coastal adaptation, including the underpinning risk assessment procedures, must operate in a way that appropriately deals with the local nature of the impacts.

In light of this principle, the coastline has been divided into three 'cells', according to their geological features, for the purpose of analysis and recommendation development. Strategy recommendations for each cell are provided on the following pages.

CELL 10: MCCRACKEN TO HAYBOROUGH

Long-term modelling = indicates that the dune system seaward of the trainline will erode away by 2100 and the embankment under the trainline will come under attack. Irrespective of whether the trainline can be protected or whether it will need removal, the embankment will prevent any direct attack from the sea to the base of the coastal slope upon which the settlement of McCracken is situated.

The short to mid-term strategy is to monitor and maintain the existing vegetated dune system using environmental management techniques. Storm water outlets should be designed to minimise scouring on the beach and so that they can be adapted to the cycles of accretion and recession that take place on this beach. If seas rise as projected, then the trend is expected to be predominantly recession.

PROPOSED ADAPTATION APPROACH: Incremental. Monitor and respond.

PROPOSED ADAPTATION STRATEGY: 'Hold the line' to 2050 and beyond using environmental options

PROPOSED ADAPTATION RECOMMENDATIONS (MCCRACKEN TO HAYBOROUGH)

Task	Reason	Priority	Timing
Develop a monitoring program	Essential to understand how the coast is operating and when it may be operating outside of normal parameters due to sea level rise.	High	1-2 years
Conduct a feasibility study and cost estimates to reduce the flow of storm water to the beach from two outlets adjacent Hayward Court	Storm water is scouring the beach, reducing sand levels around outlets, and in some locations preventing the dune from establishing.	Low	Within 5 years
Upgrade storm water outlet at Yandra Terrace with design able to be adjusted for cycles of erosion and accretion	Storm water is scouring the beach, reducing sand levels around the outlet and preventing the dune from establishing. Council has already contracted a storm water consultant.	High	1 – 2 years
Ascertain ownership of the old retaining wall and assign a function to the structure as something other than 'retaining wall'	This asset is no longer fit for the purpose of protecting the trainline and therefore should be removed or assigned a new function, such as mechanism for 'dune stabilisation'.	Low	Within 5 years

CELL 11: VICTOR CENTRAL

Esplanade Beach

The Esplanade Beach undergoes cycles of accretion and erosion. The longer-term strategy for the Esplanade Beach is to maintain the dune system for as long as feasible and facilitate recession of the dune, if this occurs, with sand nourishment and vegetation.

PROPOSED ADAPTATION APPROACH: Incremental. Consolidate and maintain the dune system.

PROPOSED ADAPTATION STRATEGY: Remove the gaps along this beach and create a consolidated and well-vegetated dune system. In the long-term, maintain the dune system for as long as feasible and facilitate recession of the dune if this occurs with sand nourishment and vegetation.

Flinders Parade

Flinders Parade beach has been extensively modified. Consideration is required as to the viability of long-term protection along Flinders Parade. If seas rise as projected, then the required defences will be of significant height and may 'cut off' the community from the coast. Holding the line at its current location will also remove a useable beach.

The adaptation proposal for Flinders Parade to Bridge Terrace is for Council and the community to consider developing a master plan that will create a new layout for this section of the coast. This will be designed to absorb the impact of the sea more effectively over time, and create spaces adjacent the coast for the community to enjoy.

PROPOSED ADAPTATION APPROACH: Transformative. Analyse how the coast would naturally respond to sea level rise, and then accommodate this in a new master plan.

PROPOSED ADAPTATION STRATEGY: Translate a raised line of defence adjacent to Flinders Parade and Bridge Terrace and design a more natural beach and backshore that can accommodate various actions from the sea, as well the sea level rise trend to 2100.

WHAT DOES THE STRATEGY RECOMMEND?

