Our Coast Our Future

Mornington Peninsula Coastal Strategy

MORNINGTON PENINSULA Shire

Project Update: November 2024

We're coming to the end of Part A of the project, developing our coastal strategy – Our Coast, Our Future. This project phase has sought to understand more about what we value about our coastal communities. We've also looked at coastal hazards and risks they might pose now and into the future.

We're now looking ahead to Part B, where we will consider how we can adapt to manage hazard risks and increase resilience across the Mornington Peninsula Shire.

Introduction

Work on the Our Coast, Our Future project began in mid-2023. You may recall the Shire was awarded state funding to complete stages 1 to 4 of the *Victoria's Resilient Coasts – Adapting for 2100+* (VRC) framework and guidelines (Figure 1).



Table 1. *The seven stages of the Victoria's Resilient Coast - Adapting for 2100+ framework (DEECA 2023).*



This seven stage framework has guided Part A of the project, which covers the first half of our process for coastal hazard adaptation planning.

Now as we near the end of **stage 4**, we are considering the robust foundation of work we have produced in Part A, before moving into Part B of the project.

The Shire has been successful in securing further state funding to assist with delivering Part B. This will carry out the second half of our planning process, covering **stage 5** to **stage 7** of the VRC framework. This includes considering adaptation actions and pathways.

This process will ultimately produce a Coastal Hazard and Resilience Plan (CHARP) to guide long-term coastal adaptation on the Mornington Peninsula.

What we've done so far

During project stages 1 to 4, we gathered and analysed data, spoke with our community and assessed local coastal processes and hazards.

STAGE 1 Scoping and preparation	Provide a foundation for coastal hazard risk management and adaptation planning.

In **Stage 1** we produced a project plan to scope the Our Coast, Our Future project. Scoping involved identifying and gathering a vast range of information needed to begin work.

Our Project Plan set the basis for our project, and made sure project work would progress in line with the VRC framework and use the best available information and data for the Peninsula.

STAGE 2 Values, vision and objectives	Ensure adaptation planning is underpinned by regional and place-based values.

As part of **Stage 2**, a round of extensive community and stakeholder engagement was held from October 2023 through to March 2024. In this first round of engagement, we gathered information on the values and aspirations people have for the coast.

This information informed the shared vision and objectives for Mornington Peninsula's coast that underpinned our hazard assessment and all broader aspects of our ongoing adaptation planning work.



STAGE 3 Coastal hazard exposure	Assess coastal hazard exposure for the study area, including use of hazard data and scenarios.

In **stage 3**, we built a strong understanding of the coastal processes, hazards and drivers of coastal change across the Mornington Peninsula. Information gathered during site visits in April 2024 informed part of this process.

We examined where and when we might experience coastal hazard impacts, now and in the future. This process involved combining outputs from various coastal hazard models for the region's marine and coastal areas.

Mapping outputs of coastal modelling allowed us to visualise estimates of where coastal hazard impacts could occur for different weather events and future conditions. We considered hazards of coastal inundation (flooding), erosion, sea level rise and changes to groundwater.

You can have a look at our hazard maps on our website by clicking here



STAGE 4 Vulnerability and risk	Explore place-based coastal hazard vulnerability and risk to enable a strategic approach to adaptation.

In **stage 4** our project team progressed the technical and economic work of the project by producing a vulnerability and risk assessment.

In June and July 2024, we held a second round of community engagement events to talk to people about coastal risk. We also had some early discussions with community members on how we may broadly adapt to increasing hazard risks.

These discussions helped us tailor our approach for the vulnerability and risk assessment, informing how we considered values, uses and infrastructure located in identified hazard areas. This allowed us to reflect priorities of Mornington Peninsula's communities in our vulnerability and risk outcomes, including how we considered economic implications of hazards and possible damages they might pose.

We will use our risk and vulnerability assessment to determine where adaptation (hazard mitigation) may be necessary across the Peninsula.



Key findings of Part A

See *Factsheet #6: Summary of Stages 1 to 4* for an overview of Part A, its assessments and its outcomes

Our project considered hazard and risks for five subareas across the Mornington Peninsula.

