

Coastal Hazards Policy

1. PURPOSE

To provide policy guidance to support Council decision making in planning and managing Coastal Hazard risk in line with the *Tasmanian State Coastal Policy 1996*.

2. OBJECTIVE

This Policy is designed to:

- **Recognise and protect coastal values**
Recognise the cultural, natural, recreational and amenity values of Clarence's coast and ensure these values are sustainably managed for the benefit of the broader community.
- **Acknowledge dynamic Coastal Processes**
Acknowledge that the coast is shaped by dynamic natural processes, including tides, waves, currents and sediment movement, and that these processes will continue to change over time.
- **Plan for future coastal change and hazards**
Ensure coastal planning and management account for existing and future Coastal Hazards, including erosion and inundation associated with sea level rise and increased storm intensity.
- **Support informed coastal use and development**
Guide decisions about access, use and development of the coast in a manner that avoids or minimises exposure to Coastal Hazards and reduces risks to public safety, infrastructure and coastal values.
- **Apply State coastal policy at the local level**
Support the implementation of the SCP by providing locally relevant guidance for the assessment and management of Coastal Hazards within the Clarence municipal area.



3. SCOPE

This Policy applies to the planning and management of land within the City of Clarence that falls within the Coastal Zone as defined by the SCP, where Council holds responsibility (i.e. land above the mean high-water mark, excluding State waters).

Examples of processes or situations that Council may use the Policy to support decision-making to manage Coastal Hazard risk include:

- long term strategic adaptation planning;
- long term land use planning;
- planning and management of Council owned and managed land and assets;
- proposals for use and development that do not require a planning permit;
- assessing requests for landowner consent under section 52 of the *Land Use Planning and Approvals Act 1993* where development would affect Council owned or managed coastal land.

This Policy does not apply to the assessments of land use and development proposals submitted under the Tasmanian Planning Scheme. However, it can provide guidance for Coastal Adaptation Planning concepts to support Council 's broader decision-making responsibilities in relation to Coastal Hazard risk.

4. DEFINITIONS

The following definitions apply to this Policy:

Adaptation Pathway	<p>means an iterative planning approach that maps a series of interlinked action pathways that allows the course of coastal planning and management to change at agreed decision points (triggers) in response to different future scenarios.</p> <p>An Adaptation Pathway identifies a range of adaptation actions, implemented sequentially or in coordination as a suite, and specifies the timing and triggers for adjusting or changing their implementation in response to evolving Coastal Hazard risks over time.</p> <p>Adaptation actions are typically informed by site-specific risk assessments, while also considering other influencing factors to determine the most appropriate Adaptation Pathway.</p>
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Coastal Erosion	means ¹ : a. erosion of the coastline by water, wind and general weather conditions (including storm events); or b. coastal recession, which is the long-term movement of the coastline due to sea level rise or long-term changes in sand movement.
Coastal Hazard	means a natural coastal process, such as erosion or inundation, that has an adverse impact on safety or coastal values and uses along the coast.
Coastal Inundation	means the risk of temporary or permanent inundation of land by the sea as a result of ² : a. storm surge (storm tide); b. tides; or c. sea level rise.
Coastal Processes	means the natural processes that occur within the marine and coastal environment over both short and long timescales. Examples include sediment transport, erosion, ocean swell, storm surge, currents, prevailing winds, sea-level change, and tidal movement. Together, these processes interact with coastal geology and drive the ongoing shifting and reshaping of the coastline.
Coastal Zone	means Tasmanian State waters and all land to a distance of one kilometre inland from the high-water mark ³ .
Council	means Clarence City Council.
Council Land	means land owned and / or managed by Clarence City Council, including public land within Council control. It excludes Crown land managed by the State or Federal governments or their agencies.
Crown Land	means public land owned by the Tasmanian Government and managed by various state government agencies. Crown Land leases and licenses can be granted by the state government to individuals, community organisations and

¹ Reflects coastal erosion definition provided in C10.0 Coastal Erosion Hazard Code of the Tasmanian Planning Scheme

² Reflects coastal inundation definition provided in C11.0 Coastal Inundation Hazard Code of the Tasmanian Planning Scheme

³ State Coastal Policy 1996

	<p>businesses to perform certain activities on Crown Land.</p> <p>The majority of coastal land in Tasmania is Crown Land and includes many coastal reserves and all land below the high water mark³. There are also some Crown reserves extending up to 30metres inland from the high-water mark.</p>
Land Use Planning and Approvals Act 1993 (LUPAA)	means the statewide framework for land use planning and development assessment, including the creation of planning schemes and processes for approving or regulating use and development of land.
Natural Buffer	means coastal ecosystems or landscape features that naturally absorb, dissipate, or reduce the impact of Coastal Processes. They can act as a protective barrier between developed land and Coastal Hazards, lessening the impacts of erosion and inundation. Examples include sand dunes, coastal wetlands and saltmarsh, seagrass beds, and reefs.
Nature-based Methods	means the creation or restoration of coastal habitats for hazard risk reduction ⁴ . Also referred to as 'nature-based coastal defence' or a 'living shoreline'. Typical habitats included in Nature-based Methods are beaches and dunes, saltmarshes, mangroves, seagrasses and kelp forests, coral and shellfish reefs, alone or in combination.
Policy	means this Policy
Risk	<p>means the combination of likelihood of occurrence of an event and the consequence if the event occurs⁵, where:</p> <ul style="list-style-type: none"> • <i>likelihood</i> is the probability / chance of a Coastal Hazard occurring, and • <i>consequence</i> is the impact / outcome of public safety and/or a coastal value or use being exposed to a Coastal Hazard.

