

Stevenston Beach Coastal Study

Board 1 - Overview

North Ayrshire Council has undertaken a study considering how the Stevenston Beach area has changed and is likely to change in the future.

The study recognises the importance of the area in terms of:

- **Its essential recreational and amenity value**
- **Alongside, its ecological importance, recognised by its partial designation as a Local Nature Reserve**



Coastal Change

The shoreline has in the past significantly changed and continues to change in response to storms, with areas of natural erosion. In the future, the rate of change will increase with climate change, in particular with sea level rise.

The way in which we use and manage the coast also imposes changes:

- From the very basic pressure imposed by people walking through the dunes, damaging the vegetation and allowing wind-blown sand erosion
- To the way in which intervention or imposing hard structures have and can alter the development of the shoreline and may shift the balance of erosion and accretion.



This Consultation

Understanding this ongoing process of change frames the discussion as to how we can respond to change and adapt the way in which we use and manage the coast. **This consultation aims to raise the awareness within the community and with individuals of the challenges being faced by coastal change.**



The underlying principle for management is to allow the coast to develop naturally.

Locally, however, there are issues where some form of intervention might be necessary.

In other areas local intervention might be an aspiration but might still not be deliverable due to funding constraints.

Any sustainable approach to management has to be developed in open discussion with the residents, the community and other stakeholders. The aim of this consultation is to initiate this discussion and allow people to express their views.

