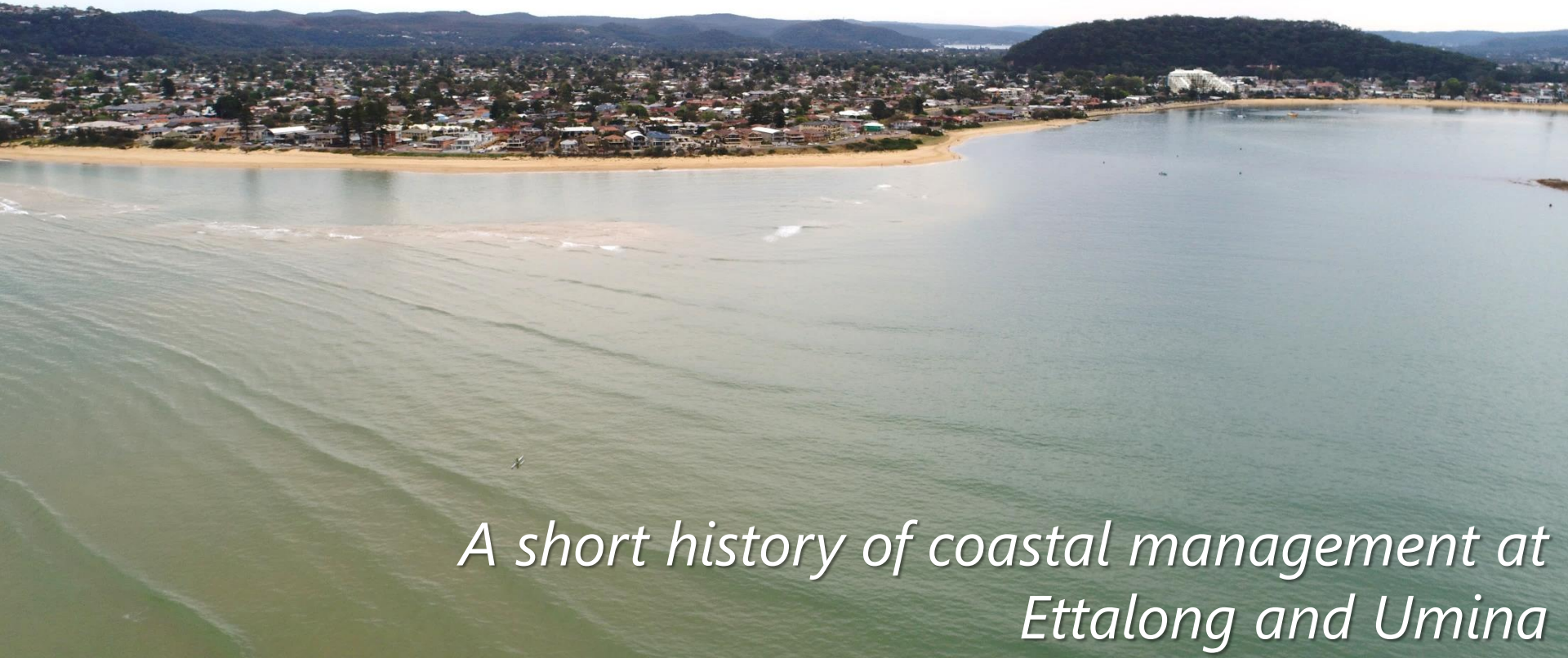




The 80 year battle with nature:



