Scamander Coastal Adaptation Study

Community workshop | 24 June 2025 | Scamander Sports Complex

Post-workshop web version

Agenda

01 Introduction

02 Study site

03 Conceptual model of rivermouth

04 Historical context

05 The influence of climate change

06 Options to consider

07 The process

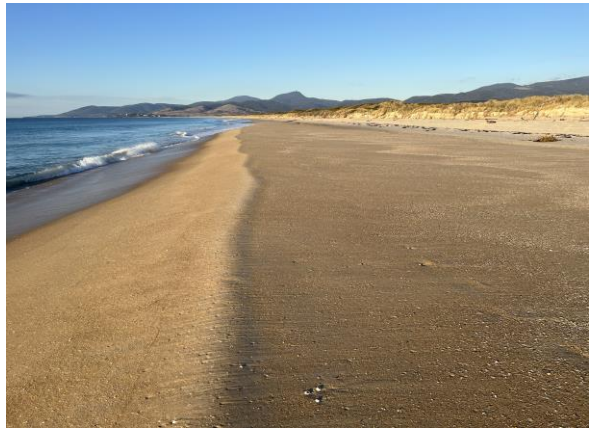
01 Introduction

Project and aims

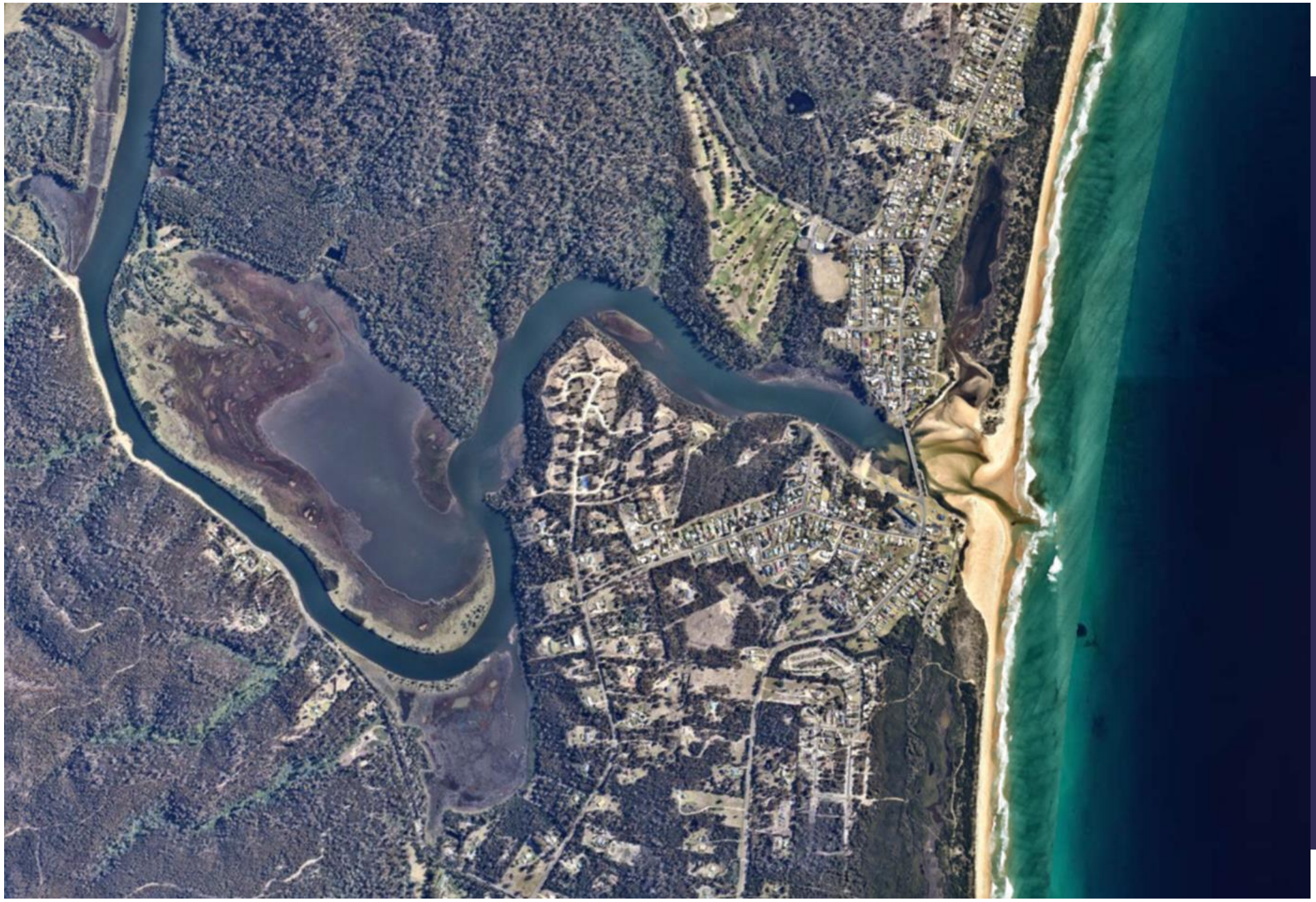
- Better understand the coastal and estuary risks and impacts on the community
- Moffatt & Nichol look into the coastal processes and possible engineering solutions
- SGS will assess the land use planning solutions, community costs and benefits of various adaptation pathways
- The aim is to recommend on short and long term management solutions

02

Conceptual understanding of rivermouth



Key features



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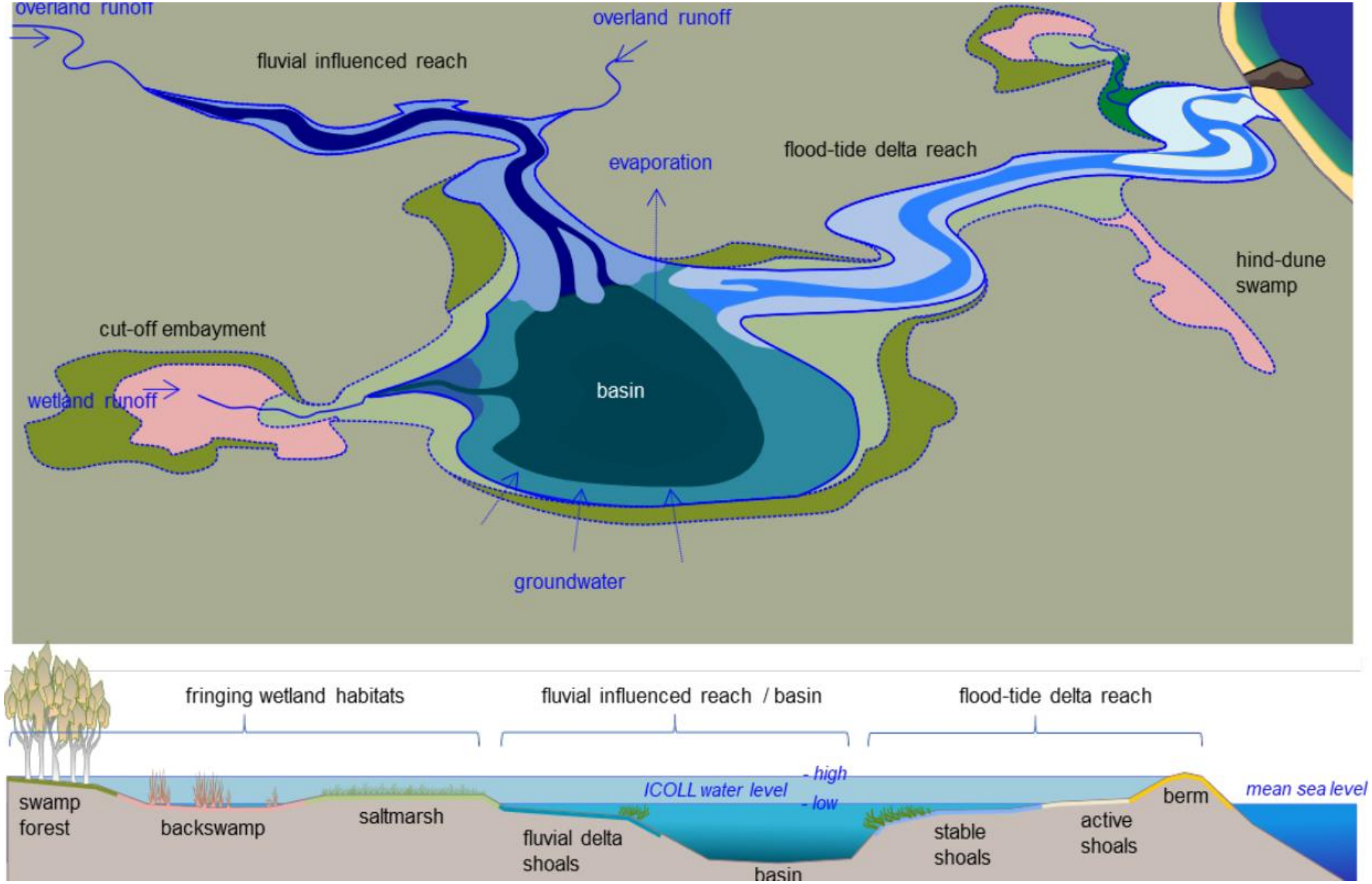