Stevenston Beach Coastal Study

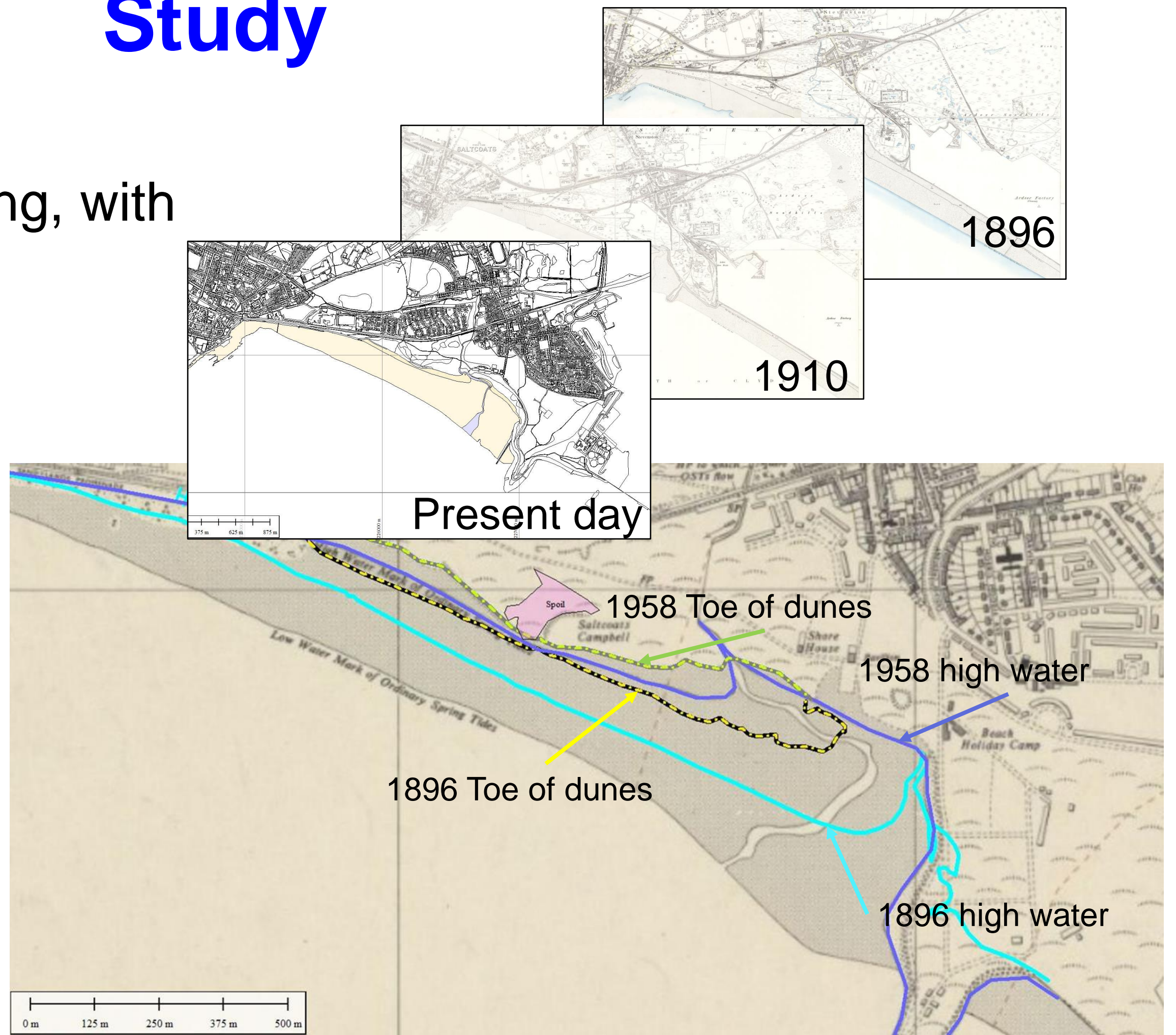
Board 2 - Coastal Change

Historic Change

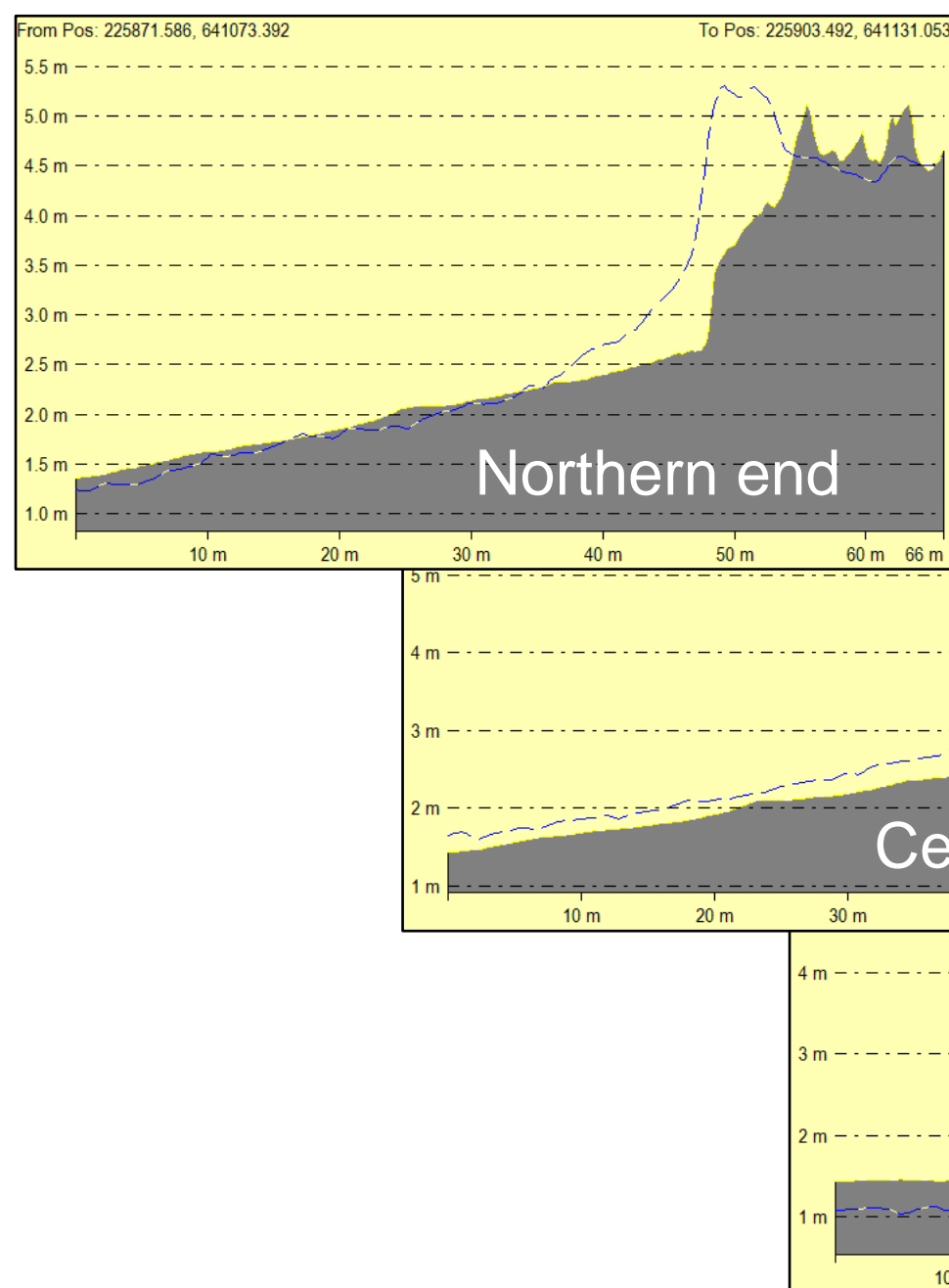
Historically the frontage has been eroding, with progressive retreat of the dunes

- Most notably over the northern and central areas but less so over the southern area in the lee of Stevenston Point
- The old spoil heap become exposed in the 1950s and has eroded more slowly forming a slight headland

More recently major change has occurred in the area of the northern slipway and around the outfall to the Stevenston Burn.



