

Adelaide Beach Management

Friday, 8 November 2024

David Osborn, Manager, Coast



Government of South Australia
Department for Environment
and Water

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Coast Protection Board

(1) The functions of the Board are as follows:

- (a) to **protect the coast** from erosion, damage, deterioration, pollution and misuse; and
- (b) to **restore any part of the coast** that has been subjected to erosion, damage, deterioration, pollution or misuse; and
- (c) to **develop any part of the coast** for the purpose of aesthetic improvement, or for the purpose of rendering that part of the coast more appropriate for the use or enjoyment of those who may resort thereto; and
- (ca) to **manage, maintain and, where appropriate, develop and improve coast facilities** that are vested in, or are under the care, control and management of, the Board; and
- (d) to **report to the Minister** upon any matters that the Minister may refer to the Board for advice; and
- (e) to **carry out research, to cause research to be carried out**, or to contribute towards research, into matters relating to the protection, restoration or development of the coast; and
- (f) to perform such other functions assigned to the Board by or under this or any other Act.

Coast Protection Board

CE of DEW nominee

CE of SA Tourism Commission nominee

CE of Department for Infrastructure and Transport nominee

Local Government representative

Biological science and environmental protection expert

Coast protection expert



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Coastal Protection and Sea Level Rise

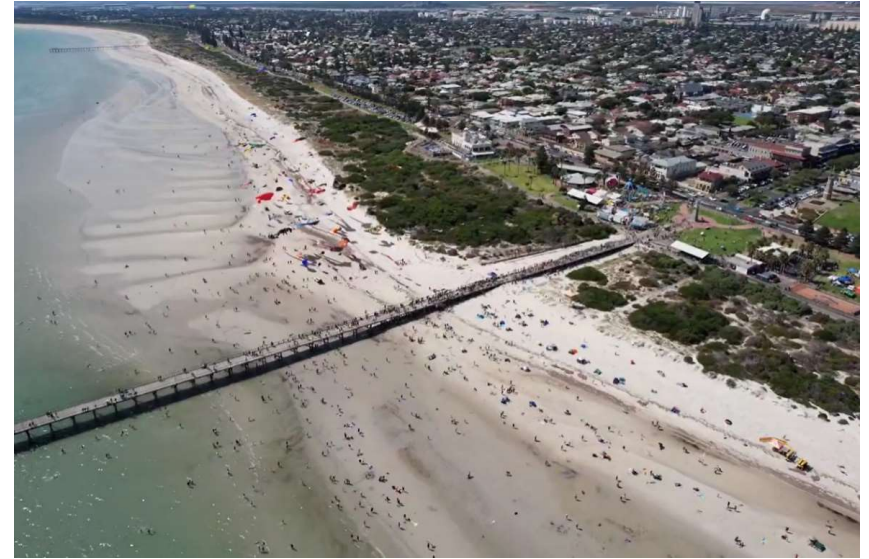
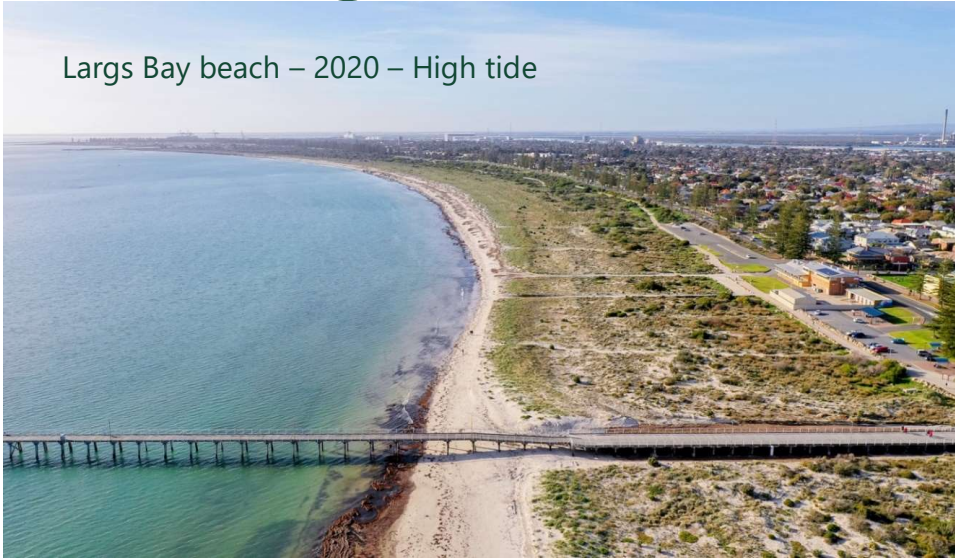
- SLR increasing (average 3-5 mm/yr), 7.5 mm/year in 2022/23
- Likely SLR up to ~ 1m (2100), 2m (2150), 3m (2200), 5+m (2300)
- SLR approaching 2m by 2100 and 5m by 2150 cannot be ruled out
- Long term SLR for 1.5°C (2 to 3m), 2°C (2 to 6m), 5°C (19 to 22m)