⁴ Morris et al. 2021 The Australian Guide to Nature-Based Methods for Reducing Risk from Coastal Hazards

⁵ AS/NZS ISO 31000:2009 Risk management – Principles and guidelines

Significant Community Benefit	<p>for the purposes of this Policy, a Significant Community Benefit means a clear, demonstrable and enduring benefit to the broader community that contributes to the protection, maintenance or enhancement of public coastal values.</p> <p>A proposal will only be considered to demonstrate a Significant Community Benefit where all of the Policy Principles (Section 6 of the Policy.) are met.</p>
Significant Risk	<p>a risk that has been assessed in accordance with Council’s Risk Management Policy as High or Extreme.</p>
Tasmanian State Coastal Policy 1996 (“SCP”)	<p>means the statewide framework for the sustainable use, development and protection of Tasmania’s coastal areas, including requirements for the precautionary and risk-based management of Coastal Hazards, protection of Coastal Processes and values, and maintenance of public access.</p>

5. POLICY STATEMENT

Council is committed to managing its coast in a manner that protects public coastal values, recognises dynamic Coastal Processes, and addresses existing and future Coastal Hazards in accordance with the SCP.

Council will apply a precautionary and risk-based approach to coastal planning and decision-making, prioritising the protection of cultural, natural, recreational and amenity values, avoiding or minimising exposure to Coastal Hazards, and supporting proportionate and adaptive responses that do not increase long-term risk to the community, public infrastructure or coastal environments.

While mapped Coastal Hazard areas within the Tasmanian Planning Scheme may inform Council’s consideration of risk under this Policy, the application of this Policy is not limited to that mapping and may also be guided by the best available science, local assessments and site-specific information.

6. POLICY PRINCIPLES

In implementing this Policy, Council will be guided by the following principles:

- **Precautionary approach**

Where there is uncertainty about the nature or extent of Coastal Hazards, a

precautionary approach will be applied to avoid or minimise risk to people, public infrastructure, coastal values and future land use options.

- **Recognition of dynamic Coastal Processes**

Coastal planning and management will recognise that the coast is inherently dynamic and subject to ongoing change driven by natural processes, sea level rise and increased storm intensity.

- **Avoidance of increased Risk**

Actions, use and development on or near the coast should not increase exposure to Coastal Hazards, exacerbate erosion or inundation, or transfer Risk to other locations or future generations.

- **Protection of public coastal values**

Priority will be given to protecting public coastal values, amenity, landscape character, ecological values and cultural heritage.

- **Adaptation Pathways and proportional responses**

Coastal adaptation responses should be proportionate to the level of Risk, responsive to changing conditions over time, and, where practicable, support flexible or staged pathways rather than permanent or irreversible solutions.

- **Avoidance of maladaptation**

Adaptation measures should not create new or increased Risks, constrain future adaptation options, or result in unacceptable long-term impacts on Coastal Processes or adjacent land.

- **Significant community benefit**

Where works are proposed on Council Land or Crown Land, outcomes must deliver a clear Significant Community Benefit that outweighs any adverse impacts on coastal values, consistent with the objectives of this Policy.

- **Long-term and cumulative consideration**

Decisions will consider long-term impacts and the cumulative effects of multiple actions or developments on Coastal Processes, Coastal Hazards and public coastal values.

7. POLICY ELEMENTS

These Policy elements are to be used to guide decision making and program planning for long- and short-term management of Coastal Hazard Risk.

7.1. Natural Coastal Processes

- 7.1.1. Natural Coastal Processes, such as erosion and inundation, will be allowed to occur without intervention unless Significant Risk to public safety or local coastal values is demonstrated to the satisfaction of Council.
- 7.1.2. Development or protective works must, as far as practicable, avoid causing detrimental impacts on natural Coastal Processes and must demonstrate that alternative options are unsuitable or unfeasible.

7.2. Adaptation planning and management

- 7.2.1. Planning, assessing and managing Coastal Hazard Risk must follow State government guidance where available.
- 7.2.2. Coastal Hazard risk management and adaptation planning must:
 - a. Be conducted and implemented through engagement and collaboration with Aboriginal and Torres Strait Islander peoples, relevant levels of government, affected authorities and communities.
 - b. Be underpinned by place-based coastal values, including local ecological, cultural, social, and economic values.
 - c. Take a best practice, risk-based approach.
 - d. Use the best available science, knowledge and social, cultural and economic evidence as the basis for decision making.
 - e. Identify roles and responsibilities for those involved in adaptation planning.
 - f. Outline funding approaches for adaptation actions.
 - g. Ensure appropriate information is provided to enable participants to engage effectively in the process.
 - h. Take a pathways approach in planning and managing Coastal Hazard risk that:
 - i. Assesses the full range of adaptation actions, in order of: non-intervention, avoid, Nature-based Methods, soft engineering, transition or planned retreat, hard engineering (see Appendix 1 for practical guidance).
 - j. Is flexible and responsive and uses thresholds or trigger points to guide decision making (see Appendix 2 for practical guidance).

- k. Consider available local Coastal Hazard assessments and information, and state-wide hazard overlays when assessing Coastal Hazard risk.
 - l. Consider and plan for how Coastal Hazard risk will change over time, including in response to gradual sea level rise.
- 7.2.3. Coastal Hazard risk is embedded across all Council operations, including service delivery and infrastructure and asset lifecycle planning (e.g. consideration of Coastal Hazard risk in Council asset registers).
- 7.2.4. Planned adaptation or Coastal Hazard response works will be determined strategically using a risk-based approach, in partnership with affected parties.

