

Take a fresh look at the facts

**The Eyre Peninsula
urgently needs a
desalination plant.
Billy Lights Point
is our preferred
location.**

What are the environmental impacts?

Specialist-led environmental studies have shown that with the right engineering design, a desalination plant can be built at Billy Lights Point with minimal impact on the marine and coastal environments.

The predicted changes in salinity over time due to discharges from the desalination plant are within the natural salinity variability of the region.

Fewer than 0.1 per cent of the particles in the water, such as larvae, are at risk of coming within a 25m zone around the intake pipe.

Ensuring local marine life and supporting ecosystems are maintained and protected is core to strict environmental protection legislation and our vision and corporate values.

The research

A desalination plant at Billy Lights Point is the quickest solution to ensure water security for the region, has the smallest impact on future water costs for customers and, with effective engineering design, can be built without impacting our important marine and coastal environments.

Desalination plants must meet strict environmental protection conditions and criteria both to build the plant and to obtain a licence to operate. This includes comprehensive marine science research, a rigorous marine monitoring program and ongoing data collection and reporting.

Baseline assessments of the marine environment have been ongoing since September 2021, and will inform both the Development Approval and future monitoring programs.

A Marine Science Review Panel was appointed, consisting of internationally recognised experts and including members nominated by the Site Selection Committee.

The Panel reviewed a number of reports including the South Australian Research and Development Institute (SARDI) hydrodynamic modelling report, baseline water quality reporting, marine habitat mapping and an ecotoxicology review, available on watertalks.sawater.com.au/getthefacts. The panel supported the research conclusions.

The Marine Science Review Panel will continue to provide specialist advice throughout the detailed design phase and Development Approval stage of the plant, and through the establishment of operational monitoring programs.