Recent Change



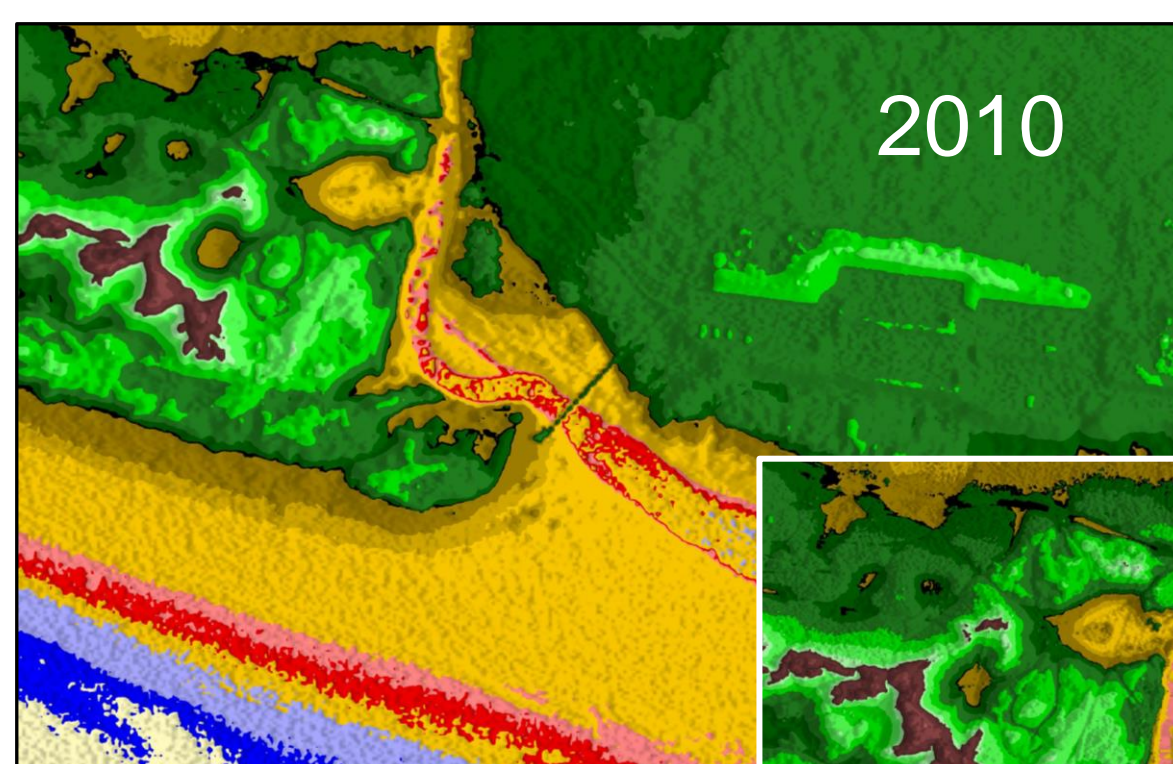
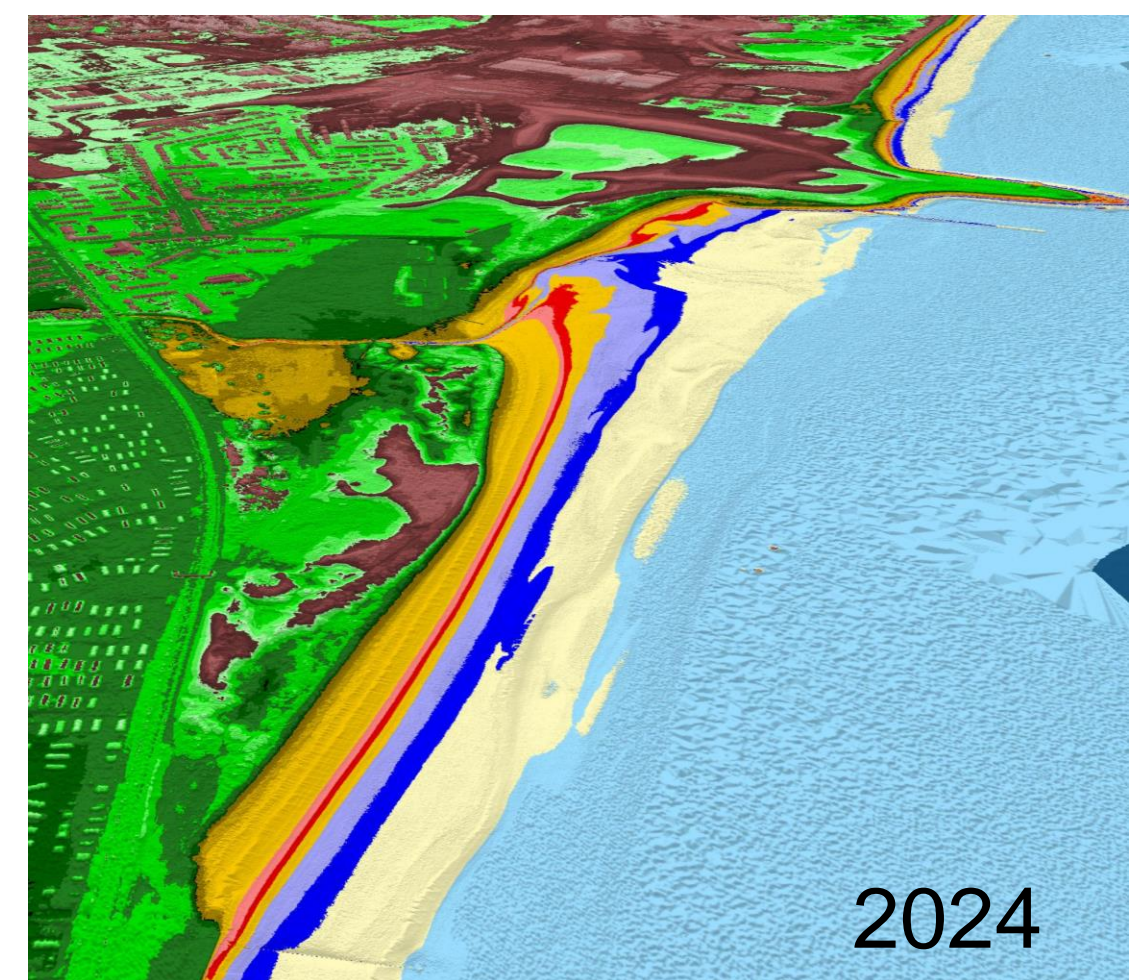
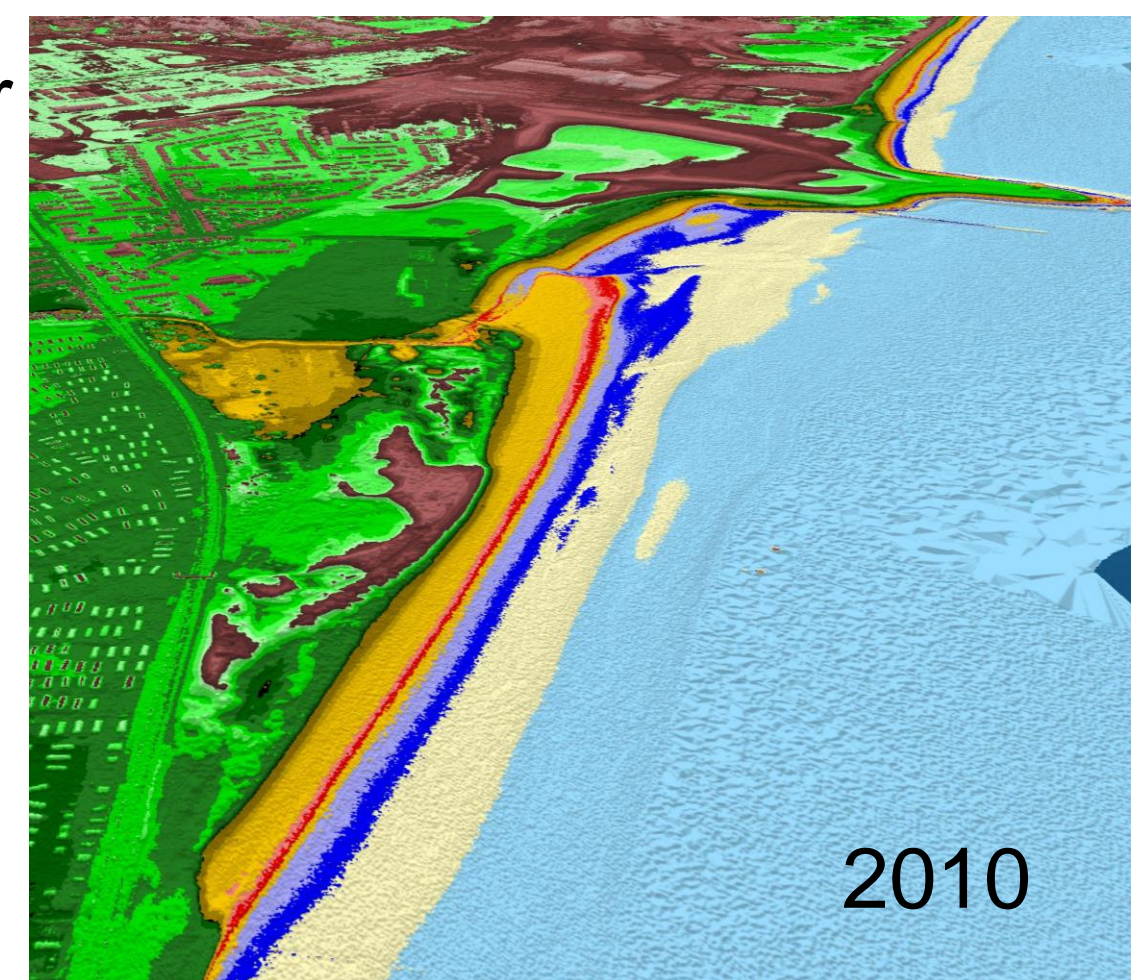
Cross sections at the northern end by the slipway, over the central dune spit and along the southern beach.