7.3. Coastal Development

- 7.3.1. Avoid development in areas identified as at risk to current or future Coastal Hazards, including those from erosion and inundation impacts (both estuarine and coastal).
- 7.3.2. Development should not cause or exacerbate Coastal Hazards or require coastal protection works that cause or exacerbate Coastal Hazards.
- 7.3.3. Development should maintain or enhance the Natural Buffer role of coastal landforms and vegetation in mitigating risks from Coastal Processes and Coastal Hazards.
- 7.3.4. Ensure that the design, site, and maintenance of coastal-dependent public buildings and infrastructure that provide Significant Community Benefit are resilient to current and future Coastal Hazard risks.
- 7.3.5. Long-term land use planning should avoid rezoning that would increase the intensity of use or development within identified Coastal Hazard areas.
- 7.3.6. Requests for landowner consent related to Council Land under section 52 LUPAA will generally not be supported where the proposed development:
- a. Is solely for the protection of private property.
 - b. Places Council owned or managed coastal land at increased risk from Coastal Hazards.

7.4. Coastal Adaptation Plans

- 7.4.1. Council will develop Coastal Adaptation Plans for areas requiring long-term planning and management of Coastal Hazard risk.
- 7.4.2. Coastal Adaptation Plans will be developed in line with best practice (see Policy statements 2.1 – 2.7) and in accordance with the guidance set out in Appendix 3.
- 7.4.3. Approved Coastal Adaptation Plans will be available to the public and reviewed periodically.

7.5. Responsibilities

- 7.5.1. Council is responsible for the planning and management of Coastal Hazard risk on Council Land.
- 7.5.2. Council has a responsibility to advocate for the review and amendment of the planning scheme to reflect findings of key local Coastal Hazard assessments.
- 7.5.3. Council is not responsible for planning, managing, or covering the costs of Coastal Hazard risks or its impacts on:
 - a. State or federally managed assets and land.
 - b. Private property, or on private assets located on Council Land or Crown Land (including utility assets).
- 7.5.4. Council does not have a responsibility to manage Coastal Processes or Council Land for the primary purpose of protecting private property.
- 7.5.5. Council does not have a responsibility to maintain coastal protection works that are primarily for the protection of private property.
- 7.5.6. Private property owners are responsible for understanding their exposure to Coastal Hazard risks using available information and for managing risks to their property responsibly, in line with relevant policies and regulations.
- 7.5.7. Council will, where feasible, support individuals and organisations to understand risks to coastal values from Coastal Hazards through provision of suitable Coastal Hazard information.

8. RELATIONSHIP TO COUNCIL STRATEGIC PLAN

The following Strategic Outcomes in the Clarence City Council Strategic Plan 2025–2035 relate to this Policy:

- **1.1 Strategic Alignment**

Council plans and delivers in step with federal, state and regional frameworks, ensuring Clarence’s interests are represented and future development is well coordinated.

- **1.4 Effective policy and planning**

Council develops, delivers, and monitors policies, strategies and initiatives that are evidence-based, community-informed and aligned with Clarence’s long-term vision.

- **2.1 Responsible stewardship**

Environmental sustainability and climate adaptation guide decision-making, supported by partnerships and shared actions to support responsible resource use, circular economy principles, transparency, and long-term resilience.

9. RELATED DOCUMENTS

The legislation and documents listed below form the framework to give effect to this Policy.

Legislation (Acts, Regulations and By-Laws)

- *Land Use Planning and Approvals Act 1993*
- *State Policies and Projects Act 1993*
<https://www.legislation.tas.gov.au/view/html/inforce/current/act-1993-070>

Policy

- Tasmanian State Coastal Policy 1996

Specific policies that relate to Coastal Hazard risk include⁶:

- 1.4.1. Areas subject to Significant Risk from natural Coastal Processes and hazards such as flooding, storms, erosion, landslip, littoral drift, dune mobility and sea-level rise will be identified and managed to minimise the need for engineering or remediation works to protect land, property and human life.

⁶ At time of writing, proposed draft amendment 01-25 to the State Coastal Policy proposes to amend Outcome 1.4.1 and 1.4.2 and insert a new definition for the term ‘tolerable risk’ to allow consideration of appropriate development to occur on actively mobile landforms. In the event the proposed amendment passes, this policy shall be updated accordingly.

- 1.4.2. Development on actively mobile landforms such as frontal dunes will not be permitted except for works consistent with Outcome 1.4.1.
- 1.4.3. Policies will be developed to respond to the potential effects of climate change (including sea-level rise) on use and development in the Coastal Zone.
- Tasmanian Planning Scheme: a single statewide planning scheme with statewide provisions to deliver consistent land use and development planning controls across the state. Specific codes that relate to managing Coastal Hazard risk include:
 - C7.0 Natural Assets Code, including:
 - Its application to coastal protection areas and future coastal refugia areas
 - Definition of coastal values
 - C10.0 Coastal Erosion Hazard Code, including:
 - Coastal Erosion Hazard Bands 20161201 (available via the Land Information System Tasmania)
 - C11.0 Coastal Inundation Hazard Code, including:
 - Coastal Inundation Hazard Bands 20161201 (available via the Land Information System Tasmania)
 - CLA-Table C11.1 Coastal Inundation Hazard Bands AHD Levels.
- Tasmanian Planning Policies (effect 1 July 2026)
 - [About the Tasmanian planning policies | Planning in Tasmania](#)
- Council policy, plans, procedures, codes of practice and guidelines
 - Sustainability Strategy 2023-2033
 - Climate action
 - Adapting to a warmer climate objective: Continue to identify and implement climate change adaptation methods to address impacts on our coastline resulting from sea level rise.
 - Climate risk management objective: Enhance our risk assessment processes in relation to the warming climate.
 - Life on land

Natural environment objective: Protect natural assets such as reserves, bushland, coasts and saltmarshes within Council-managed land.

