



**Australian
Water
Quality
Centre**

Sea Water and Marine Environments

The Australian Water Quality Centre provides customer focused, high quality analytical services, leading edge research and advice to SA Water and the water industry.



With ever increasing water quality issues, the AWQC recognises the importance of providing a service that can accurately and reliably detect the presence of contaminants in a variety of matrices. The AWQC has applied its knowledge of saline and seawater matrices to determine the right method for each parameter and ensure any interferences are mitigated.

AWQC HAS EXPERIENCE IN

- Determining the water quality of coastal waters
- Assessing the impact of nutrients
- Studies on the effect of discharges to marine environments
- Sampling and profile testing from lakes, reservoirs, rivers and provides boats and qualified operators for these services.

FOR WATER AND WASTEWATER TREATMENT

- Advice concerning the optimisation of treatment processes
- Research on alternate treatment methods
- Investigating techniques for the management of taste and odour compounds, algal toxins, and disinfection by-products


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ANALYTICAL TECHNIQUES TO SUPPORT THE DESALINATION TREATMENT PROCESS

- The use of Flow Cytometry for seawater bacteria enumeration as a more sensitive measurement of biological particle penetration during pre-treatment
- Bacterial Regrowth Potential (BRP) for the measurement of relative growth of indigenous bacteria and predicting the onset of Reverse Osmosis fouling
- Water Quality monitoring to provide a baseline assessment and to inform treatment plant design
- Establishment of pilot plant programs and analysis of samples to ensure effectiveness of treatment process
- Assessment of Disinfection Byproducts (DBPs) to include brominated and iodinated DBPs produced as a result of treatment processes of saline waters
- Extraction of Trace Metals in Saline Water by Chelation and Preconcentration to obtain low levels of reporting
- Using a variety of techniques the Nutrients Laboratory is able to analyse for many nutrient species for all water matrices
- Specialised analyses for total organic carbon and dissolved organic carbon in seawater and concentrated seawater from various stages of desalination process.
- Analyses of organochlorine (OC) and organophosphorous (OP) pesticides and herbicides in seawater
- Microscopic analysis of the composition and abundance of marine phytoplankton in untreated waters and spectrophotometric analysis of chlorophyll a as a measure of phytoplankton biomass.

The AWQC's greatest strength is in its ability to respond to ongoing challenges to produce safe drinking water. AWQC is able to quickly mobilize and develop new methodologies for various chemicals and microbial contaminants to low levels of detection.

The AWQCs sampling and analytical services are accredited by the National Association of Testing Authorities (NATA) and the Centre has Quality Certification that has been recently upgraded to the International Standard ISO 9001:2008.

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