Scamander estuary is in a group known as “Intermittently Closed and Open Lakes and Lagoons” (ICOLLs) . Source: *NSW Environment Dept*.

Key features

Frequently asked questions - technical

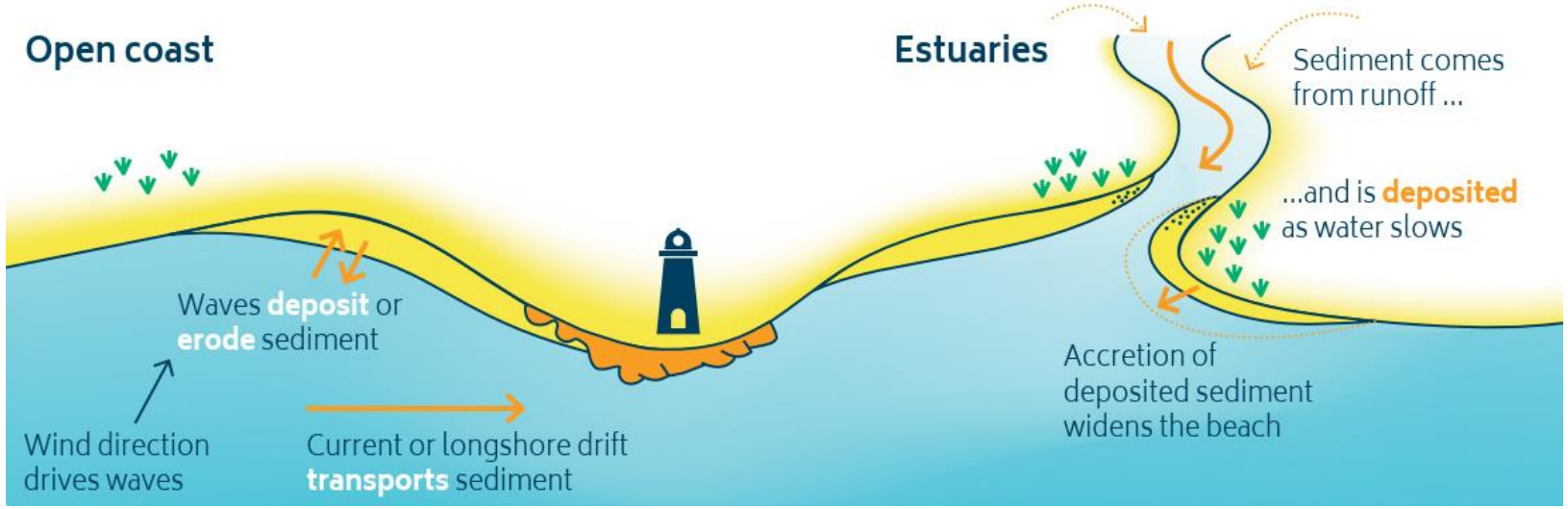
- What is an ‘ICOLL’?
  - *‘Intermittently Closed and Open Lakes or Lagoons (ICOLLs). This refers to lakes that naturally alternate between being open and closed to the ocean. A dynamic sand beach barrier, also known as a berm, which is continuously influenced by the movement and redistribution of sand and sediments, separates ICOLLs from the ocean. These berm changes are also affected by waves, tides, flood flows and winds’.*
- Where are ICOLLs located?
- Why do ICOLLs open and close to the ocean?

Form and function of NSW intermittently closed and open lakes and lagoons (2021)
NSW Department of Planning, Industry and Environment

03 Processes

Processes

- Astronomical tides
- Ocean conditions (inc. waves, storm surge)
- Wind (important for dune forming)
- River flows (inc. flood flows)
- Long shore sediment transport
- Entrance state (open / closed)
- Human management (training walls, rock wall, bridges)



What shapes our coastlines (CoastAdapt)