- Natural Areas Strategy 2024-2034
 - Climate change
 - Action 6.3a: Address climate hazards such as fire, water, sea-level rise and species vulnerability when undertaking strategic planning in natural areas.
 - Action 6.3b: Review provisions for assisting plants and animals in adapting to the warming climate (climate refuges and transition pathways) within Council's policies and planning scheme/overlays.
 - Action 6.4a: Prioritise coastal sites vulnerable to rising sea levels for the ongoing development of Coastal Management Plans [Coastal Adaptation Plans] as per Coastal Hazards Policy.
 - Action 6.4b: Continue shoreline monitoring program to inform appropriate planning and management of coastal areas.

10. APPENDIX

APPENDIX 1. ADAPTATION OPTIONS GUIDANCE

Strategic adaptation options should be considered in the order of:

1. Non-intervention
2. Avoid
3. Nature-based
4. Accommodate
5. Soft engineering solutions
6. Planned retreat or land transition
7. Hard engineering solutions

Further detail describing the adaptation options recommended in the Policy are included below in Table 1.

1. *Table 1. Descriptions of adaptation options, in order of consideration.*

Non-intervention	Non-intervention involves allowing marine and Coastal Processes, and the hazards they may pose, to occur. It may be chosen as an appropriate action in a number of circumstances, including when the hazard poses an acceptable level of risk to coastal values or uses, when intervention would cause unacceptable negative impacts, or when intervention would be ineffective or not cost-effective.
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<p>Avoid</p>	<p>Avoid is the most effective form of Coastal Hazard risk management and should be the preferred option where possible. This involves directing new uses, development and redevelopment away from areas currently or likely to be impacted by Coastal Hazards and considering the appropriateness of the use in relation to risk. For example, critical infrastructure such as hospitals or power facilities having much lower tolerance than temporary or easily relocatable uses. Avoid also supports natural systems by preventing development that would impede landward migration of habitat with sea level rise. In practice, this means identifying and designating future ‘no-build areas’, applying planning tools to restrict development in at-risk hazard zones, and ensuring new public and private assets are established in safer, low-risk locations, particularly in greenfield areas.</p>
<p>Nature-based Methods</p>	<p>Nature-based methods enhance coastal resilience by restoring or protecting natural features to mitigate hazard impacts while providing multiple co-benefits. These approaches can reduce Coastal Hazard risk through several mechanisms. Restoring native dune vegetation and building or maintaining dunes reduces erosion by stabilising sediments, trapping wind-blown sand, and maintaining sediment buffers that adapt to rising water levels and storm events. Wave attenuation occurs as vegetation and biogenic structures like saltmarshes and seagrasses dissipate wave energy through drag forces created by their underwater ‘canopies’. Depth-induced wave breaking by biogenic reefs, such as corals and shellfish, reduces incoming wave energy offshore, lessening impacts on the shoreline. These mechanisms can support ecosystem function and biodiversity, while providing multiple benefits including habitat provision, carbon sequestration, and recreation opportunities, while mitigating Coastal Hazard risk.</p>

<p>Accommodate</p>	<p>Accommodate allows continued use of land in hazard-prone areas by adopting risk-tolerant land uses, asset designs (new and retrofitted), and management practices that reduce exposure or minimise impacts. This approach accepts the presence of risk but seeks to render it tolerable through structural measures that ‘accommodate’ risk, such as elevated floor levels, raised electrical systems, or relocatable structures. Accommodation can improve resilience, support ongoing land use, and effectively “buy time” before more significant interventions are required.</p>
<p>Soft engineering</p>	<p>Soft engineering solutions are temporary approaches that aim to mitigate Coastal Hazard impacts, often by enhancing natural sediment dynamics for shoreline stability. Examples include beach renourishment, beach scraping, and the placement of biodegradable or movable dune fencing or coir logs to reduce erosion and protect sandy beaches. These approaches work with natural Coastal Processes, providing flexible, short- to medium-term protection while supporting recreational and amenity values. While less permanent than hard structures, soft engineering can be repeated or adjusted over time to respond to changing conditions and sea-level rise. Decision-makers or landholders may use them as interim strategies to delay shoreline recession while longer-term adaptation measures are considered.</p>