A short history of coastal management at Ettalong and Umina

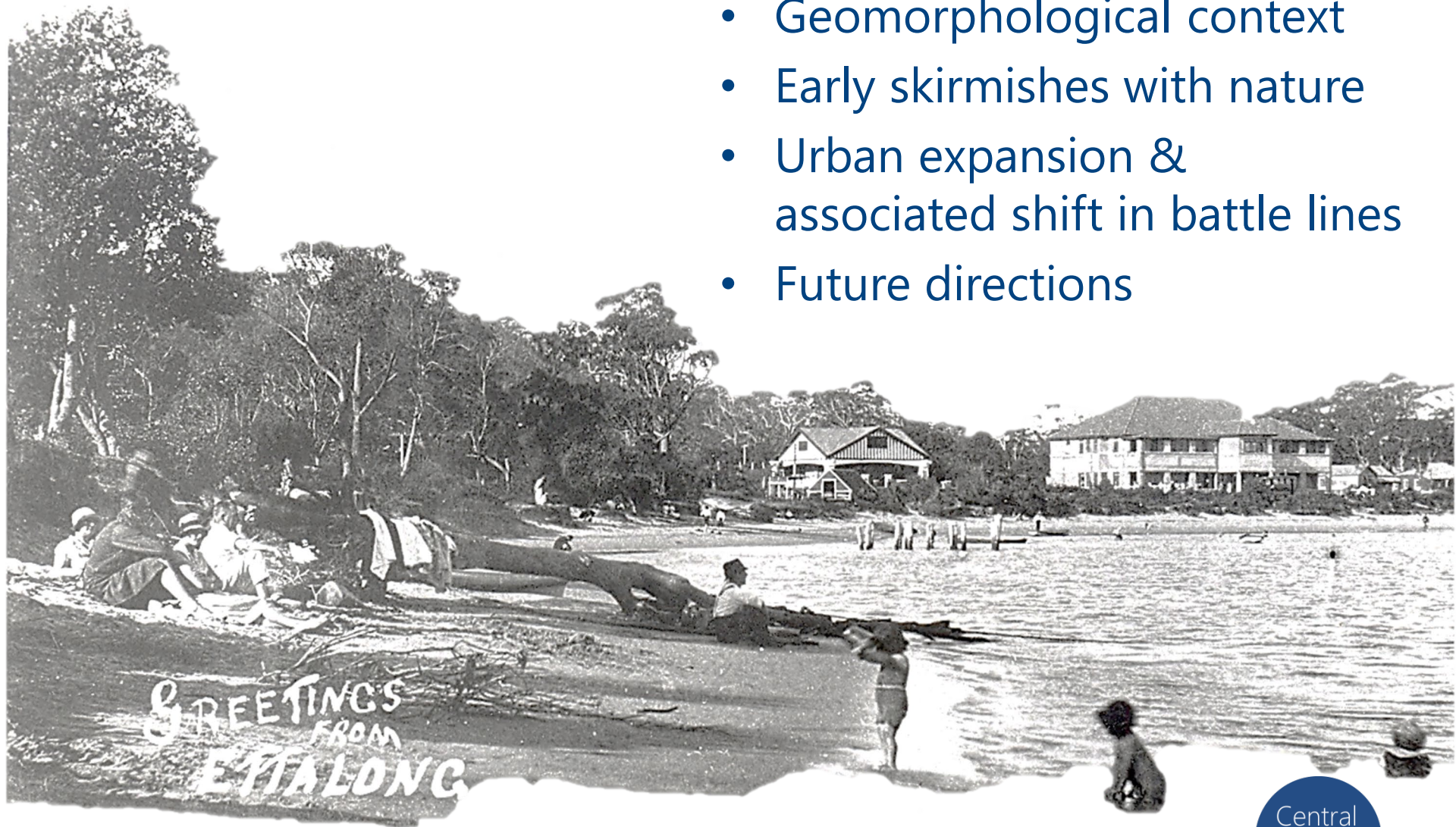
