

Position Description



Water Quality Analyst

Business Unit: Water & Catchment Protection

Reporting to: Water Quality Modelling Manager

Position Purpose

To develop and apply advanced analytical, computational and experimental methods to model water quality in natural and engineered systems, for planning and operations, and to provide related expert scientific support and advice; and put safety first.

Key Accountabilities

1. **Safety:** ensure all activities are undertaken with the safety of our people as the number one priority and always role model safe behaviour.
2. **Values:** behave and make decisions in accordance with the WaterNSW Values at all times.
3. Provide sound scientific input relating to water quality interactions in hydrologic, hydraulic models for multi-disciplinary projects in a team environment to assist in meeting regulatory and business requirements.
4. Undertake the development, maintenance and application of a strategic suite of 'water' models for water quality, including for example catchment and stream models and both actual and theoretical water supply system planning and operational models.
5. Undertake modelling and ensure models and reliable forecasts are available, and that support is provided for operations during events and incidents.
6. Ensure models are accessible and provide reliable advice for our customers to protect our catchment health, provide clean water and protect our ecosystems.
7. Investigate and interpret scientific literature and research findings to provide sound advice in relevant fields of scientific endeavour to inform policy and operational decisions on management of water quality to stakeholders in a timely manner.

Key Challenges

- Turning abstract data and information into meaningful knowledge to facilitate the better understanding of the complexities of catchments, storages and transfer systems.
- Keeping informed of industry standards and technological developments to provide the best accurate value for money solutions and advice.

- Balance rigorous scientific method and the need for a long-term strategic approach with the short-term needs of projects and investigations which, due to knowledge gaps and uncertainty in the scientific knowledge base, will not have definitive scientific answers.
- Ability to work in a virtual rapidly changing environment, managing change throughout the business

Significant Internal Relationships

Stakeholder	Purpose of Relationship
System Operations Team	<ul style="list-style-type: none"> • Understand needs and requirements • Collaboration
Catchment Programs	<ul style="list-style-type: none"> • Understand needs and requirements • Collaboration
Water Modelling Team	<ul style="list-style-type: none"> • Collaborate with the team • Ensure solutions align and common standard systems are developed
Water Quality	<ul style="list-style-type: none"> • Understand needs and requirements • Collaboration • Advice and support on water quality modelling

Significant External Relationships

Stakeholder	Purpose of Relationship
Sydney Water	<ul style="list-style-type: none"> • Understand needs and requirements for water quality information • Collaboration with the Sydney Water Hawkesbury Nepean Hydrodynamics modelling team
Local councils with the catchment	<ul style="list-style-type: none"> • Understand needs and requirements for water quality information • Collaborate and connect for data sharing

Delegations, Financial Accountabilities & Freedom to Act

- As defined in the WaterNSW Financial Delegations as varied from time to time.

WaterNSW Leadership & Performance Competencies

People	Level	
Communicating with Influence	C	<ul style="list-style-type: none"> • Generates interest in complex ideas and concepts • Builds support by taking the time to educate and consult others • Uses storytelling effectively to meaningfully convey key messages
Customer	Level	
Collaboration & Engagement with Customers and Stakeholders	B	<ul style="list-style-type: none"> • Builds and maintains relationships with individuals from other work groups to accomplish shared goals • Adapts approach to meet the needs of a broad range of customers and stakeholders
Partnering & Advice	B	<ul style="list-style-type: none"> • Engages in a productive dialogue with the customer to consultatively identify a solution • Provides credible advice for customers based on an understanding of the underlying issue • Knows when to draw on additional resources to provide appropriate support and advice for customers
Business	Level	
Analysis & Problem Solving	C	<ul style="list-style-type: none"> • Takes a broad view when analysing complex and ambiguous situations • Recognises patterns and draws linkages between data and/or situations • Develops long term solutions that address the root cause of problems and prevent recurrences • Selects and uses problem solving tools appropriate to the problem and the context • Evaluates the effectiveness of implemented solutions

Continuous Improvement	B	<ul style="list-style-type: none"> Analyses current processes and practices to identify opportunities for improvement Identifies patterns in data and information and implements improvements based on this analysis Has knowledge of and able to apply appropriate continuous improvement tools to achieve the best outcome Undertakes improvement projects within own team or business area to improve outcomes by utilising innovative thinking
Planning & Delivering Results	B	<ul style="list-style-type: none"> Manages expectations and accepts accountability for deadlines, budget and outcomes Delivers consistently to plans and focuses on the achievement of results despite obstacles Implements quality assurance practices to ensure projects and activities are delivered to required standards. Initiates action without prompting

Mandatory Candidate Requirements

Qualifications:

- Bachelor's degree or higher in Environmental Engineering, Environmental Science or related field relevant to the position
- Current NSW Drivers Licence

Mandatory Experience:

- Demonstrated experience in water resource and/or catchment management, with an emphasis on water quality.
- Experience relating to the management and delivery of modelling projects that investigate large catchment scale water resources for both quantity and quality.
- Understanding and experience in developing water resources models that simulate the build-up and wash-off of contaminants in the catchments.
- Specialised knowledge in one of more of the following nominated fields:

- Water quality (physico-chemical, microbial)
- Catchment and riverine hydrology
- Aquatic ecosystems

Favourable Candidate Requirements

- Evidence of understanding of water quality and quantity issues confronting Government and WaterNSW.
- Post-graduate education / research in complementary field (such as Water Resources, Environmental Science, Data Analytics or Freshwater aquatic sciences)
- Knowledge and experience in the use of large data sets for modelling, such as SCADA, HYDSTRA and real-time online data for both quality and quantity
- Knowledge and experience in the application of technology (SCADA or modelling systems) for water data or in the development and application of models for catchment, streams and water supply systems.

Pre-Employment Checks Required

- Identification
- Qualifications
- Drivers Licence
- Pre-employment Medical
- Police Check