

Adelaide Beach Management Review

Community and Stakeholder Values Engagement



Adelaide's coast is a much loved and visited part of our city and holds significant community, environmental and economic values. However, these values are at risk from coastal erosion and without active management we will see the build-up of sand in some areas, and the loss of sandy beaches in other areas.

The coast is subject to erosion because there is not enough sand naturally entering the system to replace that which is washed to the north by waves. Without actively managing sand on the coast our beaches will continue to erode and physical infrastructure would be at risk.

The Adelaide Beach Management Review (the review) is a 12-month project, facilitated by the Department for Environment and Water (DEW) and the responsibility of the Attorney-General. The review involves an independent scientific review of coastal (sand) management approaches to determine the best long-term approach for managing Adelaide's metropolitan beaches.

The scientific review is being led by Bluecoast Consulting Engineers. Community and stakeholder engagement is being led by URPS. The review is being overseen by an Independent Advisory Panel (IAP).

Current focus of the review

The review is about to undertake an independent high-level technical feasibility assessment to short list a long list of sand management approaches that have been identified through research and suggestions from stakeholders and community.

The assessment will follow an evidence-based approach using information and data from previous coastal monitoring, studies and research on Adelaide's beaches. The assessment will evaluate the effectiveness and practicality of the approaches on the longlist to filter out the least feasible approaches.

The assessment will also be informed by what outcomes and values are important to the community about how sand on beaches could be managed.

As such, the review is now seeking input from the community about what these values and outcomes are. These may relate to beach use, access, amenity or the environment. The review is particularly interested in how community values relate to the goals of the review to:

- minimise disruption for communities
- avoid environmental harm
- maximise sand staying on beaches

The review wants to ensure that all approaches for sand management are assessed. As such the review is also asking the community if there are any other approaches not on the long list that should be added so that they can be included in the shortlisting process.

Long list of sand management approaches

The following list of sand management approaches has been informed by community members, stakeholders and research. It is not a government-endorsed list of solutions for the management of Adelaide's beaches.

The review wants to ensure that all approaches to sand management are considered and assessed equally. The aim of the long list is to ensure that all approaches are included in the independent high-level technical-feasibility shortlisting process.

If members of the community know of other approaches not on the long list that should be added, they are invited to contribute these through the online survey by 5pm 9 June 2023 (yoursay.sa.gov.au/abmr).

The long-list is broken down into four action categories:

1. Sourcing sand from elsewhere
2. Slowing and or stopping sand flowing north
3. Moving beach sand south
4. Stockpiling sand

It is acknowledged that no single approach will be likely to provide a long-term solution to sand management that meets the goals of the review. It is likely that a combination of approaches from the action categories will be required. The consultation later in year will present more detailed solutions and combinations of approaches for community and stakeholder feedback.

Sourcing sand from elsewhere

- Use sand from areas where it accumulates (such as Grange, Semaphore and Largs beaches/dunes) to replenish other beaches
- Obtain offshore sand from outside the Adelaide managed beach system (e.g. Murray mouth, Section Bank or Port Stanvac)
- Obtain sand from offshore or nearshore within the Adelaide managed beach system (e.g. around jetties)
- Continue to use inland sand quarries and consider purchasing a quarry
- Obtain and stockpile sand from construction sites and/or from mine tailings for reuse on the coast
- Construct an underwater pipeline to move sand deposits from offshore (such as at Port Stanvac) to onshore where needed

Slowing and or stopping sand flowing north

- Only use sand for replenishment that has an average grain size larger than the receiving beach's native grain size to reduce the loss of sand from beaches
- Establish offshore reefs (potentially made from marine concrete, or old tyres) to reduce wave energy
- Establish multiple groynes along the coast to trap sand, lift beach height and create "pocket beaches"
- Use seagrass wrack and/or sand drift net fencing to trap sand and build dunes
- Establish offshore breakwaters along the coast to reduce wave energy
- Establish offshore islands (potentially made from waste products) to reduce wave energy
- Restore seagrass meadows to reduce wave energy
- Install distorted ripple mats (DRIM) to reduce wave energy
- Manage Semaphore to Largs with no further input or export of sand
- Alternatively, remove existing structures such as boat harbours and groynes, and reduce or stop sand backpassing to restore natural sand movement northwards