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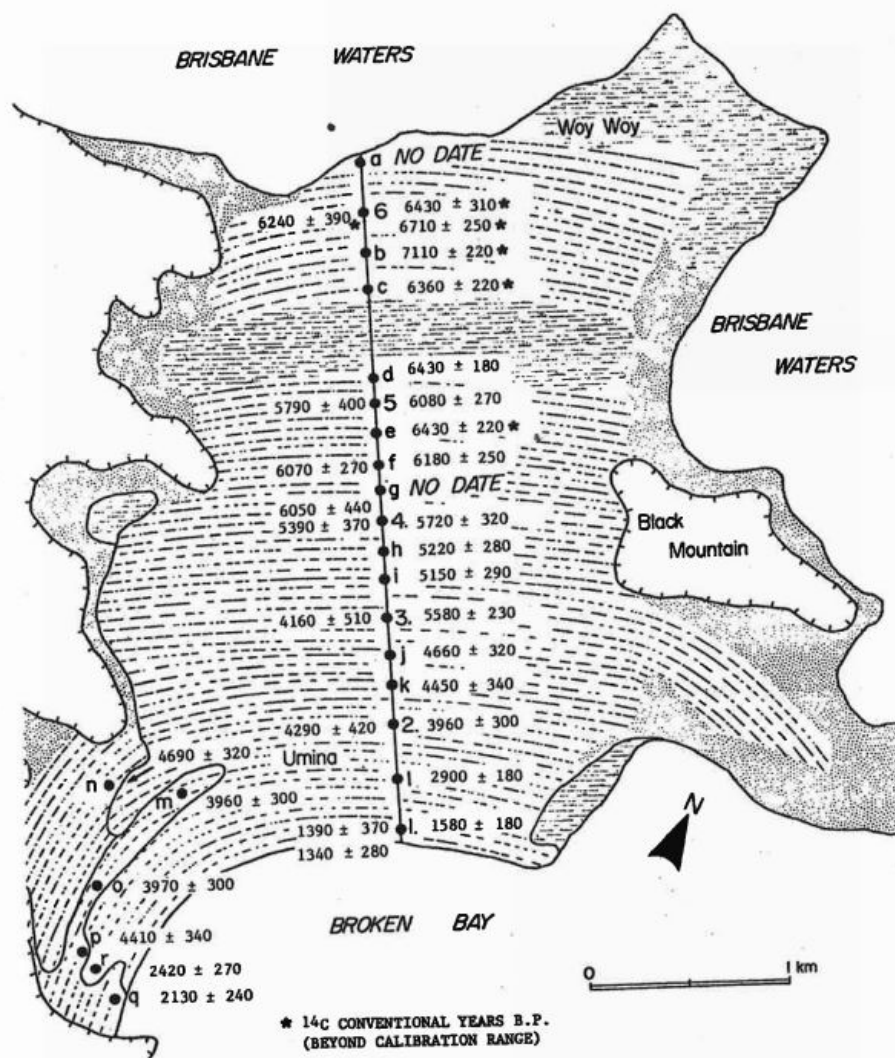


