**Senior Scientist (Agricultural Systems Modeller), PO4**

**Reef Sciences, Landscape Sciences**

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| **Duration** | Permanent | **Annual Salary**  **Fortnightly Salary** | $102,650 - $110,407  $3,934.60 - $4,231.90 |
| **Type of appointment** | Flexible Full-Time | **Position number** | 726685 |
| **Location** | Flexible | **Contact** | Dr Mark Silburn, Principal Scientist, 0428 743 426, mark.silburn@des.qld.gov.au |
| **Closing Date** | Tuesday, 10 May 2022 | **Job Ad Reference (JAR)** | QLD/415080/22 |

**The** [**Department**](http://www.psc.qld.gov.au/about-us.aspxhttp:/www.psc.qld.gov.au/about-us.aspx) **of Environment and Science**

The Department of Environment and Science (DES) recognises the enormous value a clean environment, innovative society and economy, and vibrant culture makes to Queenslanders’ lives. As a diverse organisation, the department brings together environment, heritage protection, national parks, science and youth affairs functions to help achieve government objectives for a better Queensland.

We are committed to building inclusive cultures in the Queensland public sector that respect and promote [human rights](https://urldefense.proofpoint.com/v2/url?u=https-3A__www.forgov.qld.gov.au_humanrights&d=DwMFAg&c=tpTxelpKGw9ZbZ5Dlo0lybSxHDHIiYjksG4icXfalgk&r=W4Gweh5POIqUFNTEU92Jny_3m0ZH7_MyCNsZ6WbxI2w&m=DP2ZLFkNwNjdifpUVipAQaVEBuedVVc4i5VxMuP_IJE&s=n8IaVLsBmceOUzhioUYLOvzCEJhlCoAknsTUtJUryPc&e=) and [diversity](https://urldefense.proofpoint.com/v2/url?u=https-3A__www.forgov.qld.gov.au_inclusion-2Dand-2Ddiversity-2Dcommitment&d=DwMFAg&c=tpTxelpKGw9ZbZ5Dlo0lybSxHDHIiYjksG4icXfalgk&r=W4Gweh5POIqUFNTEU92Jny_3m0ZH7_MyCNsZ6WbxI2w&m=DP2ZLFkNwNjdifpUVipAQaVEBuedVVc4i5VxMuP_IJE&s=koW3J_GJiZzzdkvt7CTYJukNsnFmkSdIgcEJAKnkghA&e=). DES has a culture which values results, professional growth, workforce diversity and a healthy balance between work and life commitments. DES encourages and supports its employees as individuals in an inclusive environment by embracing our differences and applying diverse and inclusive thinking to our business. We also work to create a culture free of gendered harassment and violence against women. As a White Ribbon accredited workplace, we actively create awareness of the issue of domestic and family violence, as well as do what we can to prevent it and support those that have been affected. DES is committed to the values of the Queensland Public Service: customers first; ideas into action; unleash potential; be courageous; and empower people.

At DES we recognise, respect and value First Nations people and cultures. We are progressing self-determination by recognising the rights and interests of First Nations people. We are investing in a culturally connected and agile organisation, with the skills and experience we need to support better outcomes for First Nations people. We are taking action in fundamental areas like employment and procurement, and by building strong and sustainable partnerships with First Nations organisations and communities. We are focused on working with First Nations people to improve service design and delivery, knowing that this will deliver better outcomes for all of Queensland.

More information on the department’s functions, focus and the type of organisation we are, can be found on the [website](https://www.des.qld.gov.au/).

**Your contribution**

As a senior member of the Paddock to Reef Paddock Modelling team you will validate and apply paddock scale simulation models of agriculture production systems to predict water quality from cropping lands in catchments draining to the Great Barrier Reef. This role contributes to the Paddock to Reef Integrated Monitoring, Modelling and Reporting Program ([reefplan.qld.gov.au)](https://www.reefplan.qld.gov.au/tracking-progress/paddock-to-reef) which is a collaborative effort involving approximately 20 organisations. You will work in a team of five other paddock modellers and alongside a larger Catchment Modelling team to predict the benefits of adopting improved land management practices on water quality for the Great Barrier Reef. You will also work closely with monitoring teams to collect and analyse agricultural trial data that can be used to validate paddock models.

Your work will support state government policy, inform prioritisation of government funding, and provide input the Reef water quality report card which measures progress towards the Reef 2050 Water Quality Improvement Plan targets, objectives and long-term outcome. You will be required to provide leadership and specialist technical and scientific advice to state and federal government agencies, regional NRM groups and other science professionals on agricultural water quality modelling.

**Your role:** The Senior Scientist (Agricultural Systems Modeller), PO4 is a role in which you will:

* Use paddock scale simulation models, such as APSIM, to integrate soil, climate, landscape and land-use data to predict and quantify impacts of land management practices on sediment and nutrient transport at paddock scale across the Great Barrier Reef catchment.
* Provide science leadership in modelling, integrating new data and innovative approaches to improve agricultural water quality modelling.
* Write efficient and well documented computer code to parameterise and execute model runs on a HPC and analyse and summarise large volumes of data.
* Provide expert technical advice to internal and external clients on land management and Reef catchment paddock modelling outcomes. Produce high quality technical reports and peer reviewed papers suitable for publication in international scientific journals.
* Represent the Queensland Government and build professional networks with stakeholders, presenting results and outputs from monitoring and modelling in a range of forums including scientific workshops, natural resource management bodies and industry stakeholder groups.
* Occasionally assist with field work alongside dedicated field monitoring personnel to collect data to ensure scientific rigour of the modelling.
* Foster a workplace culture that supports and promotes the interests of First Nations people and actively engage through our work to contribute to better outcomes for First Nations people.