Change between 2010 and 2024

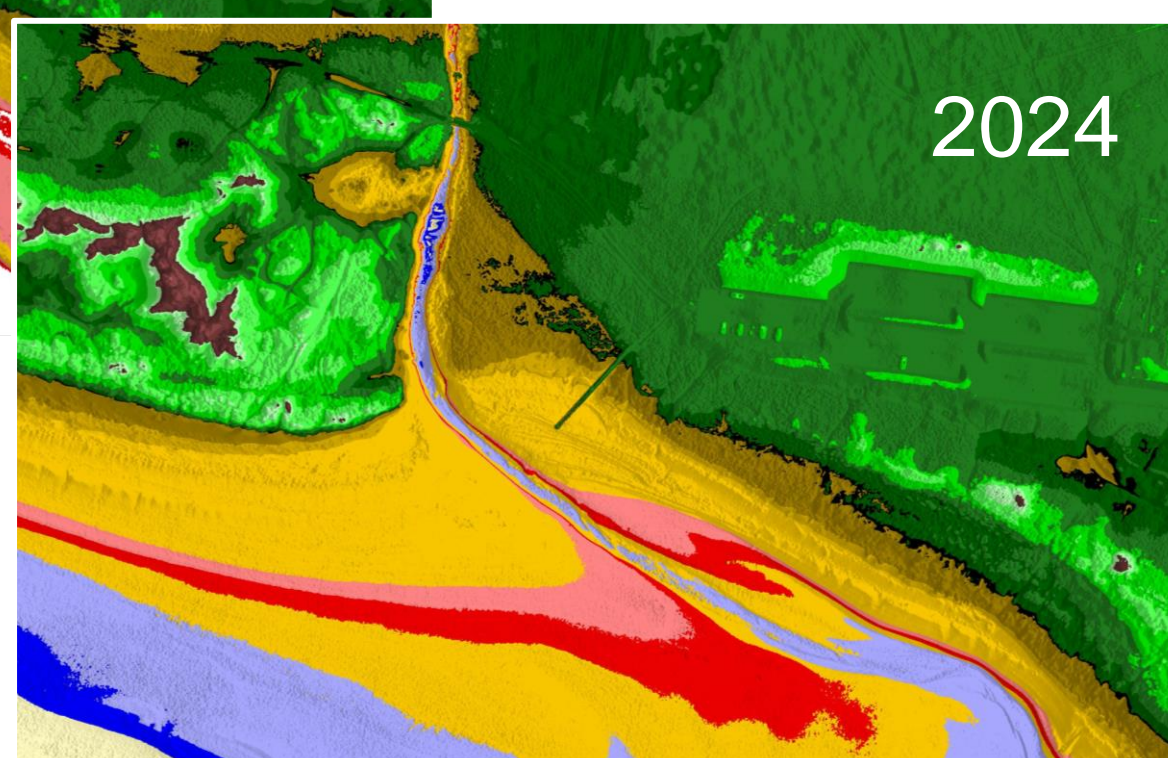
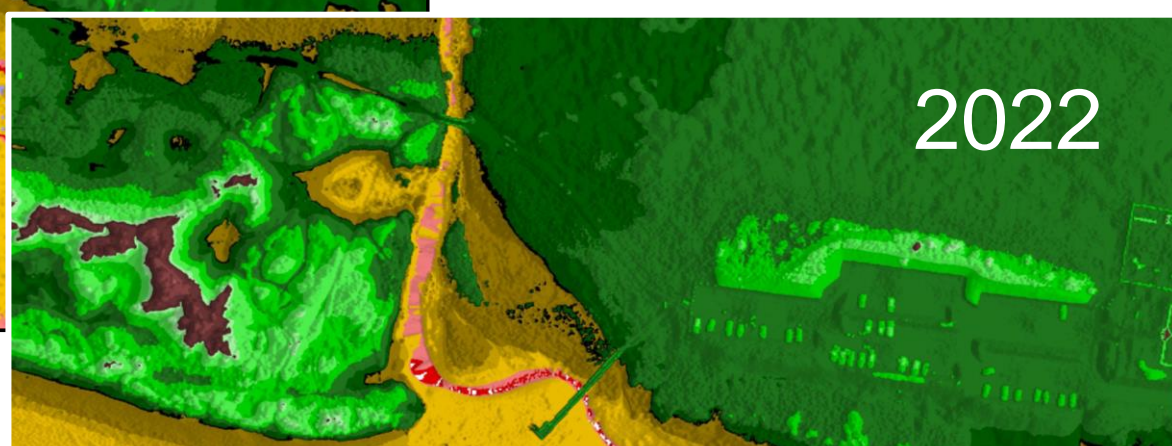
Northern end – 7m erosion

Central dune spit – 5m erosion

The Southern beach shows little change with some areas of foredune growth.



Change to the head of the dune spit and the alignment of the Stevenston Burn channel



A pattern of ongoing change and erosion, with significant variation following storm events.

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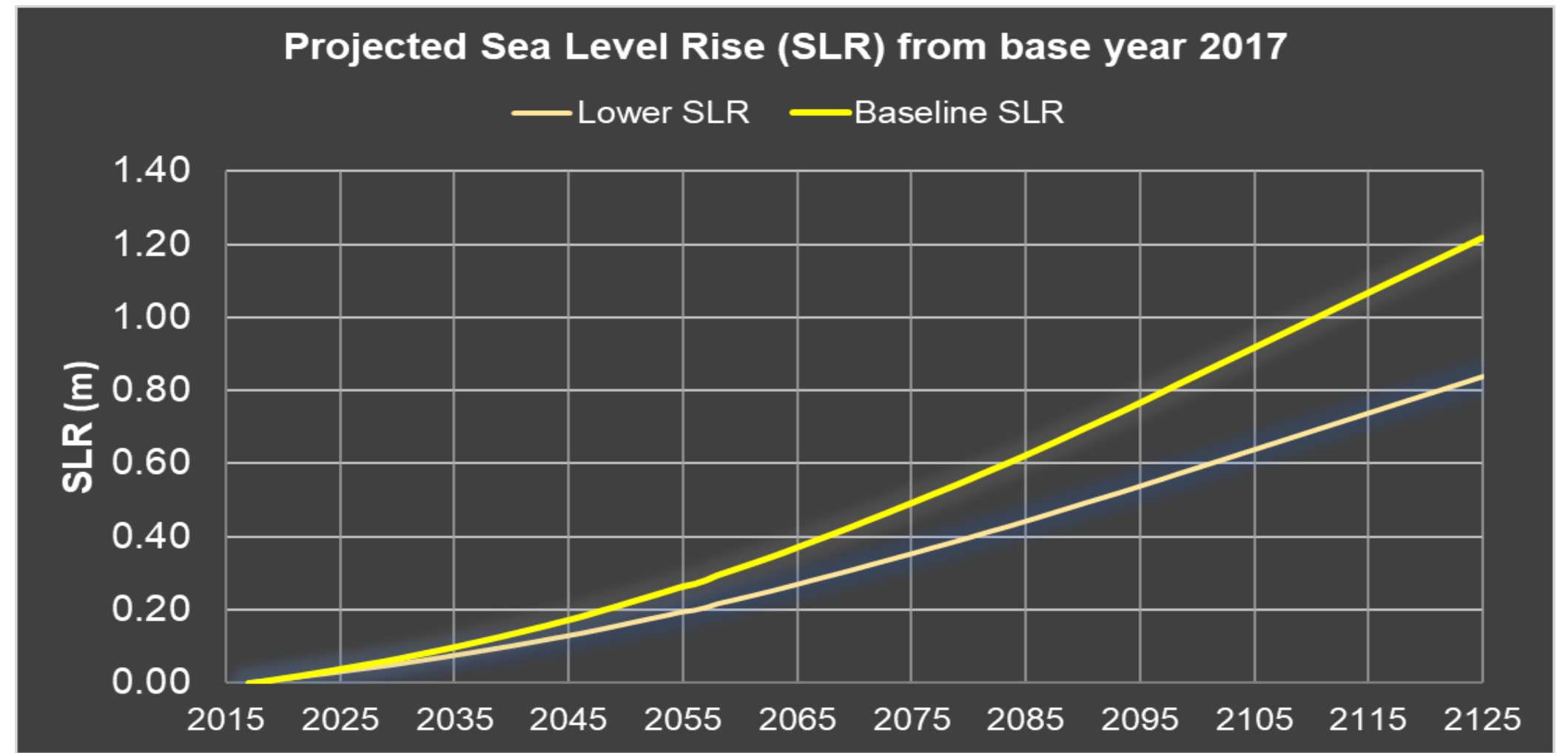
Board 3 - Coastal Change