Untitled Map
3/2007
Google Earth


Untitled Map
8/2013
Google Earth


Untitled Map
3/2022
Google Earth


Untitled Map
9/2018
Google Earth


Untitled Map
5/2020
Google Earth


Untitled Map
Google Earth


Untitled Map
3/2010
Google Earth

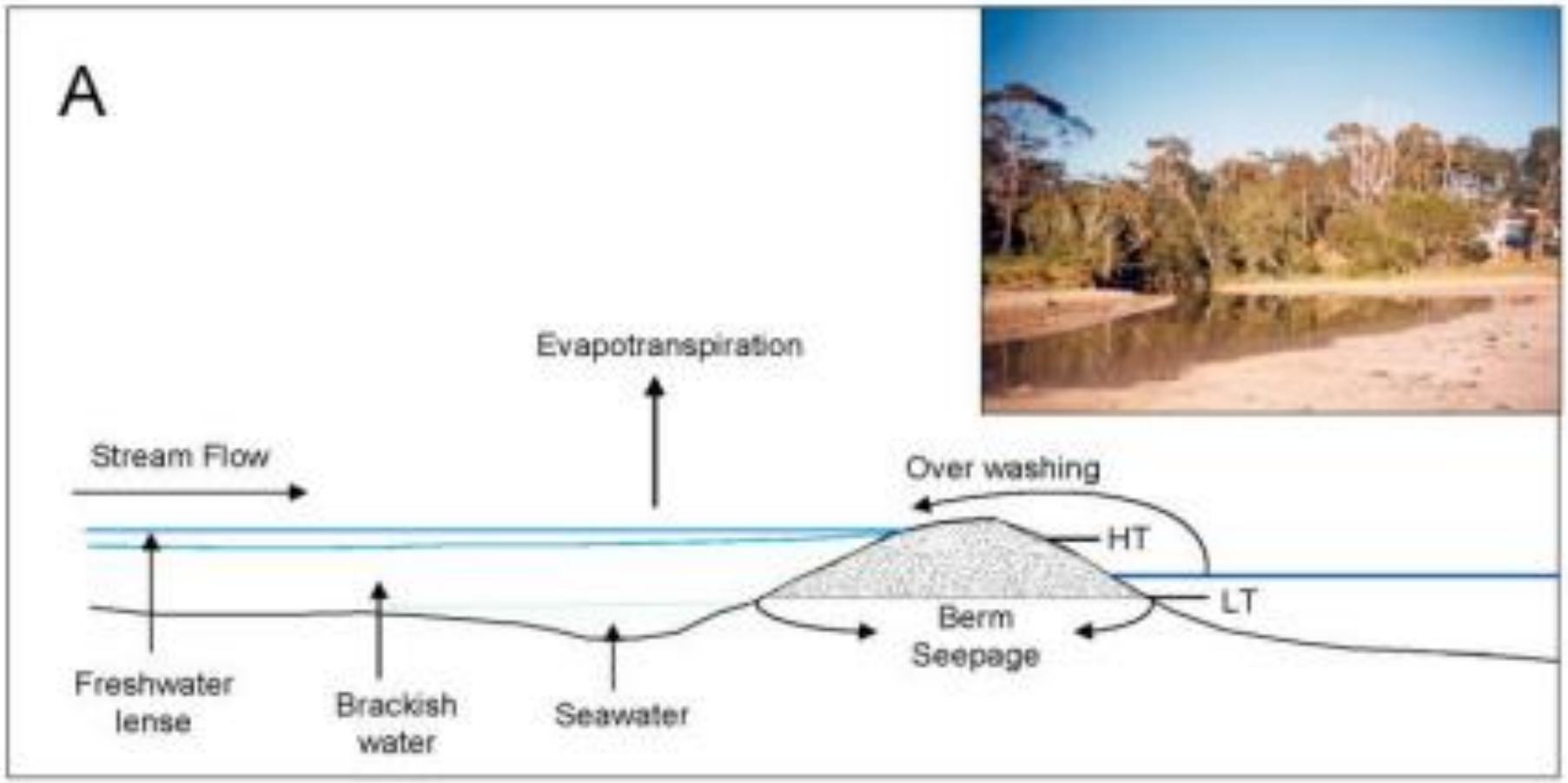

Untitled Map
9/2018
Google Earth

Processes

Processes

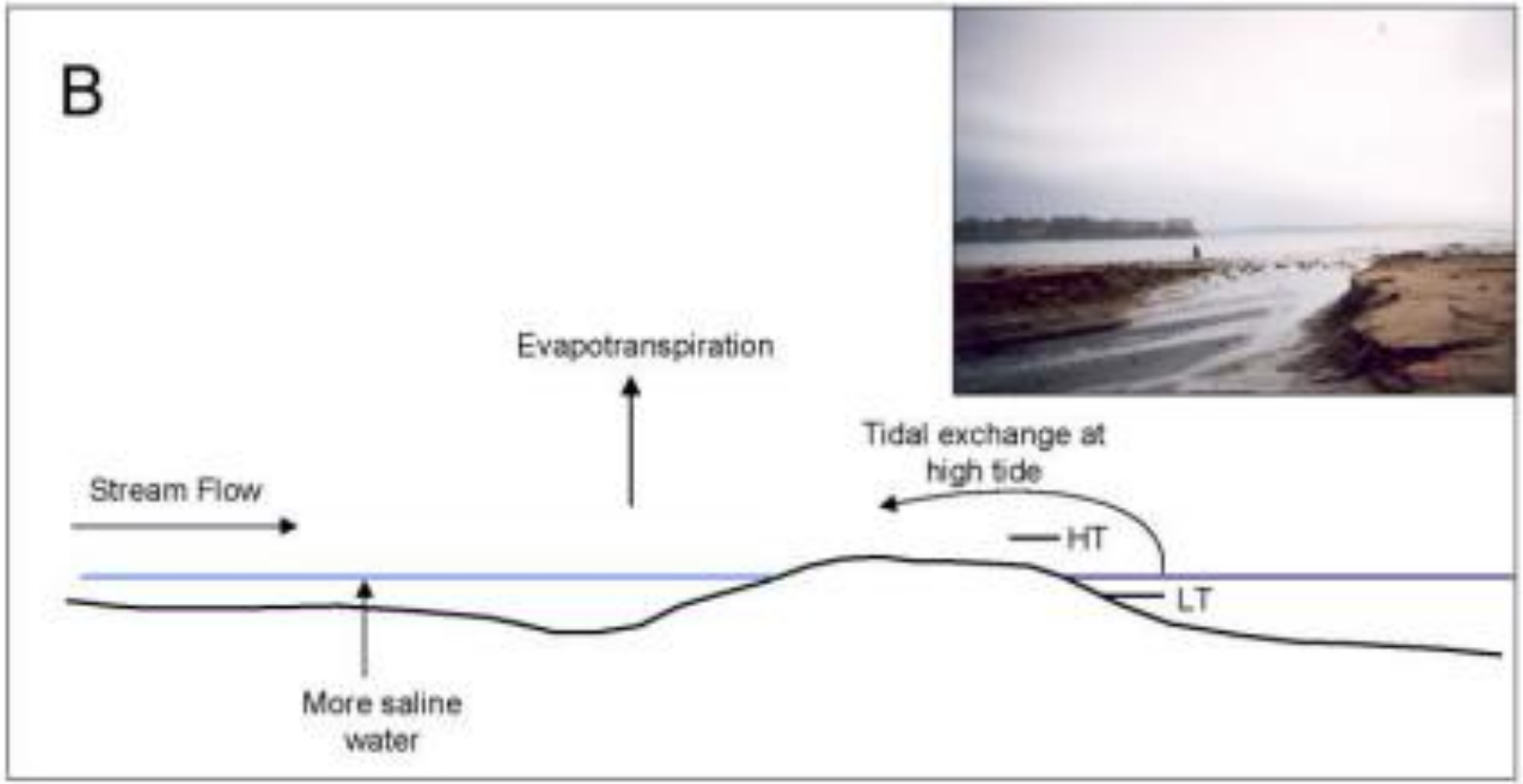

Thomas St
Wattle Dr
Lagoon Esp
Scamander River
A3
Scamander Av
Bridge Esp
Steel St
Albatross Dr
Pelican Ct
Pringle St
Hodgman St
Dune St
2024
2008
2012
2014
2022
1996
2004
1992
2010
1995
2018
2021