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Shifting baselines

Largs Bay beach – 2020 – High tide



Semaphore Beach – 2024 – Lower tide



Largs Bay beach - 1936

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We aim to avoid this....



Henley Beach 1953

By doing this....



Henley Beach 2021 – beach replenishment by truck



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- Sand naturally moves north (littoral drift)
- Coastal structures impede this natural sand movement
- Cell 1 back-passing by pipeline
- Cell 2 back-passing by truck
- Cell 3+ challenges



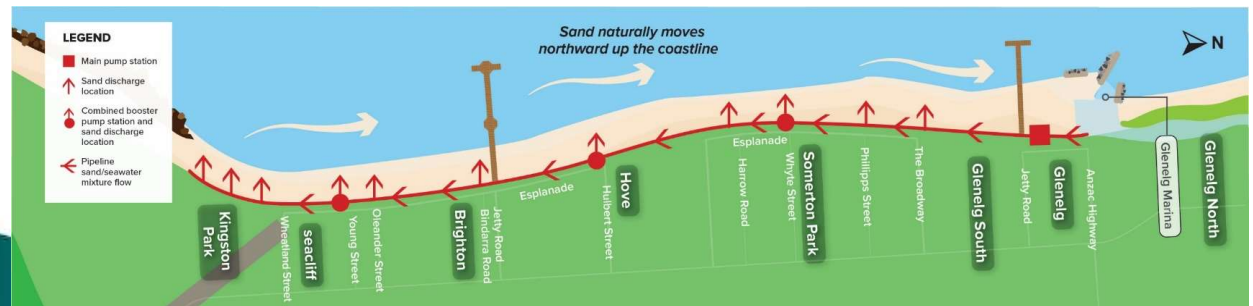
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Glenelg to Kingston Park - sand pumping system



By actively managing the metropolitan coastline we provide foreshore/property protection and sandy beaches for the community to enjoy.



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Adelaide Beach Management Review

- Sand naturally moves north (littoral drift)
- Coastal structures impede this natural sand movement
- ~90,000m³ sand drifts northward out of West Beach per annum (on average)
- Sand accumulates at the northern end of the management area (Semaphore, Largs Bay, Taperoo and North Haven)



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Beach replenishment

- Aiming to deliver ~200,000 cubic metres (m³) of quarry sand in 2024/25
- About 60,000 m³ delivered since 29 July.
- Operations were paused temporarily during September to protect hooded plovers.



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Dredge Management Plan

- Dredging is regulated by the Environment Protection Authority (EPA) through a licence and an approved Dredge Management Plan (DMP).
- The DMP covers the methods for dredging, sand placement, and how potential impacts on the environment, public health, and local areas will be managed.
- The EPA approved the Dredge Management Plan on September 25, 2024.



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Dredging trial operational phase

AIM:-

To test the feasibility of dredging as an approach to sand management in the 'Northern Management Area'.

DREDGING ZONE IDENTIFICATION:-

Investigations:

- sediment characteristics and contamination,
- benthic habitat,
- Bathymetry,
- sand volumes.