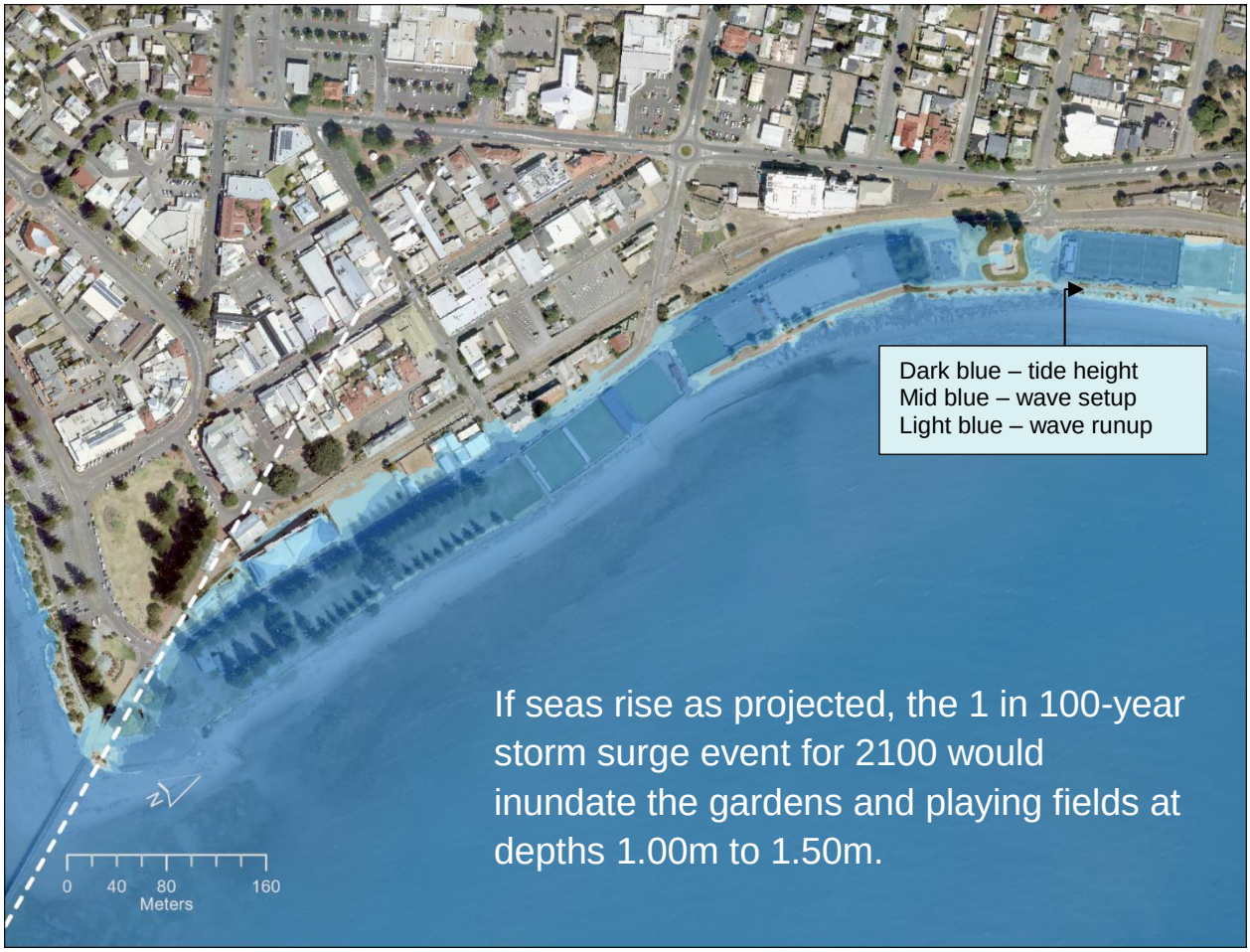


Image: 1 in 100-year storm surge flooding event projected for 2100 (Cell 11: Victor Central)

PROPOSED ADAPTATION RECOMMENDATIONS (VICTOR CENTRAL)

Task	Reason	Priority	Timing
Develop a monitoring program	Essential to understand how the coast is operating and when it may be operating outside of normal parameters due to sea level rise.	High	1-2 years
Storm survey – identify wave effect allowances	Wave effect allowance from Coast Protection Board are likely too low and too coarsely set.	High	Now
Consolidate and build the dune system at Esplanade Beach	The distance between the esplanade road and the shoreline is sufficiently wide enough to implement a soft management approach.	High	Within 5 years
Consider creating a master plan for Flinders Parade/ Bridge Terrace precinct	It will be difficult to protect this area if seas rise as projected. The location is a significant area in the context of a historic town.	Moderate	1 – 2 years (planning only)

CELL 12: ENCOUNTER BAY

The position of Encounter Bay's shoreline has been created by swells that swing around the outcrops and wash up on the beach. A combination of increased exposure and human intervention has brought about the need for increased coastal protection since the 1990s. Currently, overtopping of the frontal defences occurs during high tides and larger swells. Sea level rise will increase the height and frequency of these events.

The short to mid-term strategy is to design and implement a protection strategy that utilises the proposed bike track as the 'spine' of the defence system and to which protection works can be abutted. Storm water outlets should be designed and adapted to minimise scouring of the beach. The longer-term strategy post 2050 is harder to determine and will depend on the rate of sea level rise. The strategy is likely to involve maintaining protection works, increasing the elevation of properties (and perhaps roads) and accommodating some overtopping.

PROPOSED ADAPTATION APPROACH: Incremental

PROPOSED ADAPTATION STRATEGY: 'Hold the line' to 2050 by installing or upgrading protection items

PROPOSED ADAPTATION RECOMMENDATIONS (ENCOUNTER BAY)

Task	Reason	Priority	Timing
Develop a monitoring program	Essential to understand how the coast is operating and when it may be operating outside of normal parameters due to sea level rise.	High	1-2 years
Storm survey – identify wave effect allowances	Wave effect allowance from the Coast Protection Board are likely too low and too coarsely set.	High	1 – 2 years
Design and construct bikeway to act as spine for adaptation to 2050	To creates a consistent 'top' at an appropriate height to handle predicted overtopping.	Moderate	Within 5 years
Review, repair and upgrade protection items	Rock protection items vary in consistency. Some were recently damaged. Some were recently buried.	High	Now (for repair areas)