Scamander River
(Opp. Campbell St.)
2023
2024
2001
2010
1999



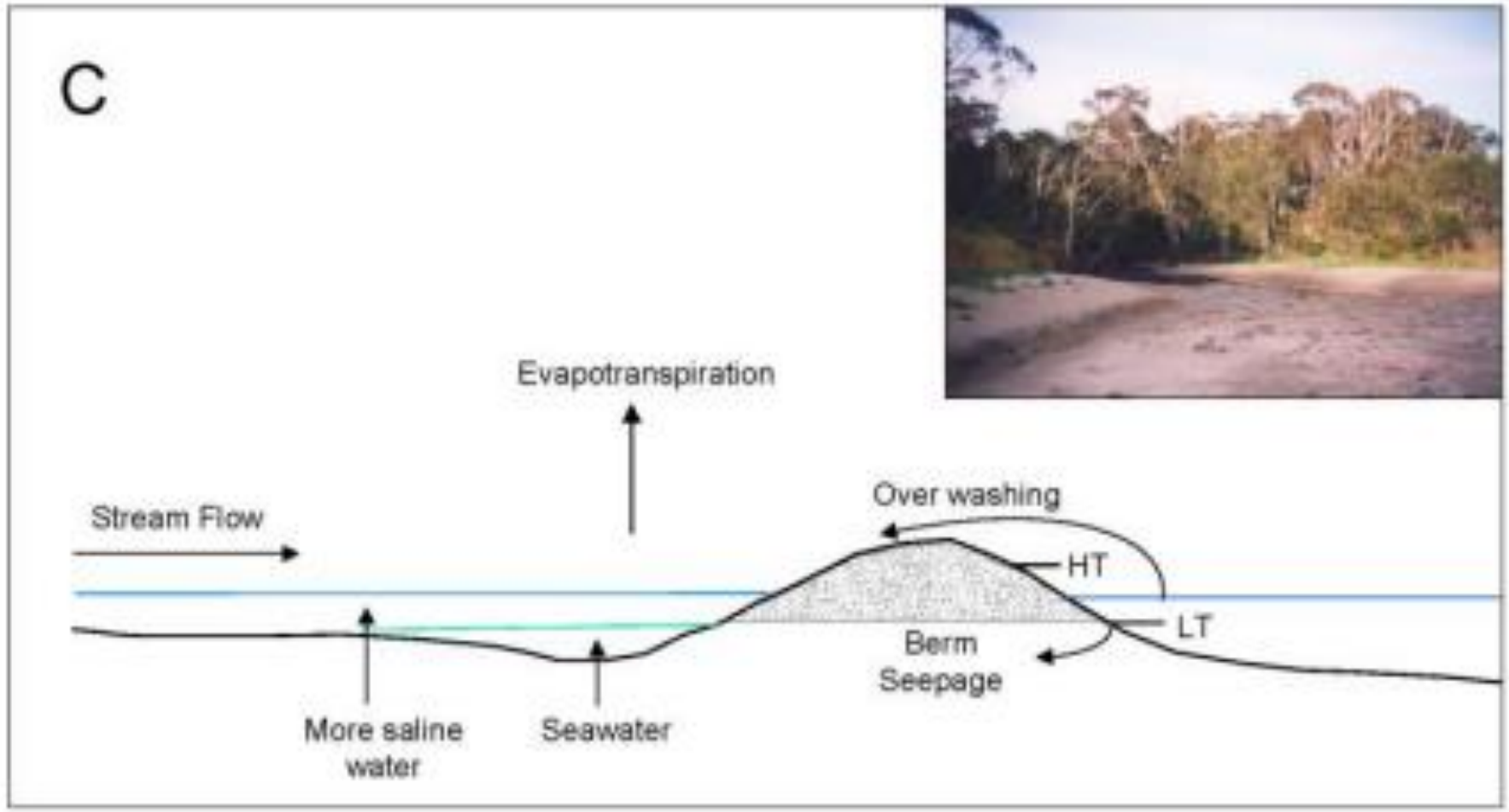
ICOLL hydrology: Closed and full

Processes



ICOLL hydrology: Berm breeched, ICOLL drains

Processes



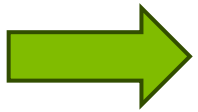
ICOLL hydrology: Berm rebuilt and closed again

Processes

04 Impacts of climate change

Climate change will impact coastal hazards

- Sea level rise
- Increased storm intensity
- Increased rainfall intensity



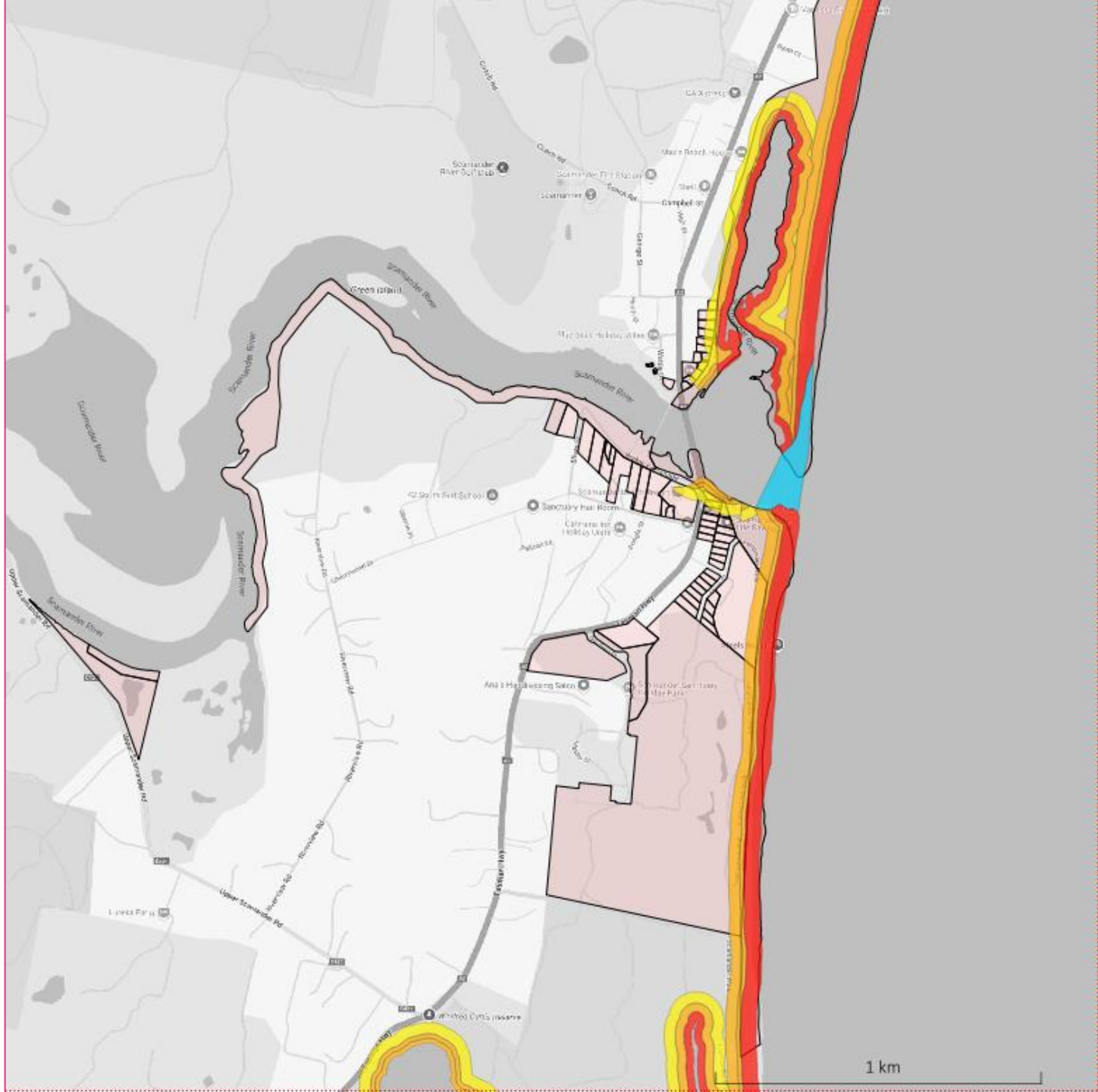
- Increased risk of inundation and erosion, and subsequent public or private property asset damage
- Altered ecological conditions and therefore character of the area for flora and fauna
- Changes in land use patterns to meet the lifestyle and logistical preferences of residents
- Pressure on stormwater and drainage systems
- Loss of culturally significant sites

CoastAdapt - about climate change

Hazards

- Coastal Erosion
- Estuary foreshore erosion
- Coastal Inundation
- River Flooding
- Overland flooding (runoff/drainage)
- ‘Compound’ or ‘coincident’ Flooding (can occur when entrance is open)