Sea level rise (SLR)

The most significant influence of climate change on the coast will be sea level rise.

Relative to the baseline taken as 2017, sea level may realistically be expected to rise by:

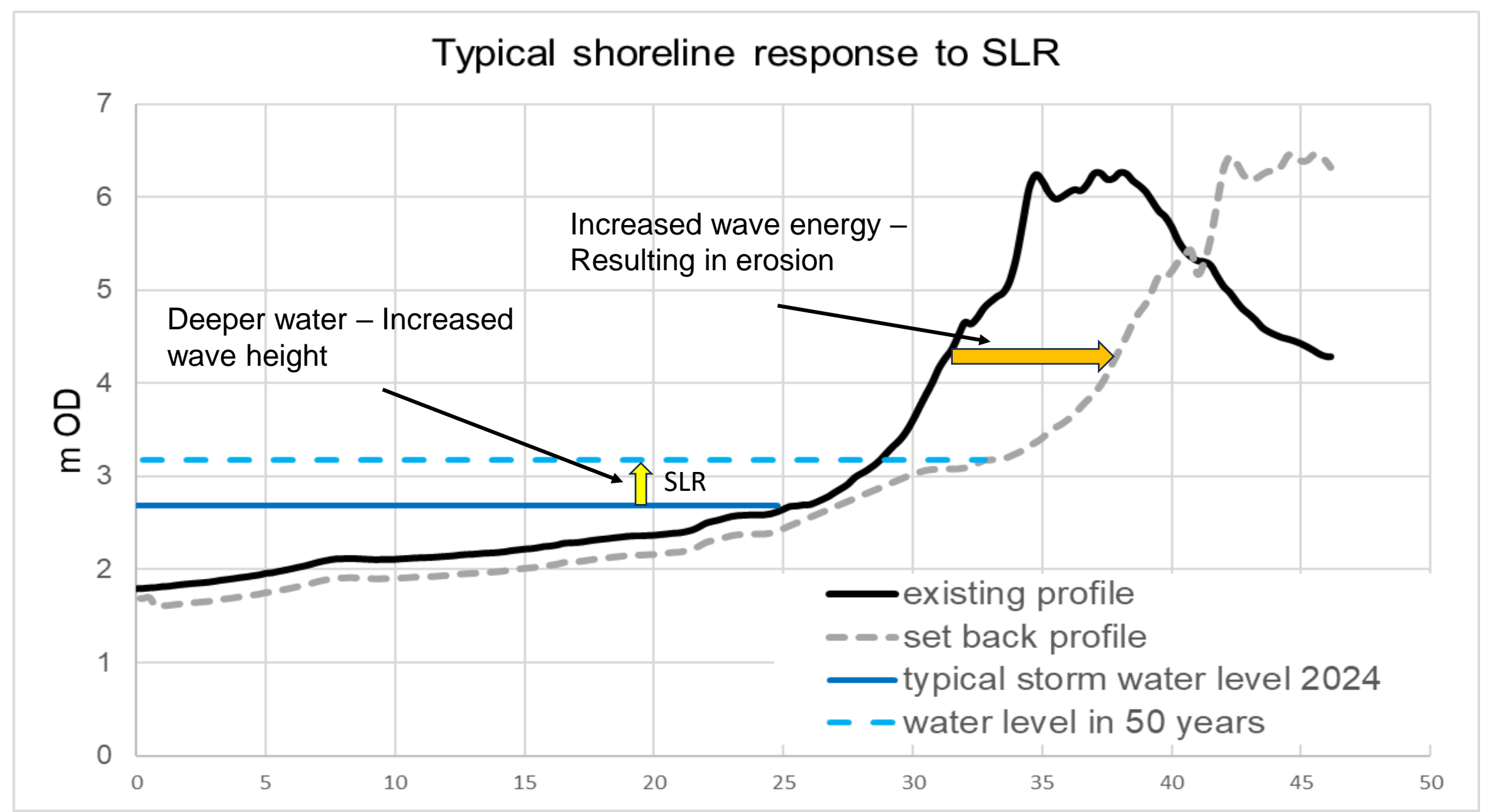
- **0.2m within 20 years**
- **0.5m over 50 years, and potentially by**
- **1.2m over 100 years**



