Project Coorong | **Healthy Coorong, Healthy Basin**

Water Resource Optimisation

Providing water to the Coorong is vital for restoring its ecological values. To ensure that water delivered to the Coorong achieves its intended purpose, sophisticated forecasting and modelling tools are incorporated into decision making. These tools allow site operators to effectively plan and manage the use of water for environmental purposes.

The Problem:

Monitoring data is critical for maintaining the ecological character of the Coorong. The majority of the ecological character of the Coorong and Lakes Alexandrina and Albert Ramsar Wetland is directly determined by the volume, timing and quality of water passing through the site.

Data collected needs to reflect these parameters in order to allow decision-makers to detect change in ecological character, provide timely responses to ecological risks and make evidence-based site management decisions.

Project Overview:

Our aim is to improve the effectiveness, timeliness and efficiency of Coorong operations and environmental water decisions, by providing:

- more accurate, complete and integrated data to key decision makers
- more reliable, timely and relevant data collection and sharing
- tools and systems to inform short, medium and long-term decision making, real-time, seasonal and annual planning and longer-term implications.

Activities:

4 continuous monitoring stations at Pelican Point, Long Point, Parnka Point and Snipe Island upgraded.

Water quality sensors now measure salinity, dissolved oxygen, fluorescent dissolved organic matter, turbidity and pH

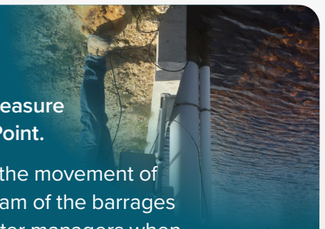
2 continuous monitoring sites at Parnka Point and Long Point were expanded to include meteorological (weather) parameters.

Now also measure wind speed and direction, atmospheric pressure, air temperature, relative humidity, and solar radiation.

1200+ water samples taken:

- Every three weeks, water quality samples are collected by hand from 20 locations throughout the Coorong.
- Analysed sample results are used to calibrate and validate the Coorong Dynamics Model's representation of Coorong water quality variables.
- An improved Coorong Dynamics Model will support water managers to make better decisions about the use of water and improve the Coorong's ecological health.

Data from instruments is publically available on the WaterDataSA website. Members of the public can click on an interactive map of the Coorong and see the data that is being collected and can be viewed in graphs.



Acoustic Doppler Current Profiler (ADCP) used to measure water movement downstream of the Tauwitchere barrage near Pelican Point.

- This information allows water managers to understand how the movement of water downstream of the Tauwitchere barrages responds to barrage releases and tidal conditions.
- Understanding the movement of water downstream of the barrages is helpful for water managers when considering which barrages to release water from.

Water Resource Optimisation

The Water Resource Optimisation project will develop better modelling, based on improved monitoring data to improve the effectiveness, timeliness and efficiency of Coorong operations and environmental water decisions.

CLLMM* Management Action Database

Records when and how much water is released through the barrages and the information that the decision to release water is based on.

*Coorong Lower Lakes Murray Mouth

Information exchange

Coorong Automated Forecasting System Solutions

A series of tools and modelling scenarios developed to support decisions on when and how much water should be released through the barrages to achieve environmental benefits

Coorong Water Quality Monitoring Program

Monitors a number of key water quality parameters, such as dissolved oxygen and organic matter, salinity, turbidity and pH.

Parnka Point Bathymetry

Bathymetric surveys provide depth data to improve the representation of complex Parnka Point region in the model

Coorong Dyanamics operational model

A revised hydrodynamic modelling tool to undertake barrage release scenario window modelling, assess the influence of environmental factors on the Coorong, and optimise barrage releases

CLLMM Dashboards on Water Data SA

Presentation of real time data at Lower Lakes and Coorong sites in a dedicated dashboard to inform water managers and the public about current conditions

Australian Government | South Australia | Government of South Australia, Department for Environment and Water

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