Coastal Erosion Hazards



Coastal Erosion Hazard Bands

High

Medium

Low

Investigation

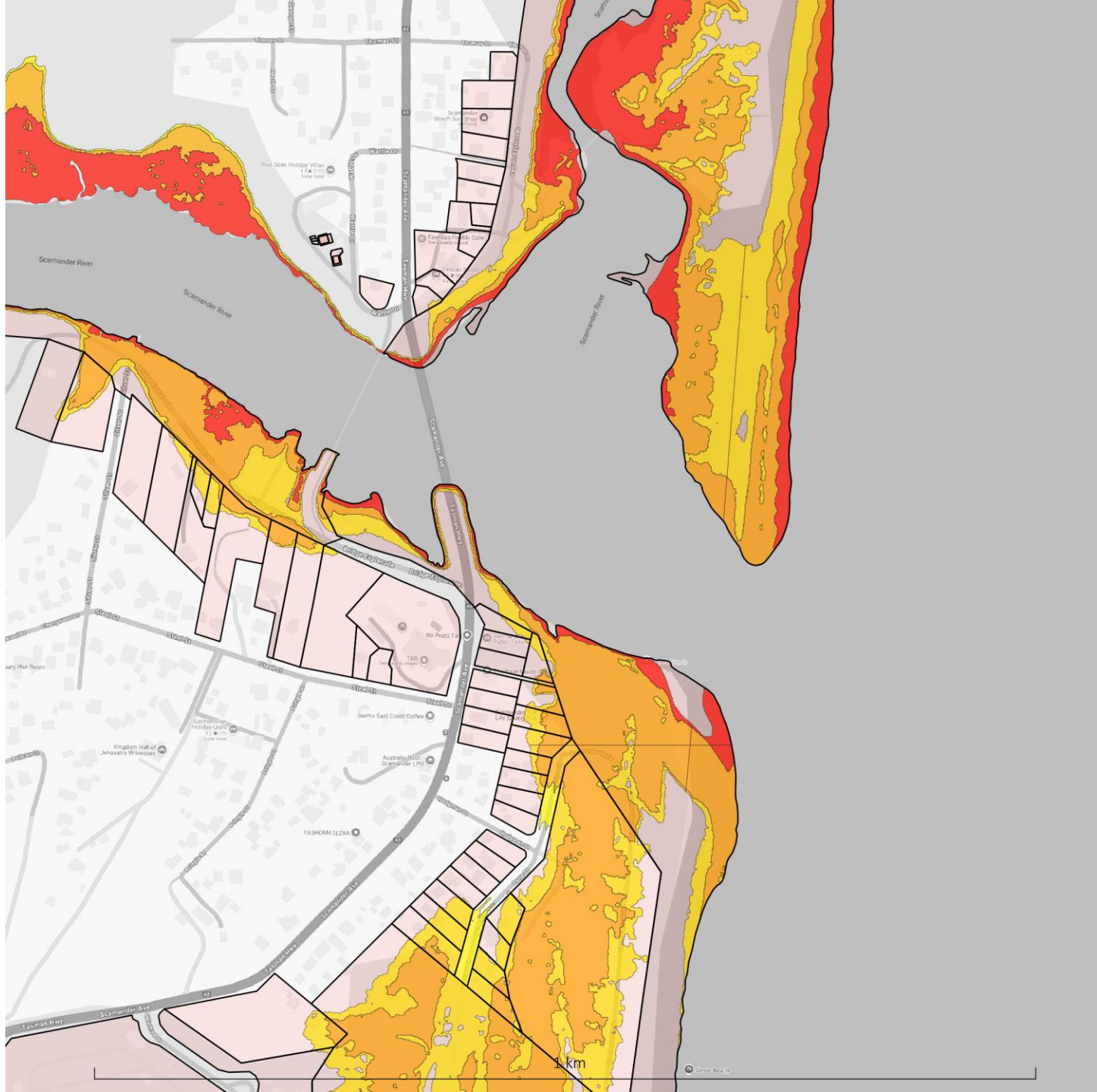
Properties identified at risk

Coastal Inundation Hazards

Coastal Inundation Hazard Bands

- High
- Medium
- Low
- Investigation
- Properties identified at risk

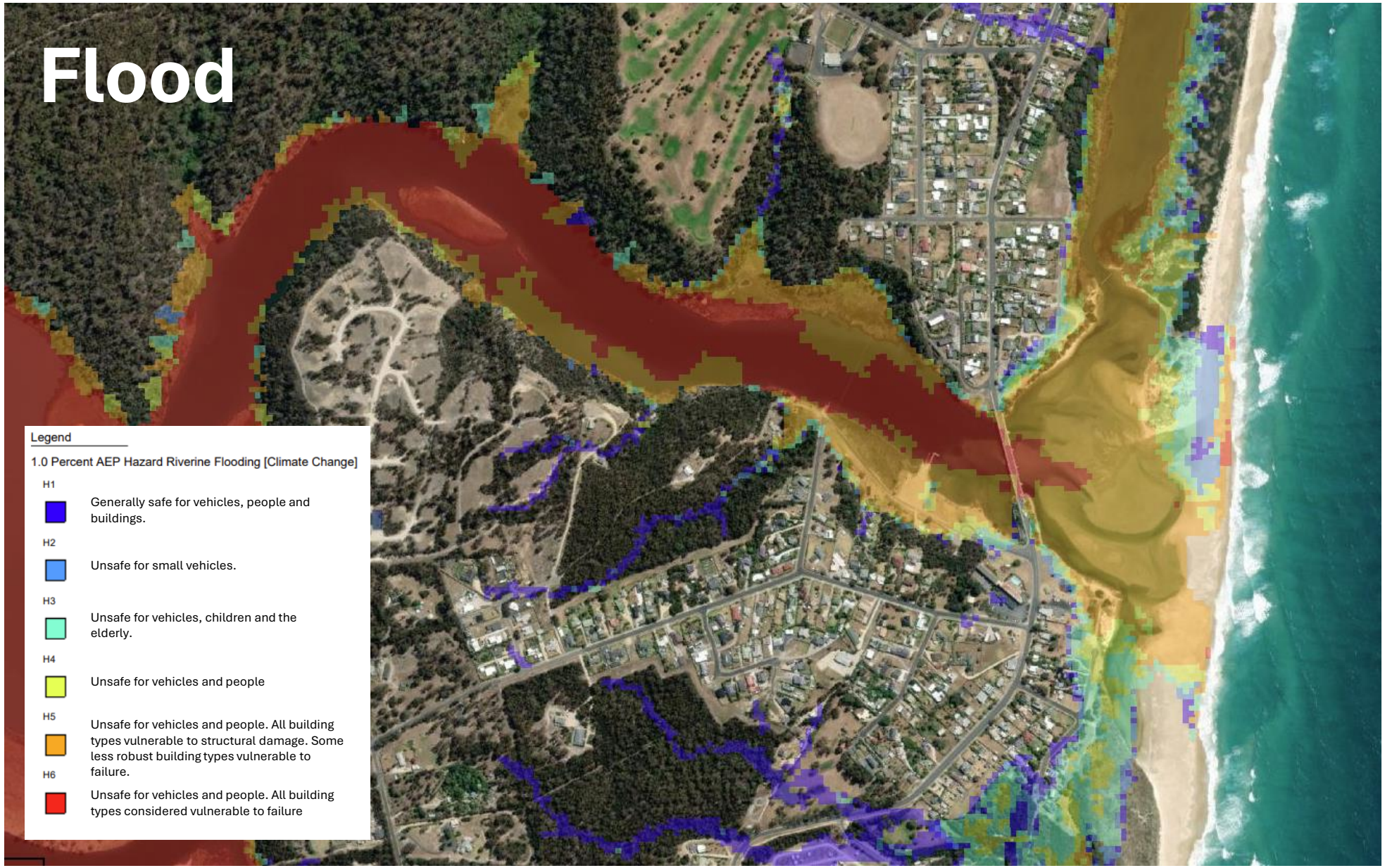
Coastal Inundation Closeup – rivermouth properties



Coastal Inundation Hazard Bands

- High
- Medium
- Low
- Investigation
- Properties identified at risk

Flood



Source: ListMap (2025)