Managing sand on Adelaide beaches
Dredging trial zones



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Sand placement areas and methods

The trial is considering different methods of sand delivery at West Beach:

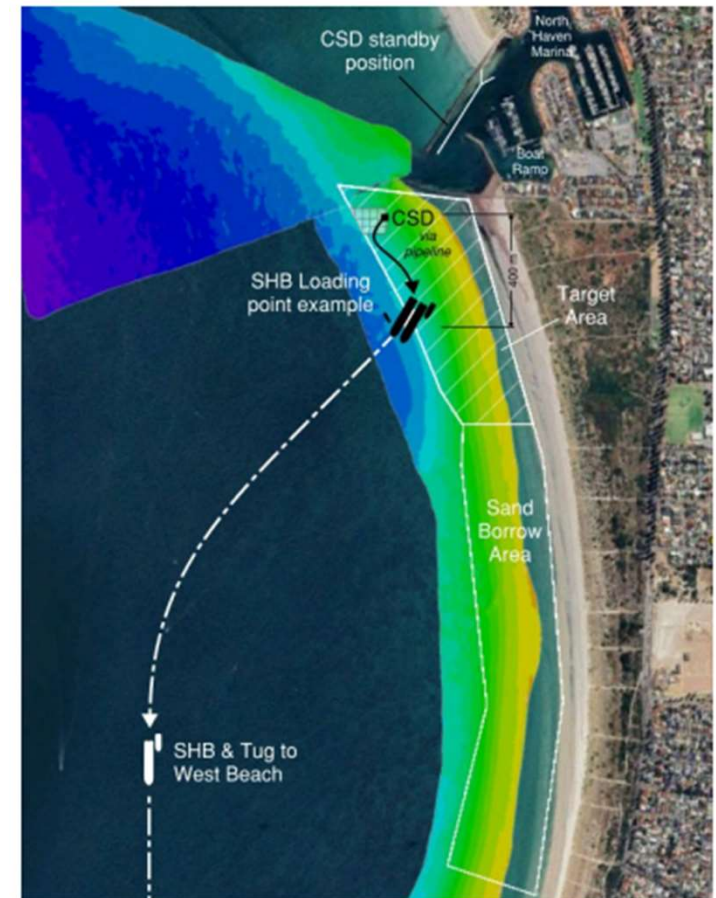
- **Nearshore** - via split hopper barge or pipeline
- **Onshore** - via pipeline



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North Haven Marina Sand Trap

- an accreting body of sand located south of the North Haven Marina breakwater.
- sand accretes at this location, eventually drifting into the marina channel and protected waters which requires annual maintenance dredging to maintain navigability.
- dredging will create a sand trap to buffer sand ingress into the marina channel for maintenance benefit, as well as test the feasibility of dredging sand from this location.





