

Desalination

Rous County Council

Rous's role is to deliver high-quality drinking water for the Northern Rivers that supports the region's health and prosperity. We are securing a sustainable and resilient water supply that will meet the community's needs to 2060 and beyond through water saving initiatives and an expanded range of water supply sources.

What is seawater desalination?

Seawater is treated to remove salts to create water suitable for drinking. A process called reverse osmosis is commonly used. The size of a desalination plant can range from a small unit the size of a shipping container to large plants that can provide hundreds of millions of litres of water a day.

Desalination as a drought response measure

Temporary desalination is an element of Rous's drought management plan as a potential emergency water source for use in a severe drought. However, implementing temporary desalination plants in a short timeframe can have significant logistical and regulatory challenges. With this in mind, we are also exploring the viability of permanent desalination options. This involves assessing possible locations, capacities, timeframes for implementation, and associated trigger points for both temporary and permanent options. Additional considerations include regulatory and planning requirements, construction and maintenance costs, energy use, and potential environmental, social and cultural impacts.

The investigation will help inform which is the most feasible option for use in a severe drought. It will also support a broader understanding of desalination as a potential permanent future water source for coastal areas.

A potential future water source

Preliminary desktop investigations have been conducted into desalination as a potential future water source. Some of the key considerations for desalination include regulatory and planning requirements, construction and maintenance costs, energy use, and potential environmental, social and cultural impacts. Based on their proximity to electrical and water reticulation networks, three possible locations have been previously identified: Byron Bay, Lennox Head and Ballina.

Key points:

We are investigating both temporary and permanent desalination options as an emergency response to severe drought.

Desalination is a rainfall-independent water source that could form part of a future water supply that is resilient to a changing climate and a growing population.

Investigating desalination now means that if needed, we can be ready to progress it as a future water source if other options do not eventuate or as an emergency response to severe drought.