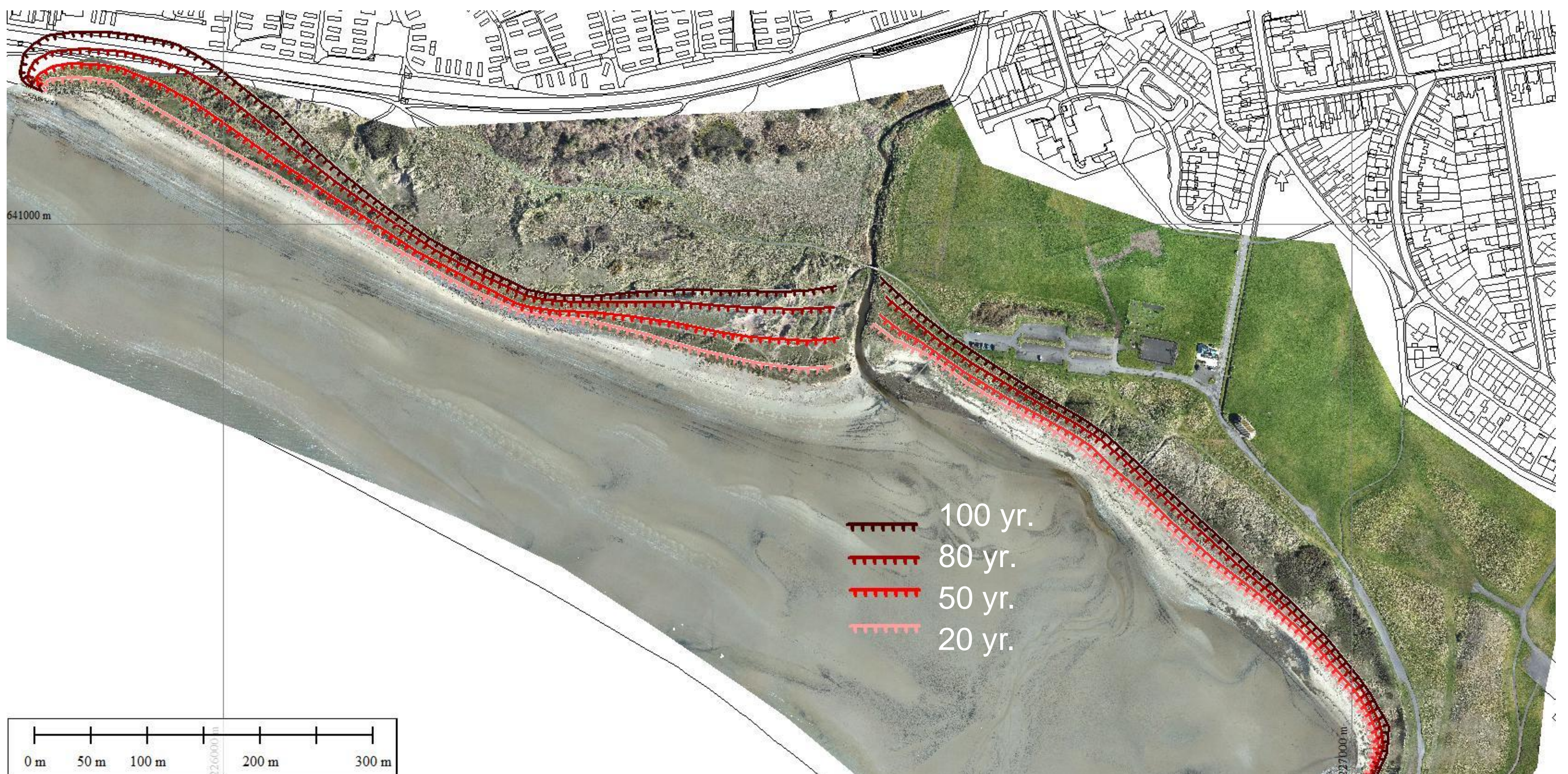
Why is this significant?

With increased water levels there will be increased wave energy at the dune line.

The shoreline will attempt to retreat or set back, with increased rates of erosion.



Projected future erosion with SLR



Major infrastructure is at risk at northern end of the frontage but more generally the pattern of erosion impacts on the use and natural function of the dunes.

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Board 4 - Management Issues

Context

The Ayrshire Shoreline Management Plan (RPS, 2018) provides sustainable shoreline management policies for the Ayrshire frontage across three epochs.