<p>Planned retreat or transition</p>	<p>Planned retreat or transition involves the proactive transition of land use, property, and assets away from areas at risk of Coastal Hazards, shifting higher-risk uses toward lower-risk purposes such as open space, recreation, or conservation. This approach reduces long-term exposure, preserves public access and coastal values, and enables natural processes, such as the landward migration of wetlands and dunes by maintaining undeveloped corridors. Retreat may include decommissioning, relocating, or abandoning assets once they reach trigger points, such as severe damage or end of functional life, while ensuring relocation avoids new hazards. Determining the timing of retreat / transition is a strategic and localised decision that needs to be planned for proactively. Over time, planned transition supports ecosystem resilience, allows dynamic Coastal Processes to occur with minimal impediment, and minimises the social and economic disruption of sudden or unmanaged retreat.</p>
<p>Hard engineering</p>	<p>Hard engineering solutions involve enhancing or constructing hard structures such as seawalls, groynes, breakwaters, or artificial headlands to safeguard land and assets from Coastal Hazard impacts. While hard protection can preserve strategically important assets and coastal values, it is typically expensive (especially in the long-term), provides only localised benefits, and often transfers impacts, such as beach loss or accelerated erosion, to adjacent areas. In particular, hard infrastructure commonly results in the narrowing or complete loss of beach in front of the structure due to reflective wave processes that scour sand away. As such, protection is generally considered an option of last resort and must be carefully planned to align with Coastal Processes, community values (e.g. maintain or enhance foreshore amenity), and the broader public interest.</p>

Adaptation actions are nested under the seven (7) adaptation options (see Table 2). These will have different levels of effectiveness, efficiency and consequences based on site circumstances. Options are not mutually exclusive, and a pathway approach will likely result in multiple options / actions being used over time.

2. *Table 2. Adaptation options and actions, in order of consideration and with example actions.*

Adaptation option	Question to assess option	Example actions
Non-intervention	Is non-intervention appropriate?	Planned non-intervention
Avoid	Can we continue to avoid the hazards?	Master plans Strategic planning Asset renewal plans away from hazard areas
Nature-based Methods	Can we pursue a nature-based approach?	Beach and dune protection / management / vegetation to build dune Salt marsh creation / restoration / management Seagrass meadow creation / restoration / management
Accommodate	Can we better accommodate the hazards?	Development setbacks Raised minimum floor levels Resilient materials / design in coastal infrastructure Road network upgrades
Soft engineering	Do we require a protect approach, yet can we avoid permanent hard infrastructure?	Localised beach scraping / dune nourishment Beach nourishment Sand bypassing systems Coir logs

Adaptation option	Question to assess option	Example actions
Planned retreat or transition	Can we retreat from the risk or transition to a resilient land use?	Land acquisition, swap or lease-back Planning scheme zone change Relocation of infrastructure
Hard engineering	Do we require a protect approach?	Seawall / revetment / Geobag wall Groynes Breakwater Flood / tidal barriers Artificial reef

APPENDIX 2. ADAPTATION PATHWAYS GUIDANCE

In Australia, a pathways approach to Coastal Hazard risk management and adaptation is increasingly embedded in national⁷ and state-level best practice⁸. This approach emphasises flexible, long-term planning that accommodates uncertainty and evolving conditions.

‘Pathways’ in relation to adaptation is an approach designed to schedule adaptation decision-making: it identifies the decisions that need to be taken now and those that may be taken in future, across different planning horizons. The approach supports strategic, flexible and structured decision-making. The pathways approach allows decision makers to plan for, prioritise and stagger investment in adaptation options. Trigger points and thresholds help them identify when to revisit decisions or actions.

Pathways identify a range of feasible actions – some implemented sequentially, others simultaneously as a coordinated suite. They also outline the timing and triggers for when actions may need to change or be scaled up.

Adaptation Pathways can be translated into visual aids or ‘road maps’ that can better support communication and consultation with stakeholders. An example Adaptation Pathway is shown in Figure 1 **Error! Reference source not found.** It includes the adaptation options considered for different time points into the future (from present to 2100) and the sequence and timing that each option may occur.

⁷What is a pathways approach to adaptation? (CoastAdapt, National Climate Change Adaptation Research Facility 2019)

⁸Victoria’s Resilient Coast: Adaptation Pathways Templates (BMT for Department of Energy, Environment and Climate Action 2023)