Key impacts

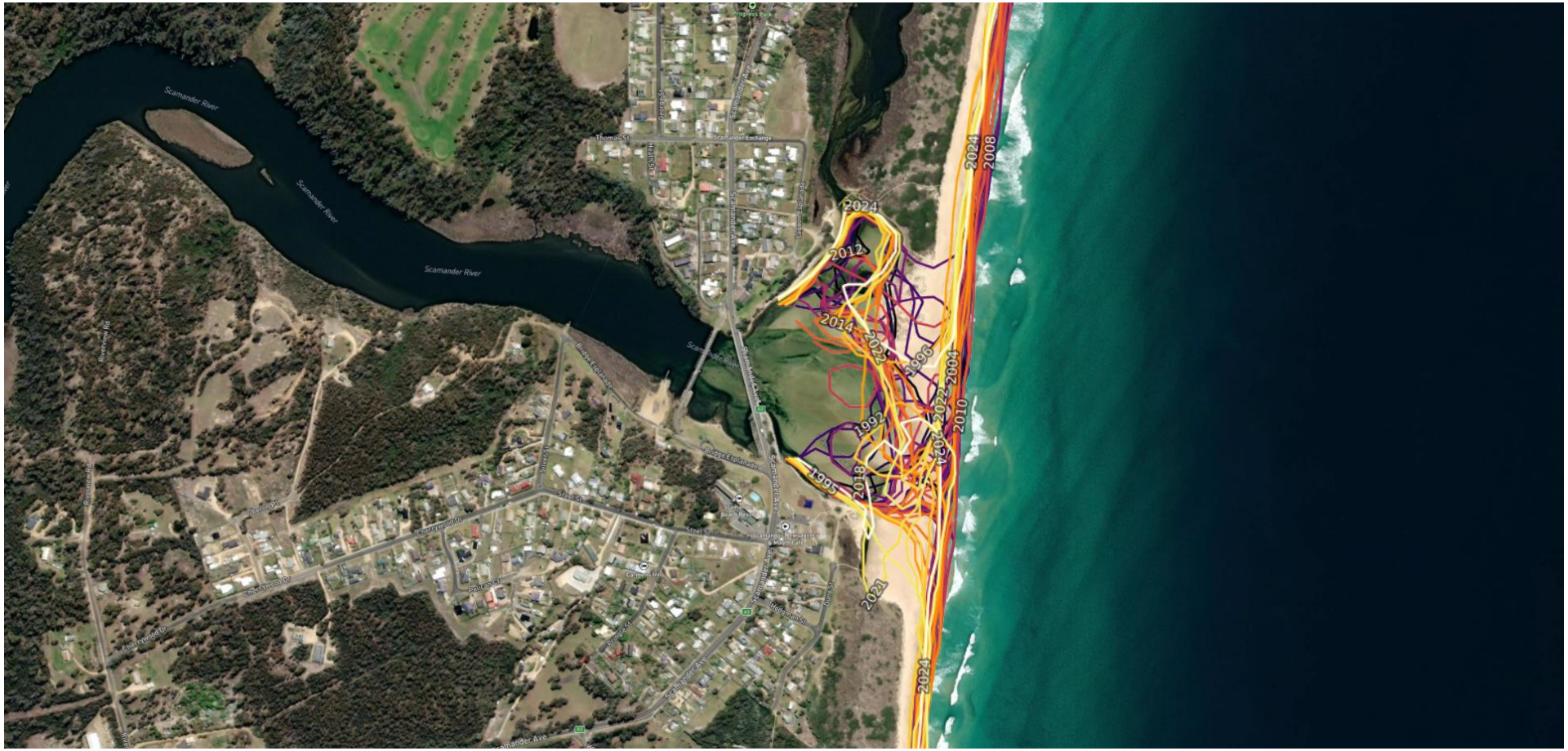
- **Property:** possible damages, reduced property values, cost of clean up
- **Community:** damage to infrastructure, community facilities, anxiety
- **Ecological:** bird habitat, wetlands, fish mortality
- **Tourism and recreation:** high use site, caravaners, day trippers, surfers

November 2022

What values at risk are you concerned about?

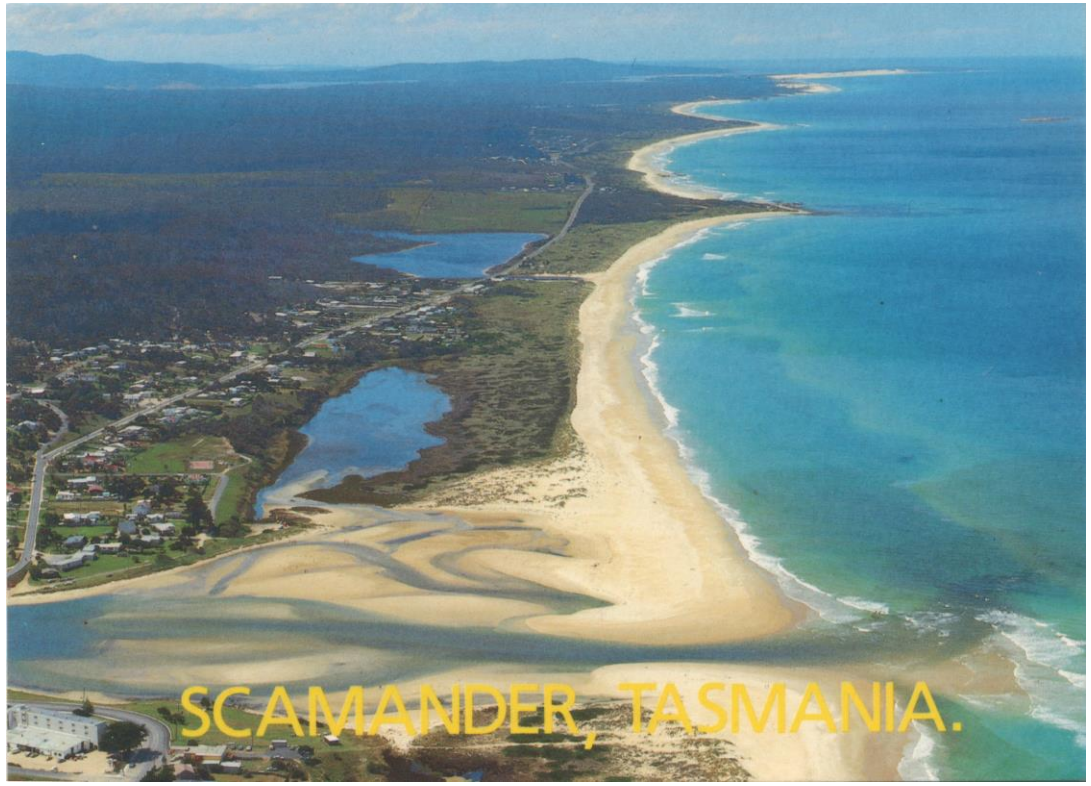
05 Historical context

The river mouth is a dynamic environment



Source: Digital Earth Australia (2025), https://maps.dea.ga.gov.au/#share=s-ww7v45nnOgX0gRItRfiWb7IcPF1

Scamander River in previous decades



Source: D. Matheson

Building rock wall, 1989

Source: Dale Matheson (2025)

Flooded river in 2023

Waters approaching Dune St, 2022

Clean-up in 2022

Source: Break O' Day Council (2025)