Introduction

- Geomorphological context
- Early skirmishes with nature
- Urban expansion & associated shift in battle lines
- Future directions

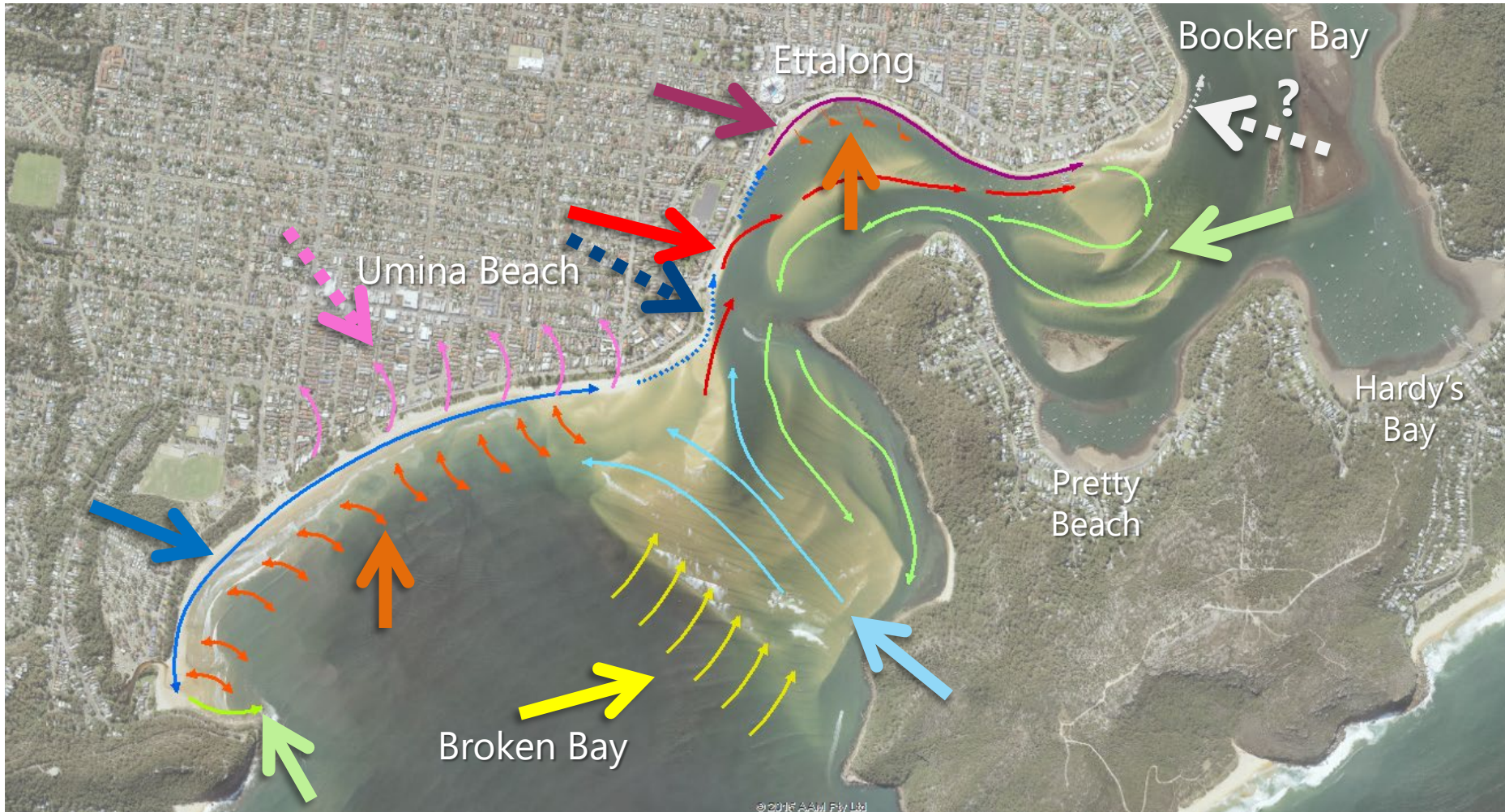


Geomorphology

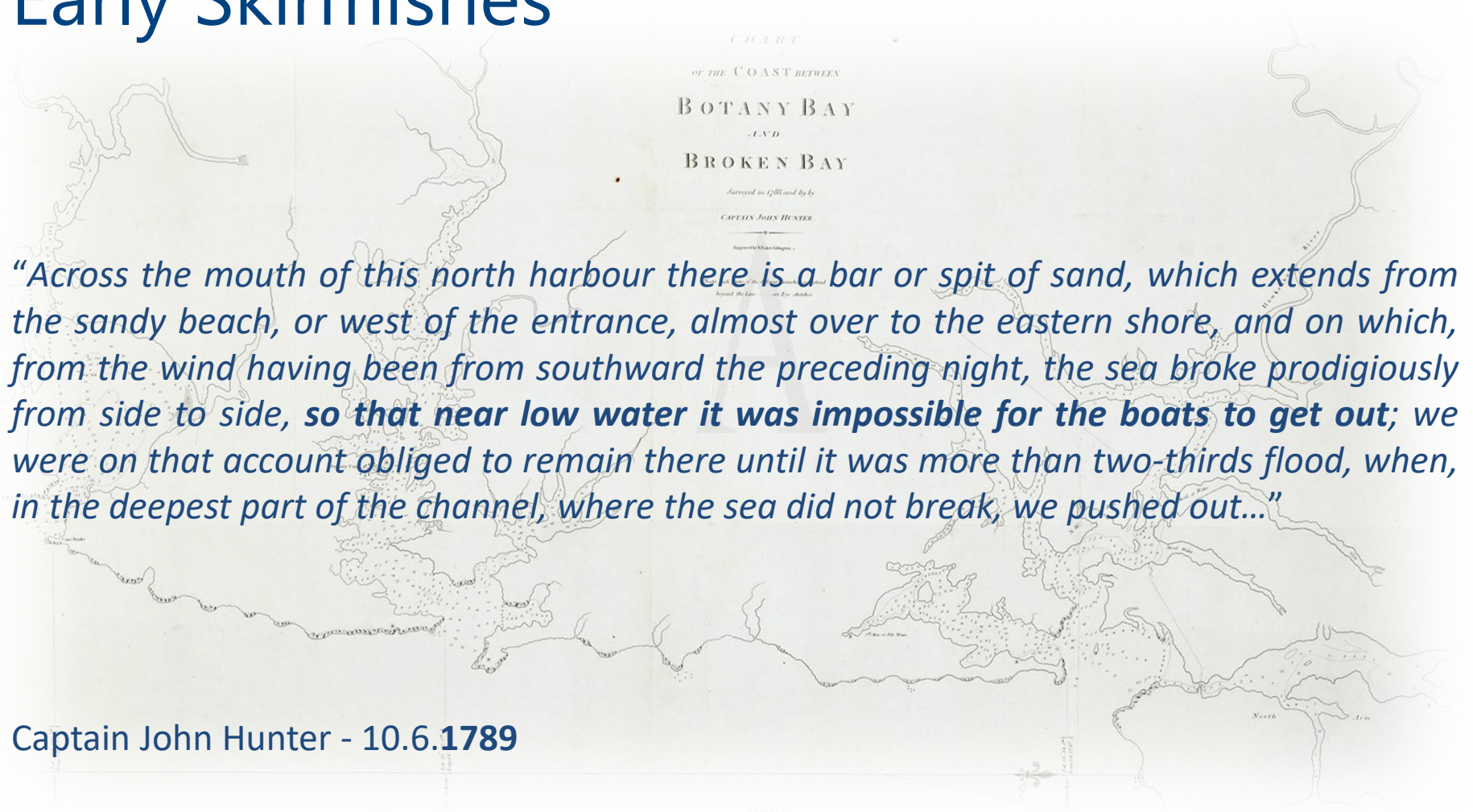


- The Woy Woy sand plain formed through progradation over past 4000-6000yrs (Thom *et al.* 1981).
- Southern boundary of sand plain is characterised by dynamic sandy beaches and a series of nearshore shoals.
- Our battle with nature is contextualised by the dynamic nature of this sedimentary system.
- The Woy Woy Sand Plain is now one of the most densely populated areas of the Central Coast.

Sediment Dynamics



Early Skirmishes



“Across the mouth of this north harbour there is a bar or spit of sand, which extends from the sandy beach, or west of the entrance, almost over to the eastern shore, and on which, from the wind having been from southward the preceding night, the sea broke prodigiously from side to side, so that near low water it was impossible for the boats to get out; we were on that account obliged to remain there until it was more than two-thirds flood, when, in the deepest part of the channel, where the sea did not break, we pushed out...”

Captain John Hunter - 10.6.1789



Navigation

- Access to Gosford from Sydney prior to 1888 almost exclusively by water
- Numerous groundings across bar
- Frequent calls for channel maintenance and “blowing up” Half-tide Rocks



“only one life has been lost this year at the dangerous place, although there have been three narrow chances of wreck during the past month”

Anecdote Sydney Media 1882





Urban Expansion – New Battlegrounds



Line in the sand...

Post card c. 1920

Ettalong Beach, Woy Woy District, N.S.W.

Coastal Erosion

The Daily Telegraph

Search 



NEWS

SPORT

ENTERTAINMENT

OPINION

BUSINESS

LIFESTYLE

REA

SAND WAS TO 6 HOURS

100 yards of dunes van

Residents fear that six houses at Ettalong may soon collapse as waves are washing away the dunes on which they are built.

One of the modern weather stations, complete with a weather vane, was blown away months ago.

The houses, on the northern end of the beach, face the open sea and are built on a narrow strip of land which is the entrance to Brookhaven.

A dirt road, The Esplanade, runs from Ettalong Beach past their houses.

A Daily Telegraph reporter who visited Ettalong Beach found that the



CENTRAL COAST

Gosford Council has closed a section of The Esplanade at Ettalong Beach for urgent works

nesday.
d.

