

# KINGSTON DISTRICT COUNCIL FACT SHEET 2 COASTAL ADAPTATION STRATEGY (CAS) SUMMARY



## Background

Council has faced significant coastal challenges, particularly in relation to erosion and sand/seagrass accumulation over the past few years.

Council acknowledges that coastal management challenges, as well as inundation risks, will only increase into the future and require a well-informed, planned approach for effective and responsible coastal management for future generations.



Photo: Swell and high tides at Wyomi Beach (Aug 2019)

With \$27,500 in funding support from the Coast Protection Board in 2019/20, Council engaged Wavelength Consulting Pty Ltd to develop a Coastal Adaptation Strategy (CAS) for the area.

Council released a fact sheet on the 'Coastal Adaptation Strategy' in January 2020, which considered the proposed approach of the strategy which incorporates the coastline from Cape Jaffa to Blackford Drain.

The final draft CAS is now complete and summarised in this fact sheet.

## Community knowledge

In February 2020, Wavelength held one-on-one sessions to understand important knowledge and history held by members within our community. This was undertaken in conjunction with the Maria Creek Sustainable Infrastructure Project, with written and

verbal submissions also received outside of the sessions.

This community engagement assisted in the acceptability guidelines used by Wavelength when considering future pathways. An overview is provided on page 32 of the CAS.

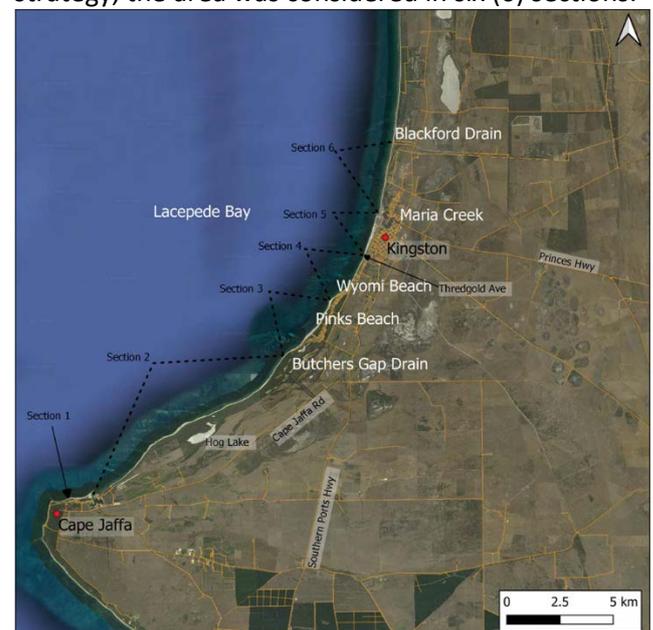
## What was involved?

Our coastline is extremely important to our community for recreation, tourism and nature values. The CAS has been developed to assess and recommend specific priority adaptation pathways, taking into account economic, environmental and community considerations.

The strategy incorporated the following key components to assess future pathways:

- Inundation and erosion maps based on projected sea level rise (in year 2020, 2050 and 2100);
- Identification of public and private assets at risk;
- Assessment of viable pathways using multi criteria;
- Recommended pathways forward with indicative costs; and
- Specific monitoring measures to inform future triggers for action.

For ease of assessment and reference throughout the strategy, the area was considered in six (6) sections:



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#### Coastal Processes and Inundation

The initial assessment of the area identified that the shoreline two sections of coastline between Cape Jaffa to Blackford Drain has been increasingly subject to erosion in recent years, east of Cape Jaffa Anchorage and Wyomi Beach.

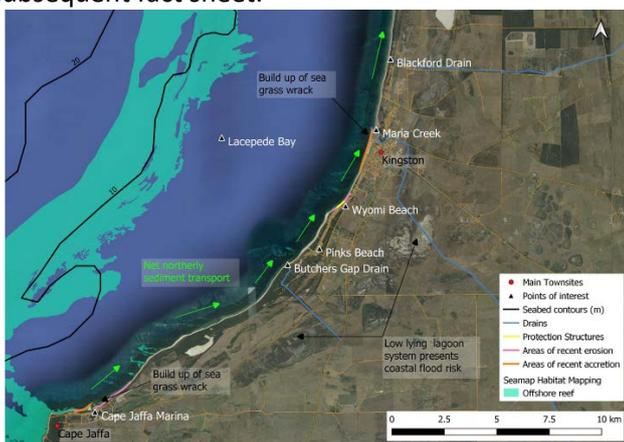
This erosion has been exacerbated in recent years by a number of storm events. In particular, the storm events in July 2016 had severe erosion impacts at Wyomi Beach, prompting the construction of a rock seawall in this area and installation of additional sandbag seawalls.

At Cape Jaffa, the construction of the marina has disrupted the longshore sediment transport resulting in accelerated erosion downdrift, as is generally experienced with breakwater construction.

In addition, coastal flooding presents an increasing potential hazard for the extensive low-lying areas adjacent to the Butchers Creek Drain, Maria Creek and Blackford Drain. Future increases in sea level could see extensive coastal flooding of private and Council assets in these areas.

The coastal assets, public land and infrastructure along the coast between Cape Jaffa and Blackford Drain are exposed to increasing coastal risks. At this time, limited protection measures have been put in place and have mainly been focussed around the Wyomi area.

Detail on coastal processes is contained within the CAS (example below) and will also be available in a subsequent fact sheet.



#### What is at risk?

The assessment has identified the following assets to be at high to very high risk (for either erosion or flooding):

##### 2020

- Crown land at east of Cape Jaffa breakwaters including dune vegetation;
- Unsealed road at Cape Jaffa (One and All Drive);
- Wyomi beach (existing sandbags and walking path) and dune vegetation.

