# Position Description

## Research Scientist/Engineer – CSOF5

The following information is for applicants

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| Advertised Job Title**:** | Quantitative ecologist and ecosystem modeller |
| Job Reference: | 59445 |
| Relocation Assistance**:** | Will be provided to the successful candidate if required. |
| Applications Are Open To: | * All Candidates |
| Percentage of Client Focus - Internal: | 10% |
| Percentage of Client Focus - External: | 90% |
| Reports to the: | Fisheries Assessment and Marine Ecology Team Leader |
| Number of Direct Reports: | 0 |
| Name and Contact Details For Applicant Enquiries | If after reading the position details above you require more information please contact: **Eva Plaganyi-Lloyd** via email: [Eva.Plaganyi-Lloyd@csiro.au](mailto:Eva.Plaganyi-Lloyd@csiro.au) |
| Contact Details For Applying | Call 1300 984 220 or email [careers.online@csiro.au](mailto:careers.online@csiro.au). |
| How to Apply: | Please apply online at [jobs.csiro.au](https://jobs.csiro.au/) and enter the requisition number**.** Internal applicants please apply via ‘Jobs Central’ through the ‘People Hub’ icon |

## Role Overview:

The role of Research Scientist Staff in CSIRO is to conduct innovative research leading to scientific achievements that are aligned with CSIRO’s strategies. You may be engaged in scientific activity ranging from fundamental research to the investigation of specific industry or community problems. You will have the opportunity to build and maintain networks, play a lead role in securing project funds, provide scientific leadership and pursue new ideas and approaches that create new concepts.

You will help execute a research portfolio in the area of risk assessment and ecosystem modelling, working with a group conducting research into ecosystem-based management of the coastal and offshore waters of Australia in relation to activities such as fishing, energy, mining, tourism, environmental conservation, and urban and rural development. The research approach is based on a scientific understanding of the functioning and dynamics of socioecological systems, including the interactions of natural and multiple human activities. This work requires an understanding of marine ecological modelling, model uncertainty and modern approaches to the science-management interface.

The work will include: collation and analysis of relevant socioecological data sets (e.g. oceanography, diet contents, economic statistics, social networks and other biological, economic and social spatial and temporal data); assisting with modelling of socioecological processes; assist with multicomponent marine risk assessments; development and refinement of methods for incorporating observational data information into multispecies and ecosystem models; and the development and refinement of methods for model parameterisation, fitting and uncertainty analysis.

## Duties and Key Result Areas:

* Assist in the application of marine and coastal socioecological models – specifically multispecies/ecosystem models of intermediate complexity (MICE), as well as approaches such as size-based models, Atlantis, Ecopath with Ecosim agent based models and risk assessment-based approaches.
* Interact with CSIRO researchers and the broader research and resource management communities to identify research priorities and develop new project proposals.
* Participate in communication processes within CSIRO and with stakeholders and researchers from outside CSIRO.
* Communicate effectively and respectfully in the interests of good business practice, collaboration and enhancement of CSIRO’s reputation.
* Produce high quality scientific and/or engineering papers suitable for publication in quality journals and for presentation at national and international conferences.
* Work effectively as part of a multi-disciplinary, often regionally dispersed research team, to undertake independent scientific investigations and carry out associated tasks under the guidance of more senior Research Scientists/Engineers.
* Under the guidance of Senior Research Scientists/ Engineers, work collaboratively and honestly with internal and external colleagues, clients and partners to help define and satisfy objectives for small to medium research projects.
* Assist in leading small research projects, including the negotiation of resource requirements.
* Provide coaching and on-the-job training to technical staff and students to ensure experiments are established in accordance with research design.
* Adhere to the spirit and practice of CSIRO’s Code of Conduct, Health, Safety and Environment plans and policies, Diversity initiatives and Zero Harm goals.
* Other duties as directed.

## Competencies:

1. **Teamwork and Collaboration: Cooperates with others to achieve organisational objectives and may share team resources in order to do this. Collaborates with other teams as well as industry colleagues.**
2. **Influence and Communication: Uses knowledge of other party's priorities and adapts presentations or discussions to appeal to the interests and level of the audience. Anticipates and prepares for others reactions.**
3. **Resource Management/Leadership: Allocates activities, directs tasks and manages resources to meet objectives. Provides coaching and on the job training, recognises and supports staff achievements and fosters open communication in the team.**
4. **Judgement and Problem Solving:** Investigates underlying issues of complex and ill-defined problems and develops appropriate response by adapting/creating and testing alternative solutions.
5. **Independence: Plans, sets and works to meet challenging standards and goals for self and/or others. Recognises where endeavours will make the most impact or difference, decides on desired outcome and sets realistic goals to reach this target.**
6. **Adaptability:** Copes with ambiguity or situations that lack clarity. Adapts readily to changing circumstances and new responsibilities (which may include activities outside own preferences) in the interests of achieving team objectives. Recognises the need for and undertakes personal development as a result of changes.

## Selection Criteria:

*Under CSIRO policy only those who meet all selection criteria can be appointed.*

1. A doctorate and or equivalent research experience in a relevant discipline area, such as systems modelling, quantitative marine/aquatic or fisheries science
2. Direct experience in the development, calibration and delivery of marine ecosystem models.
3. Experience in the initiation of original research work and development of innovative approaches to research problems.
4. **The ability to work effectively as part of a multi-disciplinary, regionally dispersed research team, and carry out independent individual research, to achieve organisational goals.**
5. A record of science innovation and creativity plus the ability & willingness to incorporate novel ideas and approaches into scientific investigations.

## Desirable Criteria:

1. Experience in fisheries or marine ecology fieldwork
2. An appreciation of modelling principles and frameworks such as MICE, size spectra, Ecopath with Ecosim, Atlantis or agent based platforms such as OSMOSE
3. An appreciation of the principles of ecosystem-based management and knowledge of Australia’s marine and estuarine socioecological systems.

## Special Requirements:

Appointment to this role may be subject to conditions including security/national police/medical/character clearance requirements. Applicants who are not Australian Citizens or Permanent Residents may be required to undergo additional security clearances, which may include medical examinations and an international standardised test of English language proficiency (i.e. IELTS test).- <https://ielts.com.au/>

Are there any other special requirements e.g. National Police Checks, health checks (AAHL) etc.

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