

The Water Research Laboratory (WRL) has been providing advice to local government on water matters through a dedicated commercial projects team for over 50 years. WRL's reputation for completing timely, quality water investigations for Councils is highly regarded throughout Australia.

WRL has an enviable track-record of successfully delivered flagship projects for Councils in our specialist areas of the coast, estuaries, inland waterways, wetlands, groundwater, potable water, stormwater and wastewater. Recent high profile projects include:

- Argus Coastal Imaging (Gold Coast City Council, Qld)
- Future Coasts – Port Fairy Coastal Hazard Assessment (Moyne Shire Council, Vic)
- Sea Level Rise and Coastal Hazard Assessment (Clarence City Council, Tas)
- Temporary Desalination Plant Concept Design (Wyong Shire Council, NSW)

While these projects demonstrate our ability to service large projects, we have also completed many hundreds of smaller Council investigations. Often these smaller projects involve expert opinion and advice scoping investigations up-front; advice and experience that ultimately helps Councils focus funds and effort on core issues and key outcomes, avoiding unnecessary spending.

This brochure provides an overview of WRL's capabilities for solutions to local government water issues, no matter how small or large the scope.

## Our Approach

WRL is a unique organisation that has provided advice to local government since 1959. WRL aims to provide technically robust solutions that are based on local, site-specific information. We appreciate the administrative framework of Councils and offer a flexible approach to solving water problems in collaboration with local government. We understand that Council staff have invaluable local knowledge and encourage this input and direction to solutions for your water issues.

### Local Government Solutions for:

- The Coast
- Estuaries, Inland Waterways & Wetlands
- Groundwater
- Water & Sewer



Working with WRL has these key advantages:

- We are a dedicated team of highly trained and pragmatic water engineers and scientists
- We work to the timeframes and standards expected by local government
- We undertake applied commercial projects with the latest methods and knowledge
- We own and maintain a wide range of advanced field and laboratory facilities and equipment
- We are hands-on and work in the real-world to provide effective practical solutions
- We have the benefits of close ties to the research undertaken by the wider University of New South Wales
- We have in-house graphic design staff who can prepare high quality reports and community consultation media



## Stakeholder Consultation

WRL works closely with Councils and local stakeholders to ensure that an equitable balance is found between sometimes conflicting community priorities and technical project requirements. We have consulted and have ongoing contacts with a wide range community groups including local steering committees, private landholders, indigenous representatives, state government and National Parks.

## Independent Advice

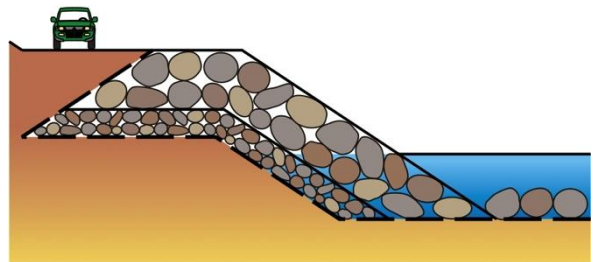
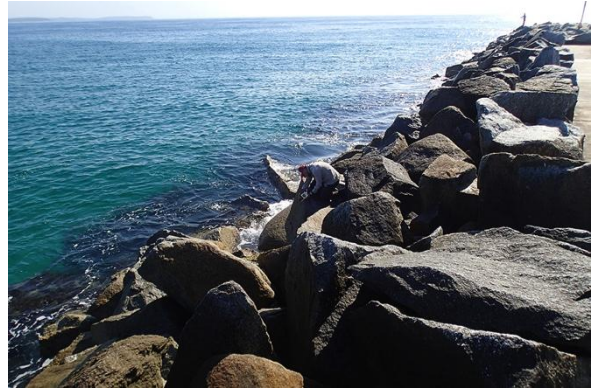
While we regularly provide “full service” project delivery to local government, WRL can also provide packaged services, such as the provision of high-level expert guidance, independent peer review and legal advice, across each of our specialist capability areas. WRL is also able to prepare and present in-house training and development courses specifically tailored to the needs of Council staff.