Coastal Protection Works – 1940's

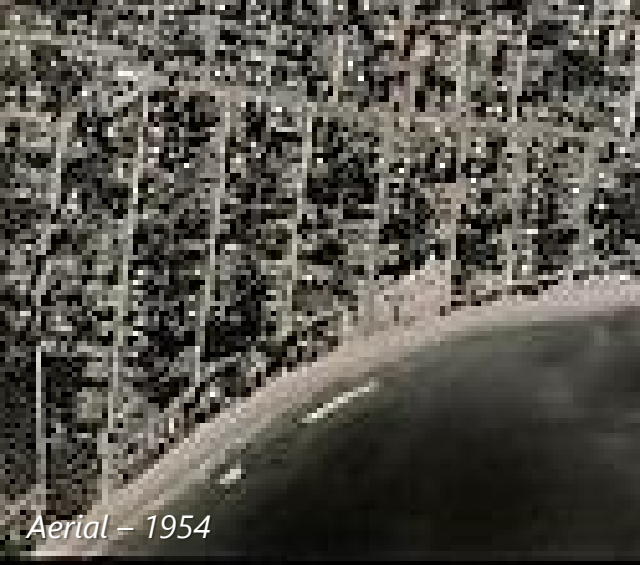


References: Ray et al. 1977 Ettalong Beach Erosion Study and Management Program

Coastal Protection Works – 1950's



WAVES have washed away four feet of this Ettalong road since last Wednesday. People living near the beach fear that their homes will be undermined.



Aerial – 1954



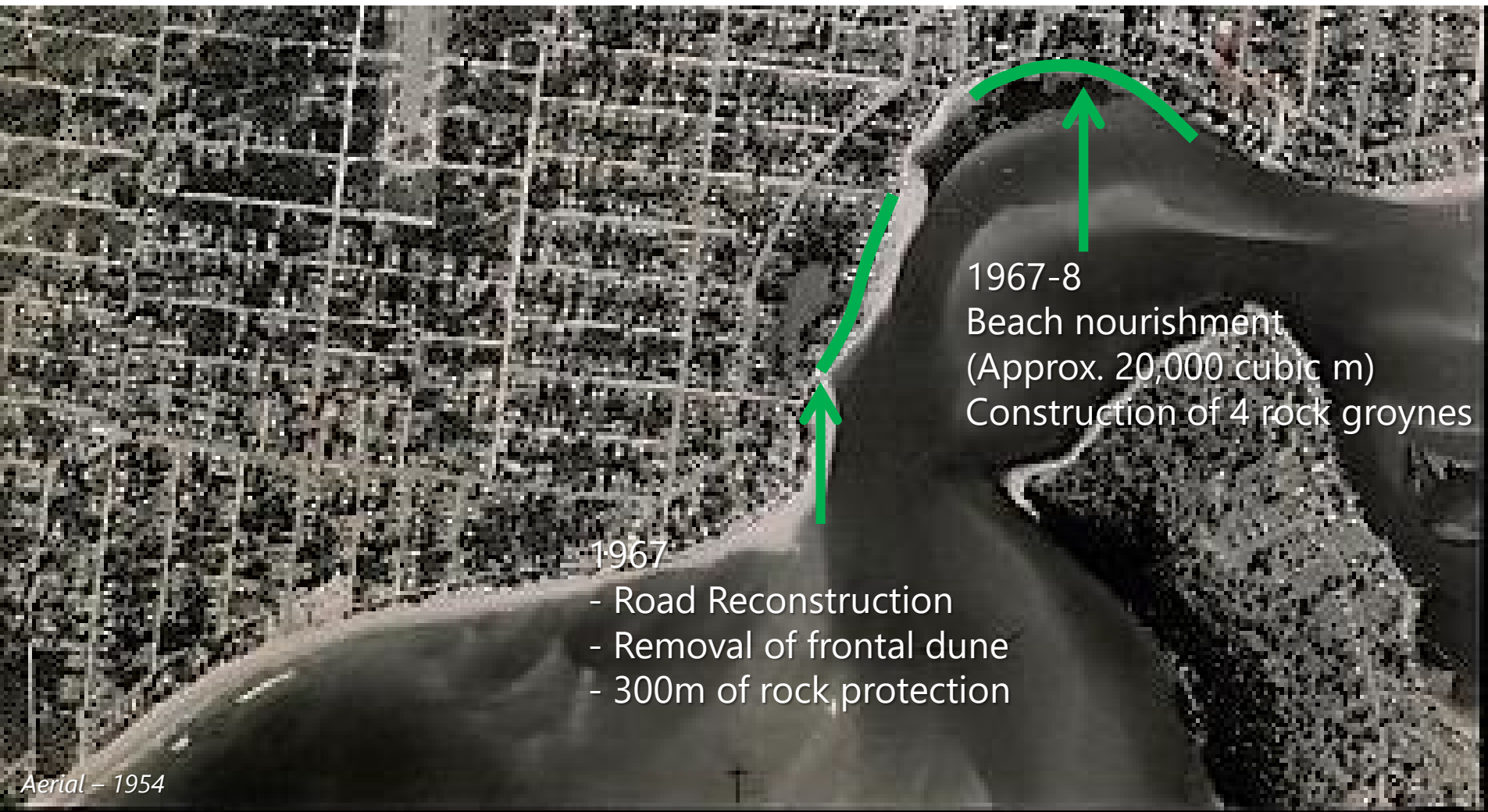
1950's – 400m of rock protection installed following severe erosion

