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Role

General information

Title:	Senior Research Scientist – HAB Ecosystem Modelling			**Classification:**	PO4
Division:	SARDI	**Branch:**	Aquatic & Livestock Sciences	**Business unit:**	Marine Ecosystems
Type of appointment:	Term contract	**Hours of duty:**	37.5 hours per week	**Location:**	West Beach

About us

South Australia is internationally recognised for the quality of its agriculture, food, and wine. Our regions are the backbone of our state and the economic powerhouse that drives prosperity for all South Australians.

The Department of Primary Industries and Regions (PIRSA) is a key economic development agency working in partnership with our primary industries, regional stakeholders and across all levels of government to advance the prosperity and sustainability of South Australia's primary industries and regional communities.

We are a passionate team of around 800 people working across metropolitan and regional South Australia to develop and protect our state's regions and food, wine, aquaculture, fisheries, forestry, grains, livestock, dairy and horticulture industries.

Purpose

The primary purpose of the role is to deliver applied ecosystem modelling to assess the ecological impacts and recovery of South Australia's marine ecosystems following the unprecedented 2025 harmful algal bloom (HAB). The role will develop and implement whole-of-ecosystem models, integrating multidisciplinary datasets to quantify impacts on trophic structure, food web dynamics, and the productivity of key fisheries and aquaculture sectors and to forecast recovery trajectories.

The role contributes to delivering the agency's priorities, including sustaining the resource, supporting adaptive and risk-informed management, and building resilience in South Australia's seafood and marine ecosystems.

The role contributes to delivering the Marine Ecosystems Program objectives by providing high-quality, evidence-based science to support decision-making, management responses, and long-term planning for the State's marine industries and biodiversity.

Key accountabilities

- Delivering advanced whole-of-ecosystem modelling to assess the ecological impacts and recovery of South Australia's marine ecosystems following the 2025 harmful algal bloom (HAB) event.
- Integrating multidisciplinary datasets from biological, environmental, fisheries, and aquaculture sources into ecosystem models to produce robust, evidence-based outputs.
- Ensuring modelling approaches and outputs meet scientific best practice, are fit-for-purpose, and address management and industry information needs.
- Coordinating the development of an integrated framework for assessing ecosystem-wide impacts of HABs and forecasting recovery trajectories.
- Initiating, planning and leading high quality research projects to support PIRSA priorities to sustain the resource, and support the ecological sustainable development of the State's marine resources.
- Providing specialist ecological modelling advice to support adaptive, risk-informed management responses and resilience-building in South Australia's marine industries.
- Preparing high-quality reports, publications, and presentations to communicate findings to scientific, government, and industry audiences.
- Collaborating effectively with State and Commonwealth agencies, industry partners, and research organisations to support project objectives and deliverables.
- Contributing to PIRSA's Marine Ecosystems Program through proactive participation in program planning, progress monitoring, and achievement of project milestones within agreed timeframes and budgets.

Key deliverables / results

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• Delivering validated ecosystem models that quantify the ecological impacts and forecast the recovery of South Australia's marine ecosystems following the 2025 HAB event. • Producing integrated modelling outputs that incorporate multidisciplinary datasets and provide clear, evidence-based recommendations for management and policy.	• Implementing best-practice modelling methods to ensure outputs are scientifically robust, transparent, and fit-for-purpose. • Producing high-quality technical reports, peer-reviewed manuscripts, and presentations for diverse audiences, including scientific, government, and industry stakeholders.

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- Developing an integrated framework for assessing ecosystem-wide impacts and identifying critical ecological thresholds for recovery.
- Achieving timely completion of project milestones, reports, and publications to agreed quality standards and deadlines.
- Collaborating with project partners to ensure modelling outputs are relevant, accessible, and aligned with stakeholder needs.
- Contributing to PIRSA's Marine Ecosystems Program objectives by supporting decision-making processes and resilience-building strategies for marine industries and ecosystems.

Relationships

- The Senior Research Scientist- Ecosystem Modelling, reports to the Subprogram Leader, Ecosystem Effects of Fishing and Aquaculture.
- Works closely with: Staff across relevant research programs (Marine Ecosystems, Fisheries, Aquaculture, Inland Waters and Catchment Ecology), PIRSA Fisheries and Aquaculture, the Department for Environment and Water (DEW), other HAB Science Program partners including industry stakeholders and university collaborators.

Requirements

- Possession of a current C class driver's licence and willingness to drive.
- Out of hours work and inter / intrastate travel may be required.
- Australian residency or current works permit is required (responsibility of applicant to provide evidence of a current work permit).
- You acknowledge your work, health and safety obligations and our expectations when applying for a role.
- The incumbent will be required to undertake emergency management training and must be willing to participate in emergency preparedness, response and recovery activities required by government agencies.

Qualifications

Essential:

- A PhD in Marine Science or related discipline
- Quantitative ecological modelling experience

Capabilities

Capability	Behaviours
Professional and Technical **Knowledge** Demonstrates fundamental knowledge and technical skills in ecosystem modelling, keeps up to date with relevant changes in modelling approaches and applications	• Demonstrates applied knowledge of contemporary ecosystem modelling principles and methods, particularly in marine environments. • Skilled in utilising ecosystem modelling approaches to assess ecological impacts and recovery. • Competent in statistical analysis, integration of large multidisciplinary datasets, and effective communication of technical results to scientific and non-technical audiences. • Comprehensive knowledge of contemporary ecosystem modelling principles, strategies and methodologies and detailed knowledge of related government policies and procedures and their application in relation to SARDI operations. • Significant ability to successfully source, collate and synthesise data, and provide expert professional advice to support decision making. • Demonstrated ability to work with professional independence under broad guidelines.

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Investigative skills Undertakes investigative studies; researches information on familiar and unfamiliar issues using a wide range of sources	• Uses a range of qualitative and quantitative research methods to support the delivery of applied science. • Ensures findings are presented in a form that is accessible and useful to the business • Shows attention to detail and accuracy in evaluating information and interpreting it to reach useful conclusions
Planning and organising (work management) Develops and manages efficient work plans for	• Identifies capabilities and resources needed to get the job done • Operates within time, financial and political restraints • Monitors and reviews progress of activities and revises priorities appropriately

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complex projects or activities involving a number of elements or groups.	
Analytical thinking Quickly and confidently weighs up information, identifies pertinent issues and assesses the broader implications of conclusions.	• Analyses and explains complex information to others in a meaningful and clear manner. • Analyses and interprets information to identify key issues and assess broad impact.

HRMS no.:		**ANZCO Code:**		**Objective ID:**	
Delegate approval:	Prof. Tim Sutton on behalf of the ED, SARDI			**Date:**	27/08/2025
Approved and classified by People and Culture:	Zena Arabilla – Principal HR Business Partner				

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