### Water Research Laboratory

School of Civil and Environmental Engineering | UNSW AUSTRALIA | 110 KING ST MANLY VALE NSW 2093 AUSTRALIA  
T +61 (2) 8071 9800 | F +61 (2) 9949 4188 | ABN 57 195 873 179 | [www.wrl.unsw.edu.au](http://www.wrl.unsw.edu.au) | Quality System Certified to AS/NZS ISO 9001  
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## Examples of our Coastal Expertise

- Preliminary seawall design (including optional physical modelling)
- Coastal hazard assessments (including numerical modelling) and management studies
- Condition appraisals of breakwaters, seawalls and groynes
- Remote sensing of partially buried existing seawalls (ground penetrating radar and jet air drilling)
- Planning and supervision of dune reshaping and rebuilding
- Particle size analysis of sand and sediment samples
- Establishing local sea level rise benchmarks
- Environmental camera monitoring systems
- Remote measurement of shoreline evolution
- Short term wave and tide data collection
- Echo sounder surveying of surf-zone bathymetry from jetski (PWC)
- RTK-GPS surveying of topography and shallow water bathymetry



### Contact:

James Carley: [j.carley@wrl.unsw.edu.au](mailto:j.carley@wrl.unsw.edu.au)

Matt Blacka: [m.blacka@wrl.unsw.edu.au](mailto:m.blacka@wrl.unsw.edu.au)

## Examples of our Estuaries, Inland Waterways & Wetlands Expertise

- Hydrodynamic modelling for rivers and estuaries
- Short or long term data collection
- Wetland restoration and management advice
- Assessing the impact of boat waves with objective decision support systems
- Design of maintenance dredging programs
- Acid sulfate soils investigation and remediation
- Floodgate design and installation (including SmartGates and SwingGates)
- Eco-hydrology (saltmarsh, mangrove, etc.)
- Riverbank erosion vulnerability assessments
- Flood studies (including physical and numerical modelling) and evacuation planning
- Sampling of water quality and sediments for contaminant transport



### Contact:

Will Glamore: [w.glamore@wrl.unsw.edu.au](mailto:w.glamore@wrl.unsw.edu.au)

Grantley Smith: [g.smith@wrl.unsw.edu.au](mailto:g.smith@wrl.unsw.edu.au)

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## Examples of our Groundwater Expertise

- Groundwater flow and contaminant transport modelling to support management decisions
- Construction dewatering compliance monitoring
- Monitoring of saline intrusion into coastal aquifers
- Pump and laboratory testing to assess aquifer yields
- Entry level assessments for managed aquifer recharge
- Environmental drilling and installation of monitoring bores
- Design and establishment of groundwater monitoring programs
- Monitoring of water quality at contaminated sites and landfill sites
- Assessment of exchange between groundwater and surface water
- Estimating recharge and sustainable extraction limits for individual aquifers
- Assistance with water sharing plans and sustainable groundwater use at the LGA scale

### Contact:

Doug Anderson: [d.anderson@wrl.unsw.edu.au](mailto:d.anderson@wrl.unsw.edu.au)

Will Glamore: [w.glamore@wrl.unsw.edu.au](mailto:w.glamore@wrl.unsw.edu.au)



## Examples of our Water and Sewer Expertise

- Wastewater treatment and discharge
- Computational fluid dynamics (CFD) modelling
- Marine and riverine outfall design
- Receiving water modelling and analysis including dye tracer experiments
- Assessment of stormwater structure performance
- Optimisation of water filtration plants
- Hydraulic efficiency and troubleshooting within waste water treatment plants

### Contact:

Brett Miller: [b.miller@wrl.unsw.edu.au](mailto:b.miller@wrl.unsw.edu.au)

Grantley Smith: [g.smith@wrl.unsw.edu.au](mailto:g.smith@wrl.unsw.edu.au)



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