

Marine environment

Fact sheet

Northern Water aims to provide a secure, climate resilient water source for industry located in South Australia's Upper Spencer Gulf and Far North. The Project is located on the traditional lands of the Barngarla and Kokatha Peoples.

Protecting the environment

The Northern Water desalination plant and pipeline are being designed to meet regulatory and legislative environmental and planning requirements. Our comprehensive management and controls mean potential environmental impacts can be avoided, mitigated or managed so the unique environment of the Upper Spencer Gulf and Far North continues to thrive.

We are working with leading technical experts to ensure best practice terrestrial and marine science research, modelling and data collection informs our design. Experts from the University of Adelaide, University of NSW and the CSIRO are peer-reviewing our marine modelling, design and assessments.

Consultation informing project outcomes

We are currently engaging with the Traditional Owners, the Barngarla and Kokatha Peoples, government agencies, recreational and fishing groups, tourism organisations, conservation groups and the community to seek their valuable local input and share the progress of our work.

We'll continue to gather insights through each phase of the project (including environmental assessments, detailed design and construction) to ensure we understand all perspectives and what is important to all stakeholders.

Environmental assessment

The project will undergo a comprehensive environmental assessment process that will include public consultation and a rigorous assessment by regulatory agencies.

This process will formally evaluate the potential environmental, social and economic impacts and benefits of the project, ensuring risk and impacts can be avoided or mitigated to acceptable levels.

Marine investigations

We have engaged technical specialists across a range of key disciplines to undertake the following seasonal marine environmental studies, including:

- **marine/intertidal investigations** to collect baseline information on marine communities within the intertidal zone
- **mangrove condition surveys** to assess the mangrove forest health and structure
- **benthic habitat and seagrass health surveys** to study the health and location of seagrass and seabeds and the organisms that live within them
- **prawn, fish and crab larval/juvenile surveys** to understand their habitats, abundance and breeding patterns
- **prawn recruitment survey** to assess the abundance and size of young prawns in the area
- **epibenthic fish, invertebrate and infauna surveys** to identify bottom dwelling or sediment dwelling fish and invertebrates
- **sea water quality monitoring** to test site specific water quality
- **vertical water profiling** to measure water characterised at various depths and to understand the aquatic ecosystems to determine the best location for the desalination plant's water intake
- **marine hydrodynamic modelling** (near-, mid- and far-field) to understand how the concentrated seawater discharge moves and disperses in the Upper Spencer Gulf informing diffuser design and impact assessments
- **ecotoxicity assessment** to evaluate the seawater concentrate
- **ongoing risk assessments** to further review the potential impact to the Cuttlefish Coast Sanctuary Zone.

Giant Australian Cuttlefish



Designing to protect the marine environment

The Upper Spencer Gulf is home to important and unique aquaculture fisheries and nurseries.


Northern Water is being carefully designed so potential impacts are managed and compliant with regulatory and legislative environmental requirements. This includes:


- positioning the desalination plant outside the conservation area to protect the sand dunes and unique coastal environment
- locating the seawater intake away from mangroves and large seagrass meadows, with the aim to reduce impact to valuable habitats
- designing the seawater intake in a way that allows marine life to easily swim in and around the structure
- undertaking marine hydrodynamic modelling to understand water movements and processes. This information will be used to design an outfall diffuser that rapidly disperses the concentrated seawater discharge in line with environmental requirements. Modelling demonstrates that the concentrated seawater discharge will disperse before it reaches the Australian Giant Cuttlefish breeding area (35km to the north of Mullaquana Station)..




ARTISTS IMPRESSION - Proposed Northern Water Desalination Plant, Mullaquana Station.

General enquiries

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Acknowledgement of Country

We acknowledge and respect the Traditional Custodians of this land, the Barnjarla and Kokatha Peoples, and their deep ongoing spiritual and cultural connection to Country.

We will work together to share our collective knowledge and recognise the enduring impact of infrastructure on Country.

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