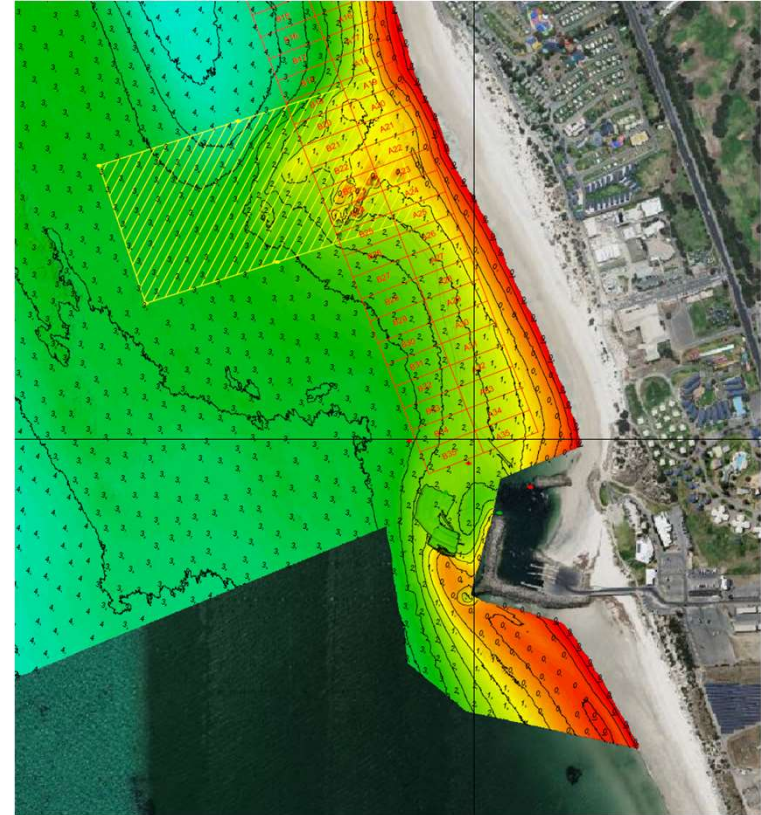




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West Beach Harbour Sand Trap

- an accreting body of sand located to the west and south of the West Beach Harbour breakwater.
- a source of sand for nourishment via CSD and direct pipeline either to the nearshore or onshore placement areas.



**DEW dredges West Beach Harbour and channel on an as-needed basis when wrack and sediment impede navigation. No dredging of channel materials is proposed for nourishment of West Beach*



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Map 1

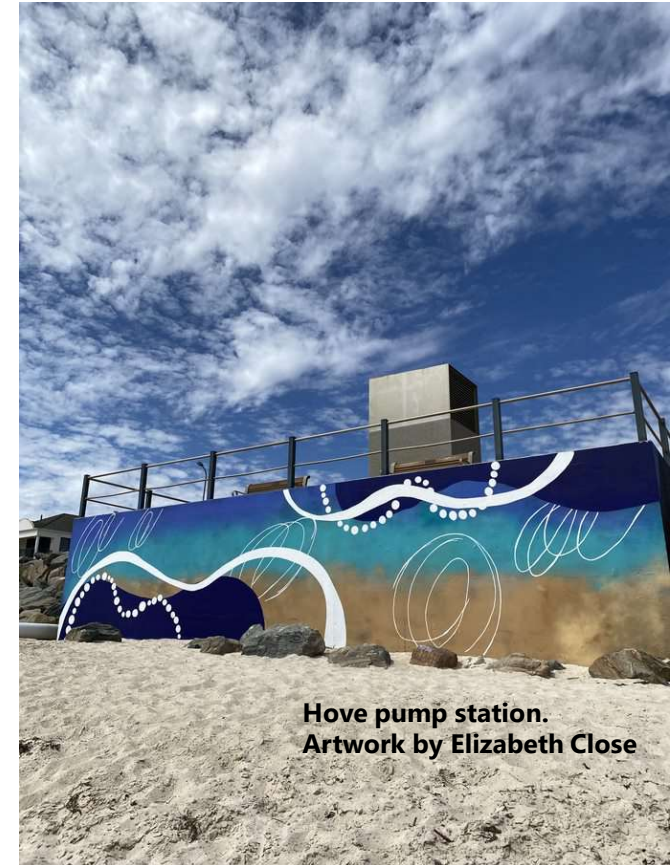
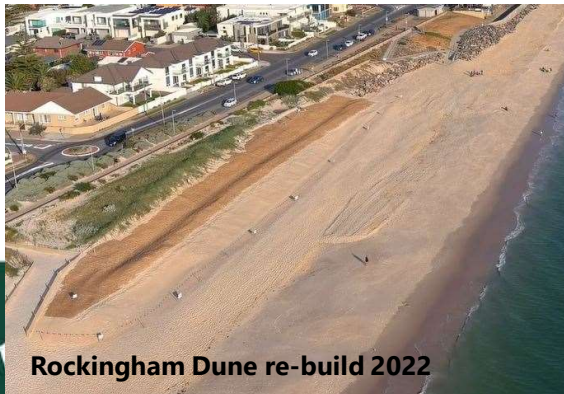
SBA3 (WB Sand Trap) -
SPA 1 Nearshore Placement