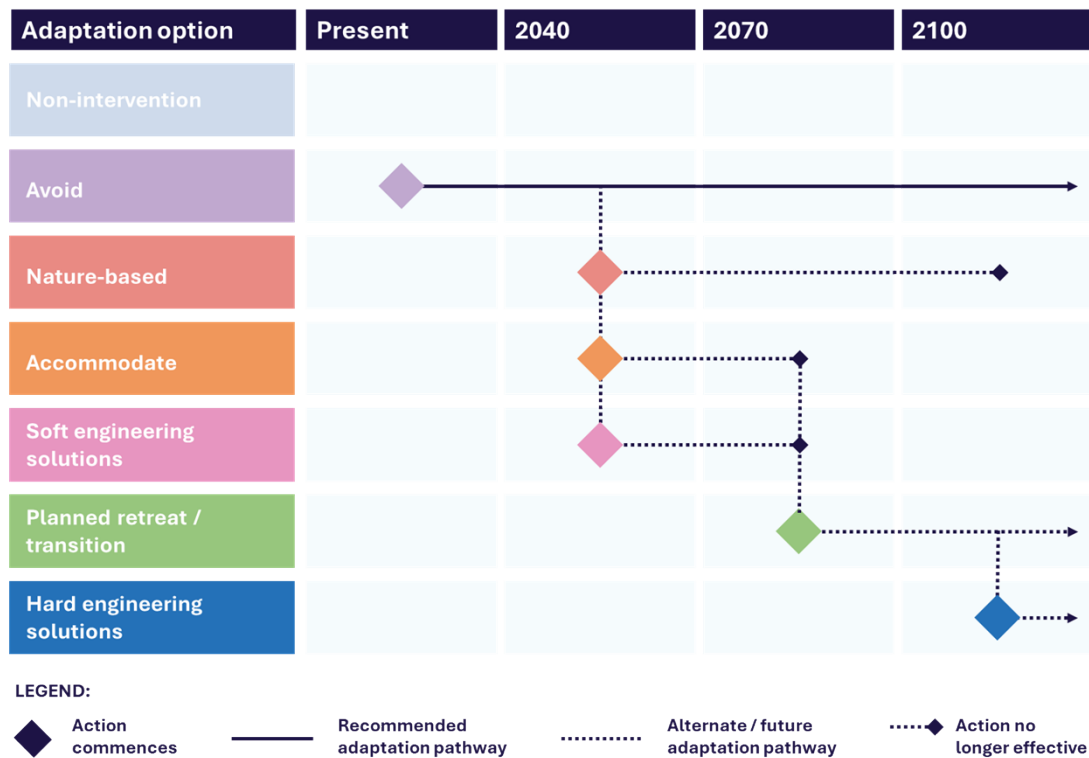


Figure 1. Example Adaptation Pathway, showing adaptation options for planning horizons from present to 2100. (adapted from BMT 2023).

Adaptation Pathways can be tailored to the context—ranging from simple, site-specific plans to more complex frameworks that consider diverse actions, details, and triggers for change.

Creating an Adaptation Pathway outline involves:

1. Setting up initial pathways template (e.g. as a table or diagram)
2. Confirming key information on current and emerging hazard risk (from a risk assessment of hazards to coastal values and uses)
3. Considering initial feasibility of adaptation actions in the context of known hazard risks and local coastal values and adaptation objectives
4. Considering all possible futures to ensure pathway enables transformational adaptation where applicable.

Foundation questions for building an Adaptation Pathway:

- For which hazards and risks?
- Where and for how long?
- What actions do we include?
- What would trigger a change?

A real-world example Adaptation Pathway is provided in Figure 2(following page).

This example includes four planning horizons, each associated with a year and sea level rise projected for that year (e.g. 2070 0.5 m SLR). For each planning horizon, the expected level of risk to a range of Coastal Hazards (e.g. erosion) is shown – these risk ratings are generally generated as results of a Coastal Hazard risk assessment.

Sitting underneath the risk ratings are the recommended adaptation actions (e.g. dune / vegetation enhancement) and the associated management tasks for each (e.g. assess, prepare) that constitute the Adaptation Pathway. Adaptation actions are grouped by their overarching adaptation option (e.g. avoid, nature-based) and are aligned to a planning horizon by the trigger point that denotes the start of their implementation.