1950's - Rock protection and repair of road following severe erosion

References:

- Ray et al. 1977 Ettalong Beach Erosion Study and Management Program
- Callaghan & Helman 2008 Severe storms on the east coast of Australia 1770-2008

Coastal Protection Works – 1960's



References:

Ray et al. 1977 Ettalong Beach Erosion Study and Management Program

Callaghan & Helman 2008 Severe storms on the east coast of Australia 1770-2008

Coastal Protection Works – 1970's



1972 – Road reconstruction following severe erosion of point

1972 – First 2 groynes constructed

Aerial – 1976

References:
Ray et al. 1977 Ettalong Beach Erosion Study and Management Program
Callaghan & Helman 2008 Severe storms on the east coast of Australia 1770-2008

Coastal Protection Works – 1970's



Aerial – 1976

1972 – 3 additional groyne structures constructed to combat down-drift erosion

1974-1977 – commencement of rock armouring of foreshore to combat down-drift erosion

References:

- Ray et al. 1977 Ettalong Beach Erosion Study and Management Program
- Callaghan & Helman 2008 Severe storms on the east coast of Australia 1770-2008

Works - 80's, 90's & 00's

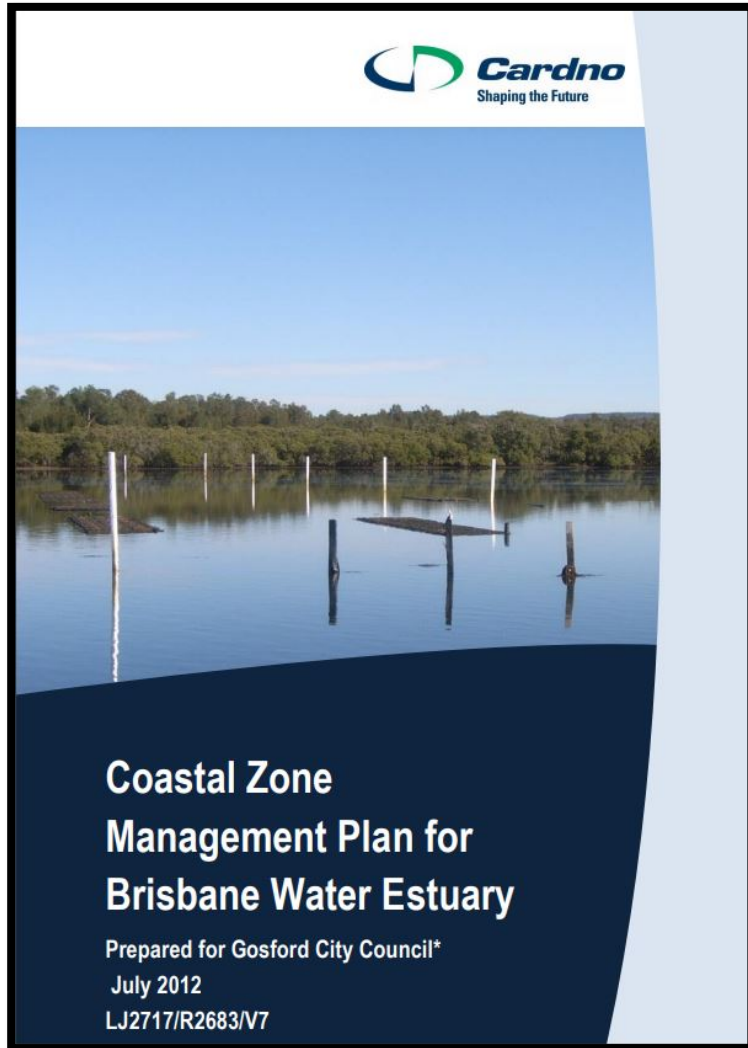