With a variety of past management options

Retreating rock wall

Dune vegetation early 1990s

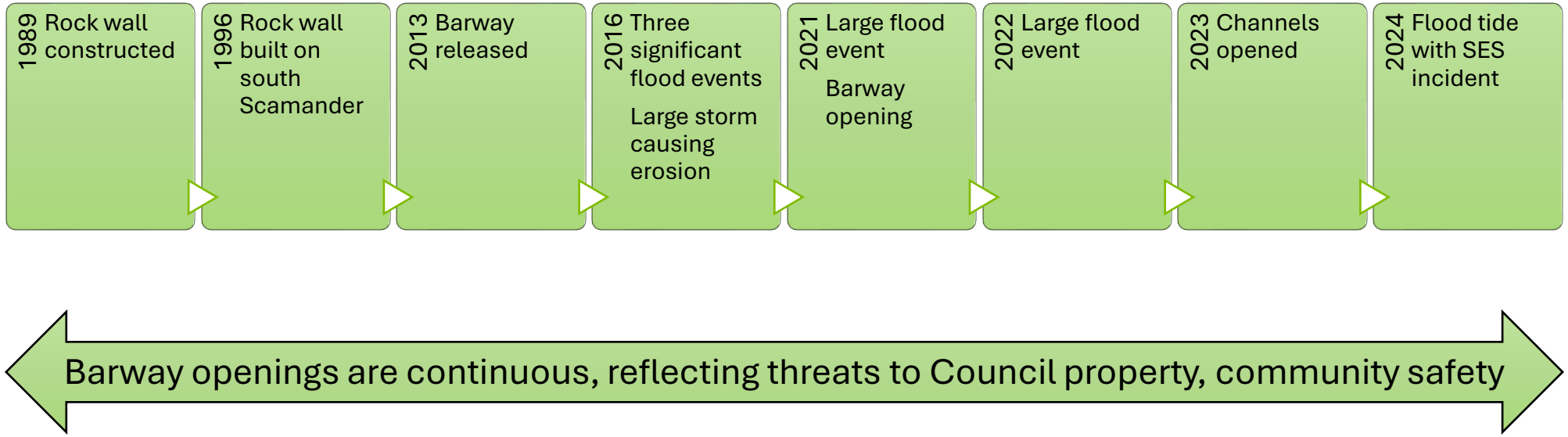
Source: Break O' Day Council; Dale Matheson (2025)

Barway opening 2021

Barway opening 2024

Source: Break O' Day Council (2025)

Timeline – Scamander River mouth

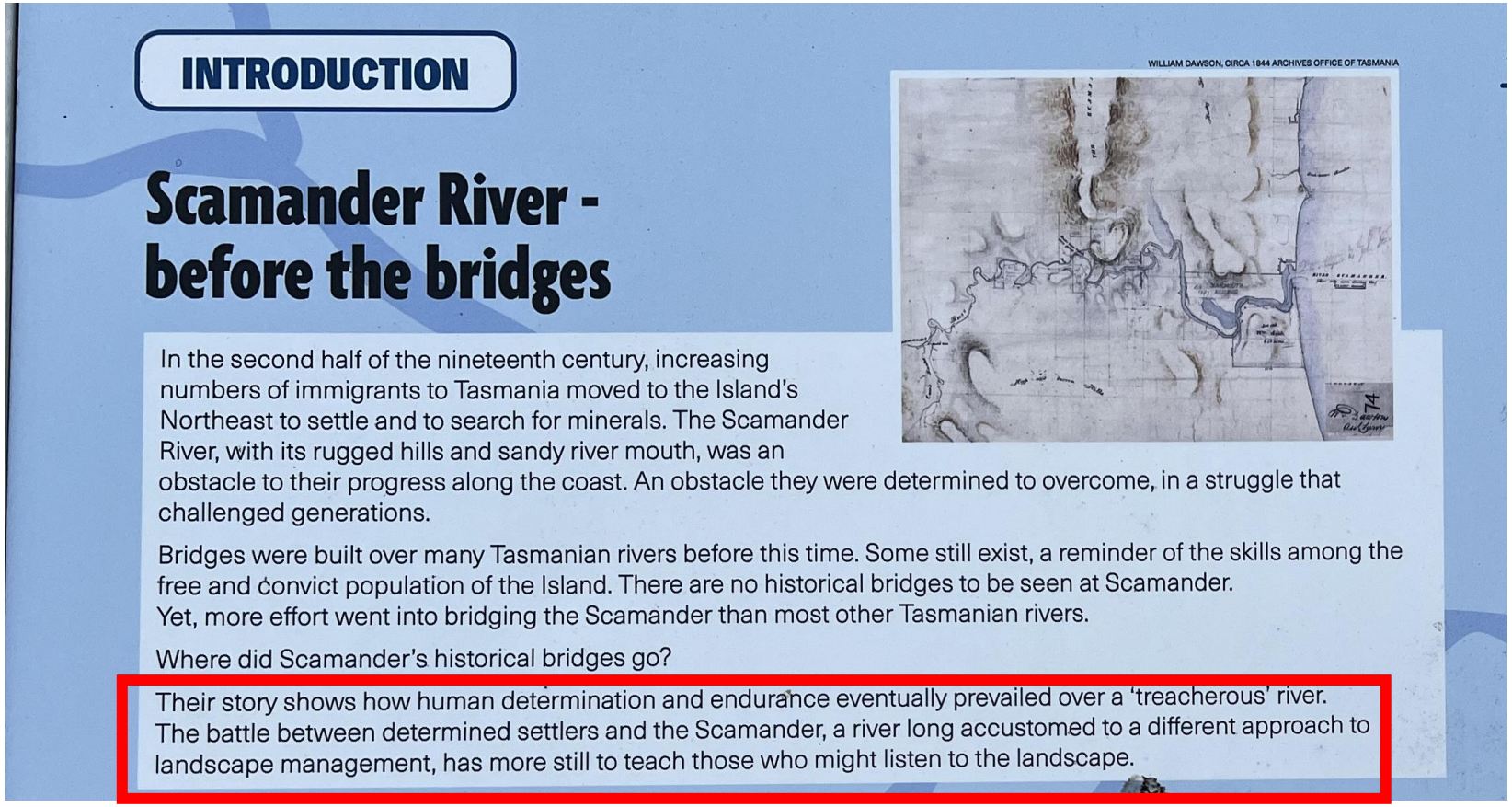


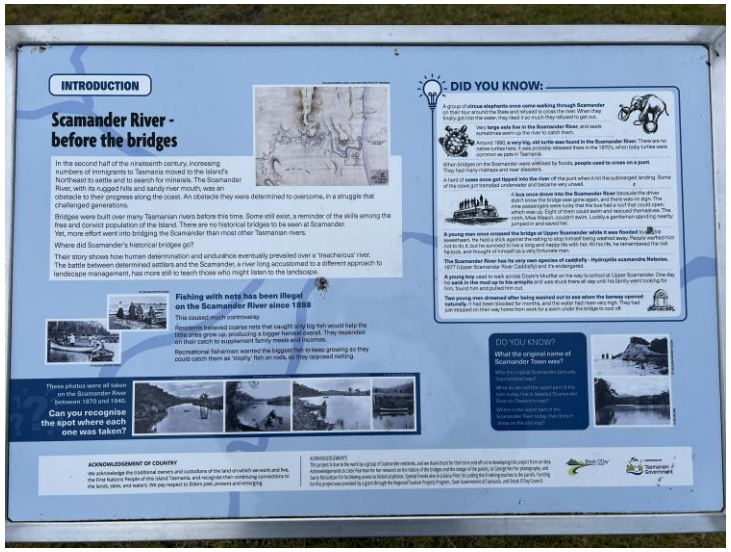
Source: Break O' Day Council (2025)