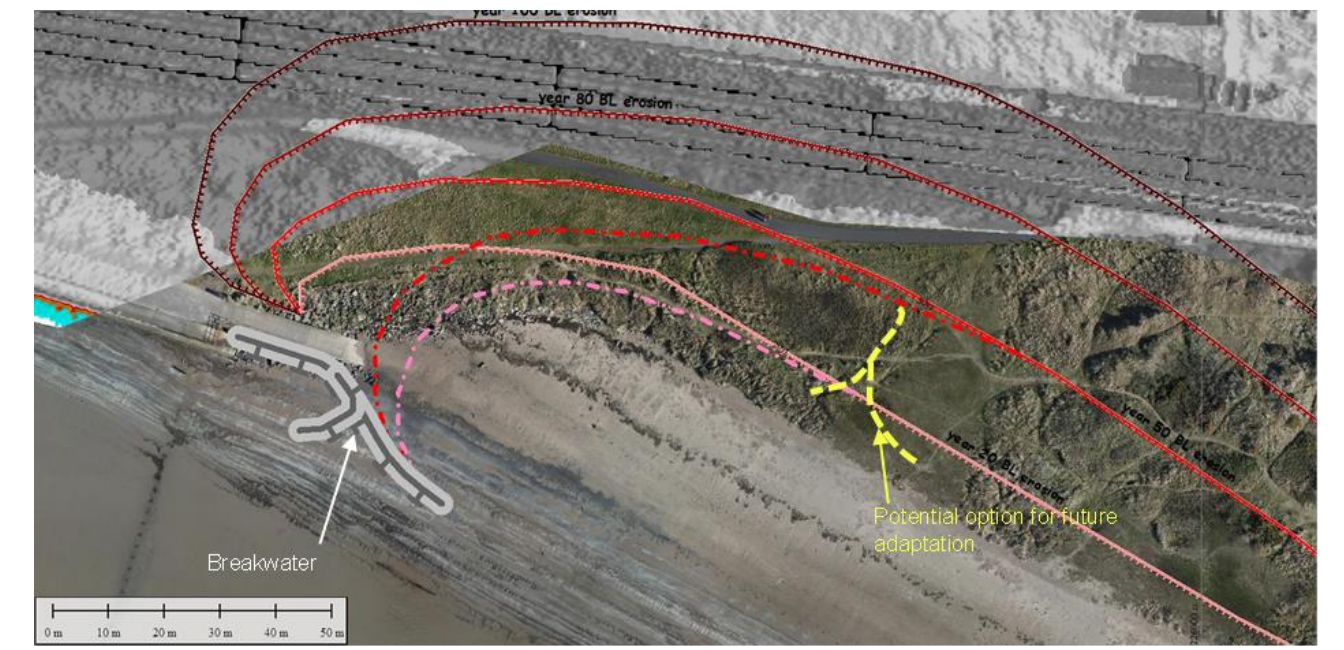
The overall policy for the wider area is to Hold the Line, recognising the important infrastructure at risk. However, within the Stevenston Beach area the recommendation is for a more adaptive approach to management.



The Stevenston Climate Action Town Workshops (2023). The workshop highlighted the need for sand dune protection along Stevenston dunes focusing on softer interventions, recognising the need to protect the sand dunes from increased pedestrian traffic.

Potential local intervention

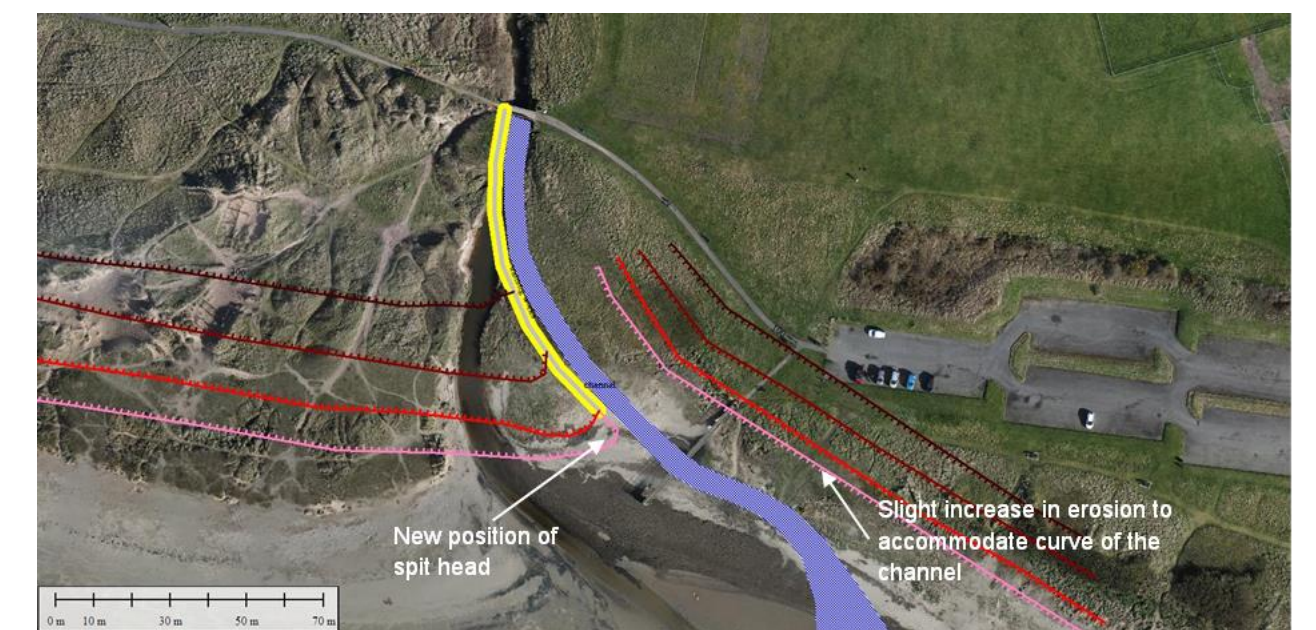
The Northern Slipway. This area forms the transition between the hard defence to the promenade and the natural dune line to the east. Options for management have been considered allowing a more natural transition. These options will be taken forward in discussion with other operating authorities.



The (spoil tip) Headland. There are options to reduce erosion to this area, however this would impact on the way in which the coast would develop. It appears more sensible to change the alignment of the important coastal path, allowing natural erosion to occur. As material from the spoil heap becomes exposed, the nature of this material would be monitored.



Stevenston Burn. Realignment of the Burn through training works to the channel entrance has been considered. However, it is very unlikely that such works could be funded. Any such works would have a significant environmental impact.



Access Management



The focus of the proposed management takes account of current patterns of use, looking at preferential pathways and access to key features or destinations throughout the area.

The aim would be to influence behaviour through clear signposting, allowing management of specific access points through the dunes, discouraging damage to the dunes resulting from informal trampling.

Any intervention or access management would need to be developed in detail and with the support of the community and users of the area.