2014
Renewal of
rock armouring

2015 – ongoing
Beach scraping

Aerial – 2015

References:
Gary Blumberg and Associates (1999) Ettalong Beach Renourishment REF
GBA Coastal Pty Ltd (2011) Ettalong Beach Foreshore Sea Revetment Concept Design

Future Direction



Action R11: Investigate sedimentary processes to determine appropriate long term management strategies for the foreshore between Ferry Road Ettalong and eastern most point of Booker Bay foreshore

Action W28: Undertake beach nourishment works at Ettalong Beach

Action W29: Implement structural shoreline protection works at Ettalong Beach

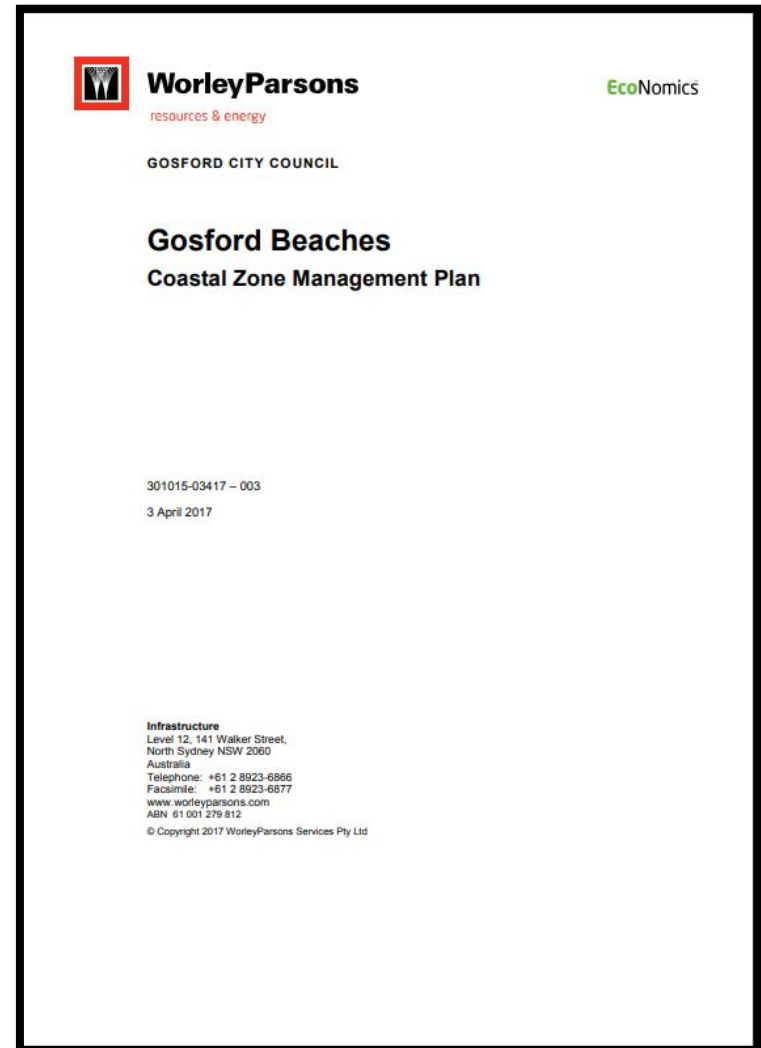


Future Direction

O5, O44 - Investigate feasibility of beach nourishment

O16, O28, O42, O48 - Beach scraping following storm events to build dune crest level and revegetation

O45 - Undertake erosion protection works to protect The Esplanade at Ettalong Point



Umina-Ocean Beach Erosion Management Strategy



Develop concepts for the terminal protection of The Esplanade

Feasibility of beach nourishment



Acknowledgments...

Mike Alsop – former Program Manager, Environment
Gosford City Council

Geoffrey Potter – Historian CCC