06

Adaptation options to consider

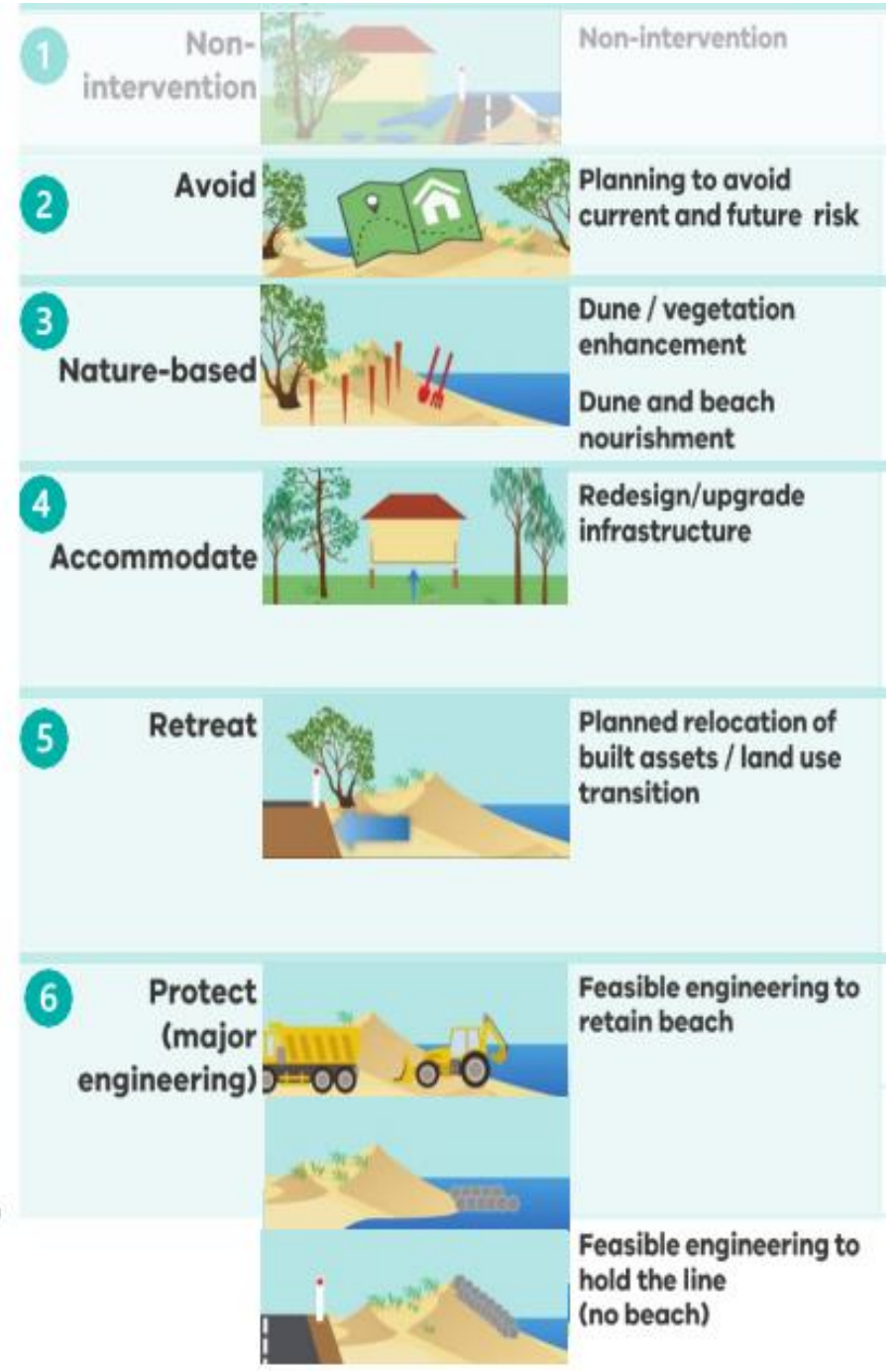
Options


INTRODUCTION
Scamander River - before the bridges
WILLIAM DAWSON, CIRCA 1844 ARCHIVES OFFICE OF TASMANIA
In the second half of the nineteenth century, increasing numbers of immigrants to Tasmania moved to the Island's Northeast to settle and to search for minerals. The Scamander River, with its rugged hills and sandy river mouth, was an obstacle to their progress along the coast. An obstacle they were determined to overcome, in a struggle that challenged generations.
Bridges were built over many Tasmanian rivers before this time. Some still exist, a reminder of the skills among the free and convict population of the Island. There are no historical bridges to be seen at Scamander.
Yet, more effort went into bridging the Scamander than most other Tasmanian rivers.
Where did Scamander's historical bridges go?
Their story shows how human determination and endurance eventually prevailed over a 'treacherous' river.
The battle between determined settlers and the Scamander, a river long accustomed to a different approach to landscape management, has more still to teach those who might listen to the landscape.


INTRODUCTION
Scamander River - before the bridges
DID YOU KNOW:
Fishing with nets has been illegal on the Scamander River since 1888
Can you recognise the spot where each one was taken?
DO YOU KNOW?
What the original name of Scamander Town was?
ACKNOWLEDGEMENT OF COUNTRY

Options

1. Land management, planning and design
2. Nature-based methods
3. Engineering
4. Preparedness



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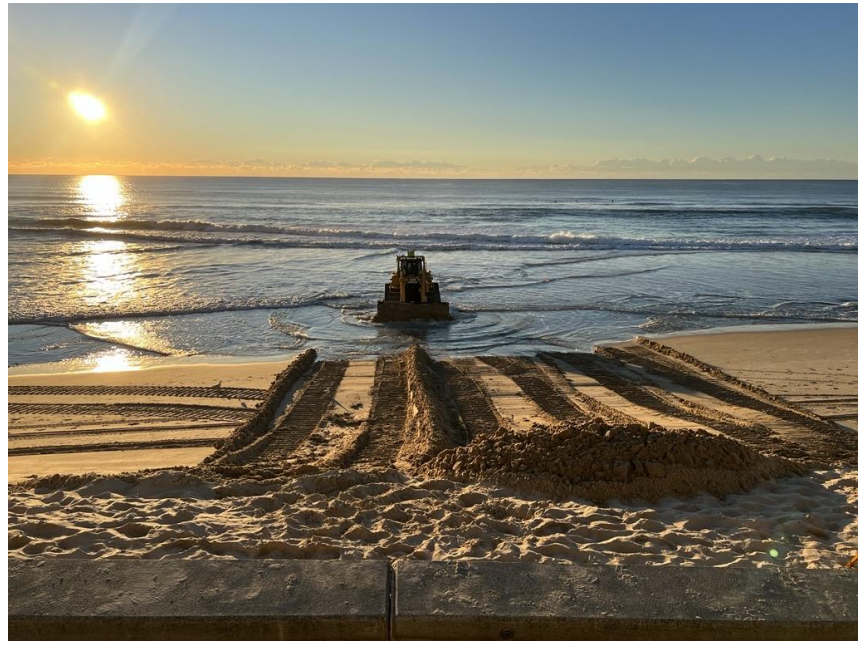

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Options

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07 Adaptation pathways

What are adaptation pathways?

Pathways describe how the area is likely to change, look and function if certain changes are made. They include consecutive interventions over time.

Each pathway manages risk, but the community, economic and environmental outcomes vary from pathway to pathway.

We must consider:

- Flexibility
- Triggers
- Trade-offs
- Thresholds

Key principles of successful adaptation planning

- Developing risks must be actively managed. Doing nothing is not an option.
- Honest and transparent communication with the community
- Government is not responsible for the protection of private property against natural hazards
- In principle, there should be no subsidy to occupy hazardous locations

Principles for managing coastal hazards of the Department of Environment and Natural Resources Tasmania (includes Parks & Wildlife Service)

What sort of options have you been thinking about?

What’s next?

Stage 1	Hazards and values assessment	June – August 2025

- Coastal hazards
- Cost of risk analysis

Stage 2	Options and adaptation pathways	August – October 2025

- Draft adaptation pathways
- Cost-benefit analysis

Stage 3	Community and stakeholder engagement	October 2025

- Community workshops
- Testing and refining adaptation pathways

Stage 4	Reporting	Early 2026

- Draft Coastal Hazards Risk Management Plan
- Finalise Coastal Hazards Risk Management Plan

Community and stakeholder engagement

Things to consider

What is at risk?

- Flood/erosion damage to public and private property
- Community sense of place

What is gained, or lost?

- Reduced exposure to flood/erosion damage and losses
- Habitat
- Beach access

What might be different?

- Climatic conditions differ from expectations
- Property values fall independent of action

How would it happen?

- Who decides and who pays, whose risk?
- How could this process fail?
- What would happen if it does fail?