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We re-build , stabilise and vegetate dunes & we collaborate and engage with a wide range of coastal stakeholders



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We keep Glenelg and West Beach harbours clear of sand and seagrass all year round for boaties



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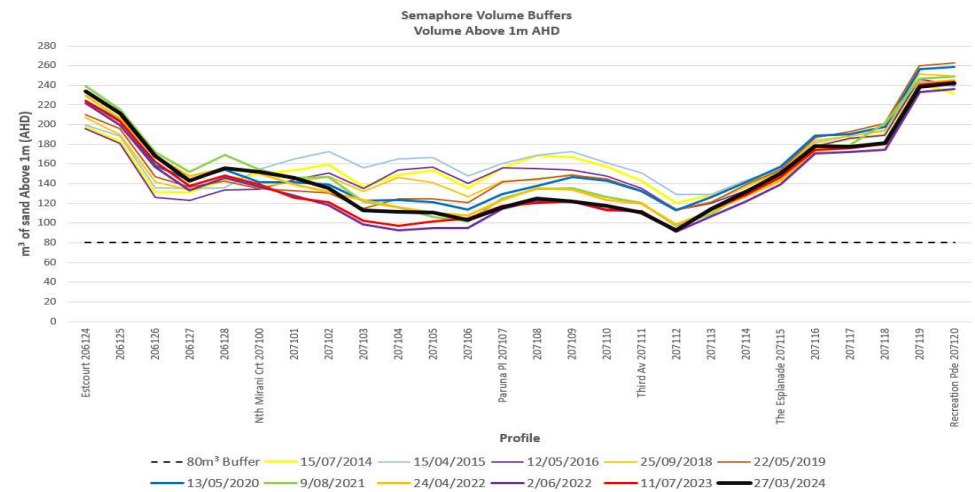
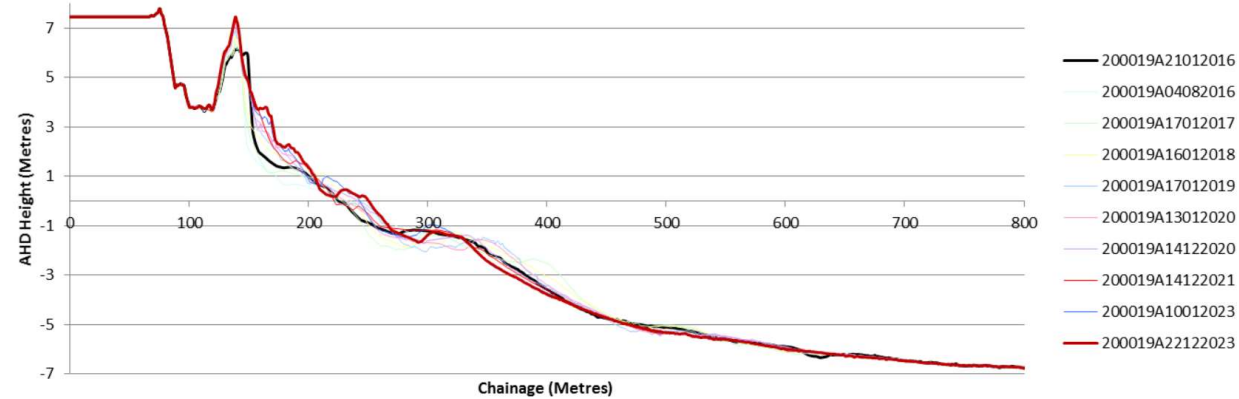
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Survey Program

Wading and Boating beach profiles at vulnerable locations



Profile 200019
WEST BEACH, MELLOR ST



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NEW Coast Survey Vessel - Tombolo.



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Seabed sediment elevation and seagrass condition monitoring



Collaborative blue carbon science





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Aerial and oblique and drone photography program



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Keep updated with the latest

- DEW website: <https://www.environment.sa.gov.au/topics/coasts>
- Our Coast electronic newsletter
- Text message notifications
- Subscribe to our newsletter and notifications:



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Questions



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