Dr Don Plowman



Dr Anu Kumar



Dr Ian Wallis



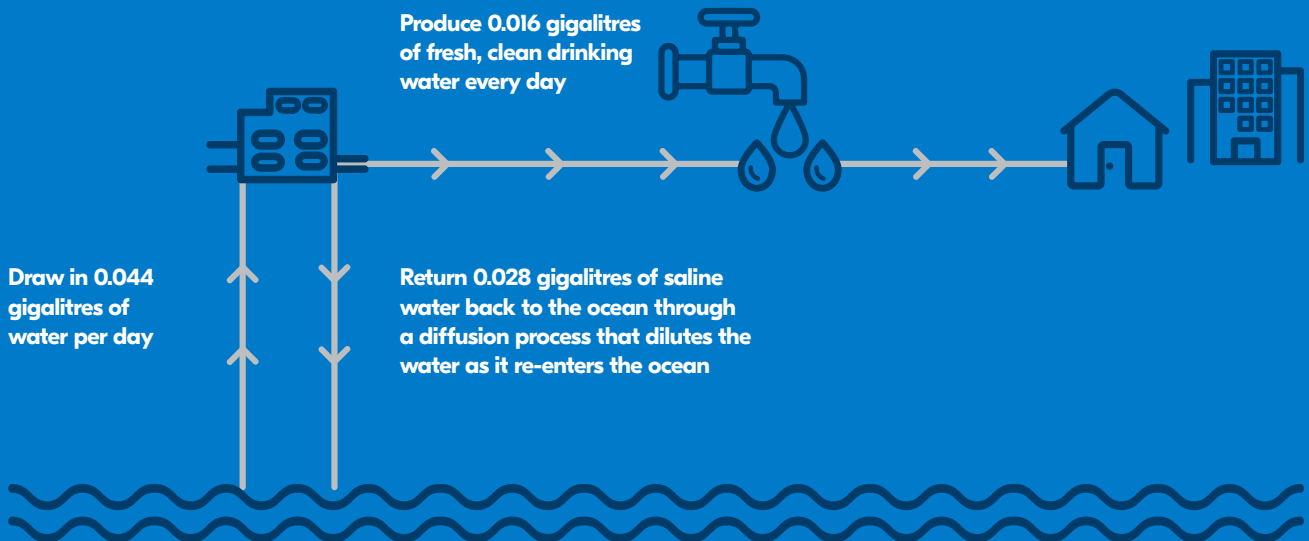
Dr John Luick



Dr Alistair Hobday

Role/advice area	Panel member	Organisation
Chair	Dr Don Plowman	Former Deputy CE, PIRSA, former executive with SARDI
Ecology	Prof Sean Connell	School of Biological Sciences, the University of Adelaide
Ecotoxicology	Dr Anu Kumar	CSIRO
Environmental Engineer	Dr Ian Wallis	Consulting Environment Engineers
Marine Ecology and Fisheries	Dr Alistair Hobday	CSIRO
Oceanographer	Dr John Luick	Austides Consulting

When the tap is turned on in late 2025, on average, the plant is expected to...



Boston and Proper Bays have a combined volume of about 1,765 gigalitres. A 5.3 gigalitre a year desalination plant at Billy Lights Point would draw 0.0008% of the bays' volume each day. The bays are part of the ocean and so the water is constantly replenished.

1 gigalitre = 1 billion litres

Salinity levels

The wider potential impacts of salinity in Boston and Proper Bays from the long-term operation of the desalination plant have been modelled by SARDI. Modelling shows that desalination plant discharge would result in salinity levels that are within natural background salinity levels after mixing, and well below the ANZECC/ARMCANZ water quality guidelines relating to changes in salinity.

Modelling of the diffuser's near- and far-field discharge zones will continue during detailed design, construction and operation. Validation monitoring and reporting to regulatory agencies to ensure key environmental criteria are met will form part of our license conditions.

Through considered design of discharge diffusers, and pipeline length and placement, a desalination plant at Billy Lights Point would meet the minimum dilution requirements by the time saline discharge meets the seabed, under all conditions – including dodge tides.

Impact on mussel spat from intake

Mussels are broadcast spawners with millions of larvae released by the female. Any extraction of water from a marine system would remove particles, including larvae and spat. This currently occurs from various operations in the bays where seawater is drawn into pipes without impact on mussel production and farming.

During the detailed design phase, habitat mapping studies and particle tracking modelling will help to identify which areas are more sensitive in relation to the intake pipe. At Billy Lights Point, fewer than 0.1 per cent of the particles in the water, such as larvae, are at risk of coming within a 25m zone around the intake pipe.

As the design for the plant progresses, we will continue to work with industry and marine specialists during detailed design to optimise the intake location and ensure it is not located adjacent to an area where large numbers of mussels are likely to occur.

Our credentials

With a proven history of designing and building desalination plants, we provide water security while protecting the surrounding environment. This includes the use of adaptable diffusers that aid dilution of the salty discharge and ensure marine life continues to thrive around the desalination outfall.

With a considered design and specialist engineering support, larger seawater desalination plants than the 5.3 gigalitre per year proposed plant at Billy Lights Point have been built and operated throughout Australia with minimal impact to marine ecosystems. Research from around the world shows that marine environments are not significantly impacted by desalination plants, and here in Australia, other much larger seawater desalination plants have been built and operated with proven minimal impacts to marine ecosystems including:

- The Penneshaw Desalination Plant produces 0.12 gigalitres of water per year and has had no adverse trends to surrounding ecosystems.
- Scientific monitoring of the 48 gigalitre capacity desalination plant at Cockburn Sound in Western Australia shows that since production began in 2006, the facility continues to operate in compliance with environmental requirements with no adverse trends observed.
- The 90 gigalitre per year Sydney Desalination Plant found the number of fish and varieties around its outfall increased during operation.
- The 100 gigalitre per year Adelaide Desalination Plant has had no negative impacts, and marine life species thrive around intake and outfall areas.

A separate business case is being developed by Infrastructure SA into the Northern Water Supply project which is examining a new water supply for the far north and Upper Spencer Gulf. We continue to work with the Northern Water Supply project team to assess if this is a viable solution.

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Get all the facts at

watertalks.sawater.com.au/getthefacts