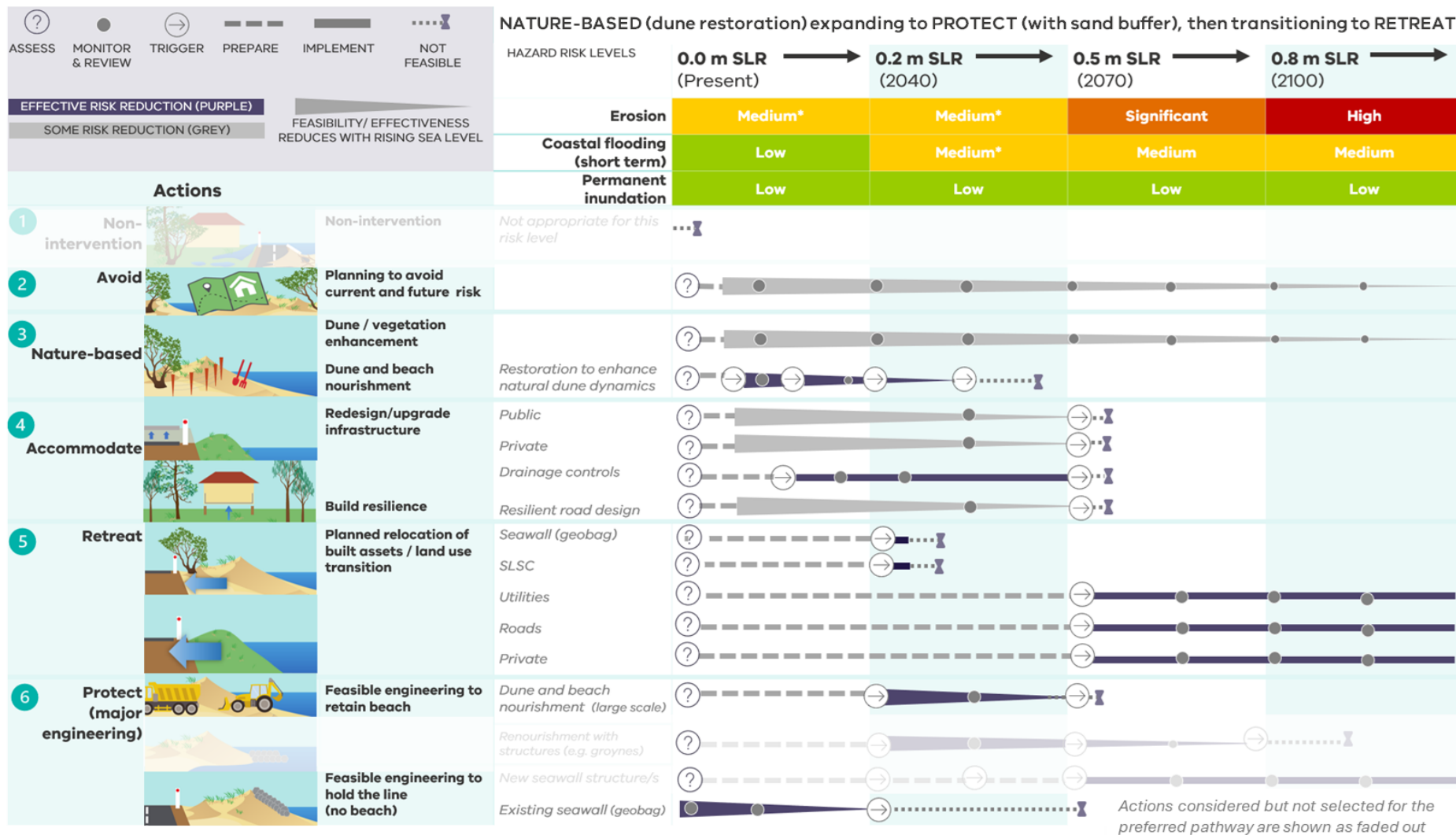


Figure 2. Example Adaptation Pathway, showing adaption options and actions and their trigger points, for planning horizons, and related Coastal Hazard risk ratings, from present to 2100 (Alluvium 2025).

APPENDIX 3. GUIDANCE FOR DEVELOPING AN ADAPTATION PLAN

This appendix is intended to give high-level guidance for developing a plan for Coastal Hazard adaptation by outlining key elements to be included within a plan. Content is informed by both Tasmanian and broader Australian best practice.

In Tasmania, the Regional Strategy for Adapting to a Changing Coastline in Tasmania (Southern Tasmanian Councils Authority 2022) guides Councils to employ a strategic approach to existing or potential hazards on the coast that threaten harm to public and natural assets, infrastructure, people or property. The output from the strategy’s approach is intended to be used to develop Coastal Hazard plans.

Across Australia, state-led adaptation planning across jurisdictions has evolved in the last decade to reflect certain shared key elements across the planning process and content (see **Error! Reference source not found.**)



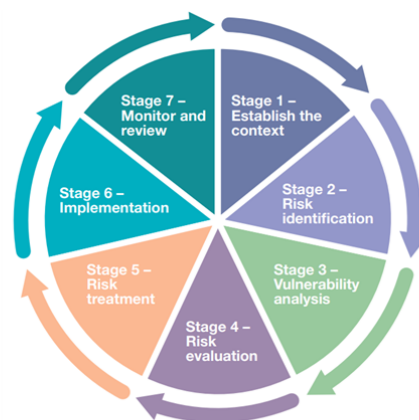
Developing a Coastal Hazard Adaptation Strategy: Minimum Standards and Guideline for Queensland Local Governments (LGAQ and DEHP 2016).



Victoria's Resilient Coast - Adapting for 2100+ framework and guidelines (DEECA 2023).



Coastal Hazard Adaptation Planning Guidelines (LGA South Australia 2025).









Coastal hazard risk management and adaptation planning guidelines (Western Australian Planning Commission and DPLH 2019).




Figure 3. Snapshot of Coastal Hazard risk adaptation planning approaches across Australian jurisdictions.


Table 3 provides key elements to be considered when planning for Coastal Hazard adaptation. To support the development of Coastal Adaptation Plans, each element is explored in detail and any suggested steps for undertaking key elements are included. Related statements from this policy are also included.

Table 3. Key elements of adaptation planning and related Policy statements.

Key elements in developing a Plan	Related Policy statements
 <p>Natural coastal and marine ecosystems considered foundational to outcomes</p>	<p>A plan should recognise that a healthy, dynamic and biodiverse marine and coastal environment is foundational to the coastal values that we are striving to safeguard through adaptation planning. Natural coastal and marine ecosystems produce the ecosystem goods and services that often comprise the environmental, social, cultural and economic values held by coastal communities.</p> <p><i>Related Policy statements:</i></p> <p>1.1 Natural Coastal Processes, such as erosion and inundation, will be allowed to occur without intervention unless Significant Risk to public safety or local values is demonstrated to the satisfaction of Council.</p> <p>1.2 Development or protective works must, as far as practicable, avoid causing detrimental impacts on natural Coastal Processes.</p>
 <p>Values basis underpinned by aspirations of Aboriginal and Torres Strait Islander peoples, stakeholders, and community aspirations to guide place-based decision making</p>	<p>A values-basis is essential to adaptation planning, as it enables the identification and definition of community and stakeholder coastal values (including those associated with coastal assets and uses). This process informs the assessment of consequences and the tolerability of risks arising from Coastal Hazards, as well as the evaluation of adaptation options and actions to ensure they appropriately protect these values. Importantly, it also supports the development of a shared vision and clear objectives for Coastal Hazard risk management and adaptation by recognising and integrating the local, place-based aspirations and coastal values held by all parties.</p> <p><i>Related Policy statements:</i></p> <p>2.2 Coastal Hazard risk management and adaptation planning must:</p> <ul style="list-style-type: none"> a. Be conducted and implemented through engagement and collaboration with Aboriginal and Torres Strait Islander peoples, the relevant levels of government, communities, and the authorities affected. b. Be underpinned by place-based coastal values, including local ecological, cultural, social, and economic values.