##### 2050

- Four (4) properties on Cape Jaffa Road;
- Eight (8) properties on One and All Drive;
- Additional Crown land at Cape Jaffa;
- Additional area adjacent to Wyomi beach rock wall;
- Kingston jetty access track (erosion);
- Apex Park (including playground and toilets) (flooding);
- Foreshore vegetation communities (erosion).

##### 2100

- A number of private properties and reserve land at Cape Jaffa (erosion);
- Cape Jaffa jetty carpark (erosion);
- A number of sealed and unsealed roads in Wyomi and Pinks Beach (erosion and/or flooding);
- A number of private properties along Marine Parade and in Wyomi/Pinks Beach/Sandy Grove areas (flooding);
- CWMS pump stations/lines and CWMS wastewater treatment plant (erosion and/or flooding);
- The Lacepede Bay Sailing Club (erosion);
- Waste Transfer Station (flooding);
- Princes Highway (flooding);
- A number of sealed and unsealed roads in town centre and Rosetown (flooding);
- A large number of private properties throughout Kingston and Rosetown (flooding);
- Airport infrastructure (flooding).
- Foreshore vegetation communities (erosion).

The assets at short (2020), medium (2050) and long term (2100) risk are detailed in the full strategy.

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Whilst this list may be concerning, it is important to understand that some of these risks are already recognised (such as flooding in low lying areas or adjacent to drains) and may already be accommodated (such as planning controls e.g. increased floor levels or raised drain levees).

These assets and risks are also dependent on predicted sea level rise as detailed in the strategy. Erosion mapping and flood mapping is contained within the CAS (example below) and will be available in a subsequent fact sheet for ease of reference.



### What can be done to reduce the risk in the future?

The strategy considered a number of adaptation options assessed against key criteria, including long term effectiveness, social, environmental and economic outcomes. When considering adaptation options, there are five (5) main pathways which are broadly considered as:

- **Retreat** - abandon and/or relocate;
- **Accommodate** - maintain and increase remediation;
- **Defend** - hard or soft protection options;
- **Defer** - assess but defer any action;
- **Do Nothing** - accept loss and no actions taken.

Further detail on each of these adaptation options is provided in section 7 of the CAS. These form the basis of the first pass assessment, and the detailed multi criteria assessment for assets at risk. The first pass assessment of options for each section is provided at Appendix D of the CAS.

For each 'asset at risk' in any section, there are a number of adaptation options presented, with each pathway to be further assessed and determined at the appropriate time ('trigger').

It is important to acknowledge that the CAS provides options for future adaptation pathways, with the community not locked into any specific approach. The CAS is starting the conversation and awareness for future planning. Where an option is not acceptable to the community, the alternate options provided can be considered further.

As the area considered most at risk, a key recommendation of this study is to further test a managed retreat pathway against a staged defend approach for the Wyomi area. This would include:

- Financial analysis to understand costs associated with land buy backs and other public infrastructure;
- Liability and responsibility considerations;
- Targeted community engagement with landowners;
- Refinement of defend pathway, including costs, design and staging of seawall lengths.

An application to the Coast Protection Board has been lodged to further progress this next stage of assessment for the Wyomi pathway. Whilst it is acknowledged a managed retreat pathway may not be acceptable to the community, this detailed assessment will provide the analysis and support for a justifiable and defensible pathway moving forward.

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#### What can we do right now?

There are a number of items that can be implemented immediately and/or require priority actions. These include:

- Ongoing monitoring including cross shore profiles, coastal hazard mapping, condition assessment of marine infrastructure;
- Dune rehabilitation and revegetation with reduced established beach access points;
- Improvements to land use planning and development controls;
- Increase community awareness and storm preparedness support;
- Upgrade and repair works for breakwaters at Cape Jaffa;
- Progression of a preferred pathway for Maria Creek (through Maria Creek Sustainable Infrastructure Project);
- Sand nourishment at Wyomi to be continued until preferred adaptation pathway is determined;
- Progress a detailed assessment of defend v retreat pathway for Wyomi; and
- By-passing activities at Cape Jaffa to be continued (minimum of 47,000m<sup>3</sup> per year).

The recommended actions are provided in detail in the CAS for short/immediate, medium and longer term.

The actions and triggers will need to be incorporated into Council's strategic planning (long term financial plan, asset management plan and community plan) to ensure its successful implementation over time.



Photo: Revegetation project at Wyomi (May 2020)

#### What are the next steps?

The Coastal Adaptation Strategy was considered at the Council meeting of 20 October 2020 for community release.

The full Strategy can be accessed via Council's website, or by contacting the Council office to request a printed copy. Community members are able to submit comments, or questions for clarification in response to the CAS. These can be submitted via our website or at the Council office until Monday 30 November 2020.

Once this feedback has been received, a final and/or revised strategy will be tabled for Council adoption. The key actions will then be incorporated in Council's strategic plans, with priority actions implemented where possible.

As mentioned above, the CAS is providing guidance and actionable triggers to assist Council in its future planning. It is not committing to any particular pathway, there will be ongoing engagement with the community as triggers are realised and pathways are further determined.

The coastal management challenges we are likely to face over the next 80 years are significant, as are the associated costs to effectively manage these risks. With limited rate revenue and limited borrowing capacity, as well as conflicting coastal management responsibilities, Council and the community will need to carefully consider its future actions for broader coastline management.

To assist the community to further understand and interpret some of the more technical components contained within the strategy, a series of fact sheets and FAQ will be made available via Council's website.

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