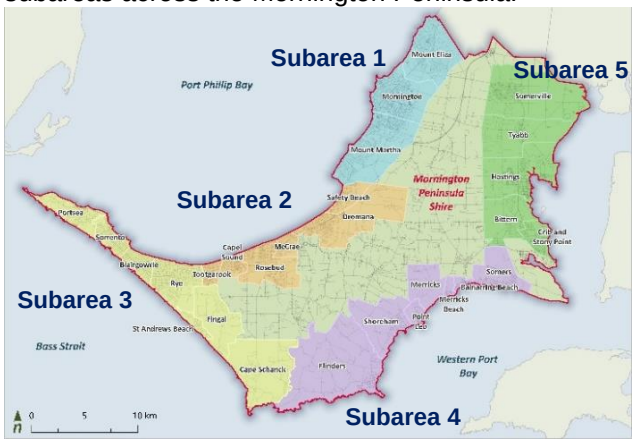


Table 2. The Mornington Peninsula Shire and five subarea used for Our Coast, Our Future.

Key findings from Part A of the project included:

- Region-wide coastal hazard adaptation responses will be essential for the Mornington Peninsula
- In the long-term, all of the Shire's coastal communities will require comprehensive adaptation planning
- Localised geological and geotechnical assessments, in particular within subareas 1 and 4, will be necessary to confirm estimated erosion prone areas and risk
- Inundation / flood modelling and assessment that considers impacts of combined catchment and coastal inundation events will be needed, particularly in subareas 1, 2 and 3
- Focus areas (subareas and townships) identified for assessment and planning





Results from our economic analyses estimated that the short-term average annual damages (AAD) associated with combined coastal hazard impacts on built assets is estimated to be in the order of $8.6 million.

In the absence of adaptation, this may increase up to $22.0 million (AAD) in the medium-term and potentially to $67.3 million (AAD) in the longer-term.

Average annual damages - a representation of the damage/loss of coastal values, in monetary terms, averaged to an annual scale

Table 3. Annual expected damage ($ million) by hazard type - built assets only

	Short-term	*Medium-term*	*Long-term*
STORM-TIDE INUNDATION	$1.6	$4.1	$35.8
EROSION	$5.7	$16.0	$29.5
PERMANENT INUNDATION	$1.4	$2.0	$4.4

Storm-tide inundation is the region's main driver of increasing potential damages over time, with largest damages from exposed buildings and facilities. Erosion is also anticipated to have increasing impacts into the future.

Our assessment showed that the emerging risk profile from short to longer-term is not linear with a notable step-change for some hazards and asset types, particularly between medium and longer-term sea levels rise projections.

This indicates a good opportunity to undertake **adaptation** over coming decades, to mitigate the step-change before it occurs and avoid (or minimise) associated impacts.

What's coming up next

Values, uses and aspirations will continue to inform work in Our Coast, Our Future throughout Part B. This includes how options for adaptation to coastal hazards, adaptation pathways, and implementation of these actions are explored through **stage 5**, **stage 6** and **stage 7** for the VRC framework.

PART A

Stages 1 to 4

PART B

Which adaptation options and actions best protect what we value?

Stage 5: Adaptation actions and pathways

Is our implementation plan and its actions underpinned by our values?

Stage 6: Plan and implement

Are our monitoring and review processes capturing any impacts to our values?

Stage 7: Ongoing monitoring and review

Coastal Strategy development complete

Table 4. Embedding values and aspirations throughout the stages of developing Our Coast, Our Future.

The next stages of the Our Coast Our Future project will explore and develop the strategic adaptation responses, and associated adaptation actions and pathways, across the different subareas and townships of the Shire.

Using the outcomes of stages 1 to 4, including the risk assessment and the economic base case as well as range of more detailed assessments (coastal modelling and economic assessment) we will shape longer-term adaptation pathways and the **Coastal Hazard Adaptation and Resilience Plan (CHARP)** for the region. Stakeholder and community engagement will also guide this process.

How can I get involved?

To ensure you keep up to date with the *Our Coast Our Future* Coastal Strategy and upcoming events and activities:

Visit the project website
shape.mornpen.vic.gov.au/our-coast-our-future

On our page you can:

- Learn more about the project, coastal hazards and our coastal communities
- Sign up so you receive progress updates and notifications
- Read our latest project updates

Ask us a question – email our team at coastalplanning@mornpen.vic.gov.au