Key elements in developing a Plan	Related Policy statements
 <p>An initial scoping stage to plan what information / data is available</p>  <p>Clarity of the spatial extent and manager responsibilities for Coastal Hazard management</p>	<p>d. Use the best available science and social, cultural and economic evidence as the basis for decision making.</p> <hr/> <p>Investing time in scoping and preparing for the adaptation planning process provides clarity and confidence in what information and data is required and what methods may be suitable. This includes having clarity of the spatial extent and manager responsibilities. It also helps manage expectations regarding the resources, timeframes, data, and stakeholder input needed to deliver each stage effectively.</p> <p>Key steps include:</p> <ol style="list-style-type: none"> 3. Defining the study area 4. Selecting an appropriate governance model for involved parties 5. Establishing a collaborative process 6. Scoping the work required 7. Completing a detailed Project Plan. <p><i>Related Policy statements:</i> See Policy statements under 'Responsibilities'.</p>
 <p>Local Coastal Processes and hazards explored</p>	<p>A clear understanding of local Coastal Processes, including how the coast functions and is changing, builds confidence in hazard understanding and strengthens the rationale for adaptation decisions. This includes analysing the geomorphic setting and examining Coastal Processes and the history and drivers of change. Quantifying the projected extent of Coastal Hazards for the study area establishes a robust technical foundation for adaptation planning. This includes defining hazard scenarios for adaptation planning (ideally including multiple event likelihoods for each planning horizon) and hazard exposure mapping for each hazard scenario.</p> <p><i>Related Policy statements:</i></p> <ol style="list-style-type: none"> 2.6 Consider available local Coastal Hazard assessments and information, and state-wide hazard overlays when assessing Coastal Hazard risk. 2.7 Consider and plan for how Coastal Hazard risk will change over time, including in response to gradual sea level rise.
 <p>A risk assessment process to evaluate</p>	<p>A tailored risk assessment informs adaptation by identifying hot spots and priority areas and providing a basis for strategic adaptation actions and action timing. It can confirm the level of risk and vulnerability of coastal assets and values, whether directly or indirectly affected, both now and into the future. An understanding of coastal risk and vulnerability supports informed decisions about where adaptation actions are</p>

Key elements in developing a Plan	Related Policy statements
<p>qualitative or quantitative risk to coastal values</p>  <p>A risk assessment process to evaluate the qualitative or quantitative risk to coastal values (cont.)</p>	<p>required immediately and where they may be needed over time.</p> <p>Key steps include:</p> <ol style="list-style-type: none"> 1. Collating information on coastal assets and values (this is often spatial information) 2. Undertaking a risk assessment that considers both the likelihood of Coastal Hazards occurring and the potential consequences 3. Identifying priority areas at risk that require adaptation. <p><i>Related Policy statements:</i></p> <p>2.2 Coastal Hazard risk management and adaptation planning should:</p> <ol style="list-style-type: none"> c. Take a best practice risk-based approach. <p>2.4 Coastal Hazard risk is integrated into Council infrastructure and asset lifecycle planning (e.g. consideration of Coastal Hazard risk in Council asset registers).</p> <p>2.5 Planned adaptation or Coastal Hazard response works will be determined strategically using a risk-based approach, in partnership with affected parties.</p>
 <p>Adaptation option hierarchy that places Nature-based Methods ahead of 'protect' options, and considers 'retreat' before 'protect'</p>	<p>See Appendix 1.</p> <p><i>Related Policy statements:</i></p> <p>2.3 Take a pathways approach in planning and managing Coastal Hazard risk that:</p> <ol style="list-style-type: none"> a. Assesses the full range of adaptation actions, in order of: non-intervention, avoid, Nature-based Methods, soft engineering, transition or planned retreat, hard engineering.
 <p>Adaptive approach through iterative Adaptation Pathways</p>	<p>See Appendix 2.</p> <p><i>Related Policy statements:</i></p> <p>2.3 Take a pathways approach in planning and managing Coastal Hazard risk that:</p> <ol style="list-style-type: none"> b. Is flexible and responsive and uses thresholds or trigger points to guide decision making.

Key elements in developing a Plan	Related Policy statements
 <p>Plan for implementation: prioritise actions, funding options, roles and responsibilities</p> <p>★★☆</p> <p>An ongoing monitoring and review process</p>	<p>Taking action to implement adaptation actions can be challenging. Spending time developing an implementation plan that includes prioritisation, funding, roles/responsibilities, and a monitoring and review process can help integrate coastal adaptation practices into everyday business planning and operations.</p> <p>Key steps for writing an implementation plan include:</p> <ol style="list-style-type: none"> 1. Prioritising actions to implement within and across multiple Adaptation Pathways 2. Detailing funding actions e.g. funding sources, cost triggers for a change in approach, co-investment arrangements⁹ 3. Designating roles and responsibilities for actions 4. Establishing a monitoring, evaluation, and reporting process to ensure management remains adaptive and responsive through time and as Coastal Hazard impacts change. This includes associated costs, timing, frequency, and responsibilities. <p><i>Related Policy statements:</i></p> <p>2.2 Coastal Hazard risk management and adaptation planning should:</p> <ol style="list-style-type: none"> e. Identify roles and responsibilities for those involved in adaptation planning. f. Outline funding approaches for adaptation actions. <p>2.8 Monitor historical and ongoing shoreline change to support the identification and prioritisation of areas for adaptation planning.</p>

11. ADMINISTRATIVE ARRANGEMENTS

⁹ Co-investment arrangements could potentially be explored in the renewal, major repair, replacement, removal, and new investment of natural and built assets associated with managing coastal hazard risk. Partner co-investment contributions should aim to be proportionate to the benefit a partner gains from mitigation of coastal hazard risk and their capacity to contribute.

Approvals

Council		Minute (Reference)	
CEO			
Review period	Minimum every 3 years		
Date 1		Date 2	
Group Head	Head of Infrastructure and Natural Assets	ECM Reference	5746128

Table of amendments

No.	Date		Brief Details