Moving beach sand south

- Construct an underground sand pumping pipeline from Semaphore / Largs Bay to West Beach, with sand collected from the beach via a sand collection unit (scraper) and pumped to West Beach and beaches in between
- Construct two underground sand pumping pipelines from Semaphore / Largs Bay to West Beach to either double the infrastructure lifespan, or halve the duration of the sand collection and pumping period
- Install 'sand shifters' below the beach to allow sand to be recovered from below the surface instead of using a land plane. In a typical fixed installation, the sandshifter unit is buried within the sand and the captured sand is discharged to a pumping station where the sand/water mixture is pumped through a backpassing pipeline
- Use a conveyor belt to move sand from barges at sea and deposit on the beach or in the nearshore
- Use a high pressure pump from a dredge or barge to 'rainbow' sand onto the beach or into the nearshore where needed
- Use a front-loading ship to collect, move and unload sand directly onto the beach via a dredged channel
- Deposit sand beyond the sandbar and let the tide / waves bring it onshore
- Use electric trucks to move sand on roads or along the beach
- Use a pipeline or conveyor to deliver external sand from trucks on the road to the beach (instead of driving trucks onto the beach)

- Manage the coast 'as a whole' considering the sand needs of all beaches to redistribute sand
- Manage sand within individual beach areas or 'management cells' rather than as a whole of coast
- Don't take any more sand out of the Semaphore South breakwater than what accumulates there each year
- Increase sand backpassing (moving sand from north to south) so the volume is greater than littoral drift (the natural movement of sand from south to north)
- Alternatively, collect sand from where it builds up within the system at Glenelg and the Torrens Outlet and forward pass it (i.e. place it on the northern side of these locations so that the sand can continue its natural movement north)
- Instead of moving beach sand, establish rock revetment walls (rip rap) to provide coastal protection and establish playgrounds or other attractions
- Instead of providing coastal protection, buy back affected properties to allow for retreat from coastal erosion

Stockpiling sand

- Source larger volumes of external sand to grow the beach and dune profile where it has eroded and to achieve coast equilibrium
- Build sand volume within the system and in front of sea walls rather than redistributing existing sand
- Establish a 'sand engine/motor' at West Beach using a very large volume of sand (at least 1.5 million m³) deposited nearshore that forms a larger beach/sand bar that redistributes via wind and waves over many years
- Increase sand replenishment volumes (to an average of 250-450m³/m) where replenishment is required
- Place sand in the nearshore environment rather than onshore and let tide and waves redistribute the sand

How to have your say

Share what is important to you about how sand could be managed on Adelaide's beaches. You can also choose to suggest sand management approaches to add to the long list of approaches to be assessed.

Have your say by 5pm 9 June 2023 by:

- Completing an online survey at yoursay.sa.gov.au/abmr

A workshop by invitation will also be held with representatives of key coastal stakeholder and community groups. People are also invited to email a written submission to mail@urps.com.au marked Adelaide Beach Management Review.

We understand that people may feel strongly about certain sand management approaches and already have formed a view about what they think is the best approach. This first stage of consultation however, is not seeking a critique or endorsement of the sand management approaches on the long list.

This stage of consultation is seeking to understand what is important to the community about how sand could be managed to inform the shortlisting of approaches. Consultation on shortlisted approaches will take place later this year and at that point detailed feedback on the approaches will be most valuable.

Next steps

URPS will prepare a consultation report that summarises the community input received via the online survey, stakeholder workshop and submissions. This report will be made available on the review webpage and will be provided to the Independent Advisory Panel for review.

The consultation report will be used by Bluecoast to undertake an independent high-level technical feasibility assessment to short list the long list of sand management approaches.

The results of the shortlisting assessment will be shared with community and feedback sought on the shortlisted sand management approaches later this year.

Review process

Step 1 - May to June 2023

Community and Stakeholder Values Engagement (URPS).

Step 2 - June 2023

IAP review Community Values Engagement Report and confirm approach for next stage of the review.

Step 3 - July to August 2023

Shortlist sand management approaches (Bluecoast).

Step 4 - August 2023

IAP review Shortlisting Report and confirm next stage of review.

Step 5 - August to October 2023

Community and stakeholder consultation on short listed sand management approaches (URPS).

Step 6 - October 2023

IAP review Shortlist Consultation Report and confirm next stage of review.
Opportunity for people to speak to their submissions at a meeting of the IAP.

Step 7 - October to December 2023

Assessment of shortlisted sand management approaches (Bluecoast)

Step 8 - December 2023

IAP review Assessment Report and confirm next stage of review

Step 9 - Early 2024

Community and stakeholders informed of the outcomes of the review and next steps

For more information

www.yoursay.sa.gov.au/abmr