**What we are looking for**

We’ll assess your merit for this role by looking at what you’ve done previously – the knowledge, skills and experience you’ve built, your potential for development, and your personal qualities. This position requires:

* Demonstrated experience in agricultural systems modellering, preferably using APSIM, and a strong understanding of crop production, hydrology,water quality, and soil science.
* Proven experience with programing (R or Python preferred) and ability to parameterise and execute large model runs and and analyse and summarise large volumes of data. Experience with GIS is desirable.
* Evidence of high quality scientific writing and presentation skills.
* Experience in identifying complex problems and possible solutions including research, comprehension and critical evaluation of relevant technical information and data.
* Well-developed ability to communicate with influence across a wide range of stakeholders including in the scientific and stakeholder communities.

Every staff member is expected to model leadership behaviours. This role requires the leadership capabilities of Individual Contributor as outlined in the [Leadership competencies for Queensland booklet](https://www.forgov.qld.gov.au/leadership-competencies-queensland).

**Citizenship/Visa**

To be appointed to a position, you must be an Australian citizen, have permanent residency status or a visa permitting you to work in Australia. You are required to notify the department if your right to work in Australia ceases.

**Benefits and conditions**

For a full list of benefits and conditions that come with this role please see our departmental website: <https://www.des.qld.gov.au/our-department/employment/why-work-with-us/information-for-applicants>

**How to apply**

To enable us to assess your merit, you should:

* apply online at [www.smartjobs.qld.gov.au](http://www.smartjobs.qld.gov.aua)
* include your current resume (of no more than **five** pages).
* provide a short statement (of no more than **two** page) explaining why you are interested in the role and what strengths you will bring relevant to the “What we are looking for” attributes..

The selection panel will assess your ability to perform the work required of the position based on your application and other selection processes which may include an interview and/or work test. Pre-employment checks, including referee checks will be conducted.

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| **Licences**  It is a mandatory requirement for the occupant of this position to hold an unrestricted driver’s licence and be prepared to obtain a manual licence if required for duties. Officers are required to drive government vehicles, including four wheel drives as a part of field work activities.  **Mandatory requirements**  To be eligible for appointment to this position you must hold a Degree qualification in Agricultural Science, Environmental Science, Engineering, Rural Science, Natural Resource Management, Applied Science (Rural Technology) or agreed equivalent as determined by the Director-General (seek advice from the Contact Officer before applying).  If your qualification is from an overseas institution, you are responsible for obtaining official recognition (see <https://desbt.qld.gov.au/training/training-careers/osqrecognition>). You will be required to provide this prior to any appointment. |

**COVID-19 Vaccination**

This position is subject to COVID-19 vaccination requirements under a [Queensland Chief Health Officer Direction](https://www.health.qld.gov.au/system-governance/legislation/cho-public-health-directions-under-expanded-public-health-act-powers/public-health-and-social-measures-linked-to-vaccination-status-direction). To be eligible for appointment to this position, you must provide evidence that you are fully vaccinated against COVID-19. You are considered fully vaccinated when you have had two doses of a COVID-19 vaccine recognised by the Therapeutic Goods Administration. You will need to provide a copy of your COVID-19 vaccination certificate as proof that you are fully vaccinated.

**Travel statement**

This position in based in Brisbane or Toowoomba, however travel to regional centres and other offices and for field work is required from time to time. This includes overnight stays.

**Additional Information**

* If you experience any technical difficulties, please contact 13 QGOV (13 74 68). All calls relating to the status of your application once the job has closed should be directed to the contact officer on the role description.
* If you are unable to submit your application online, please contact the QSS Customer Support Team on 1300 146 370, between 9 am and 5pm Monday to Friday, to enquire about alternative arrangements.
* If you need any additional support or adjustments during the recruitment process to help you demonstrate your ability to meet the inherent requirements of the role, please contact Dr Mark Silburn, Principal Scientist, 0428 743 426, mark.silburn@des.qld.gov.au
* Criminal history checks may be undertaken on the recommended applicant(s). A criminal conviction or charge will not automatically exclude an applicant from consideration for appointment with the Department of the Environment and Science. If information is received that may exclude you from further consideration, you will be given an opportunity to respond and your response will be taken into account in the evaluation process.
* If you are the recommended applicant, you will be required to disclose any serious disciplinary action taken against you in public sector employment.
* If you are the successful applicant, the department will work with you to ensure reasonable adjustments are made in the workplace to enable you to work safely and productively.
* A probationary period of three months will apply to external appointees.
* All newly appointed public service employees are obliged to provide their chief executive with a disclosure of employment as a lobbyist in the previous two years.
* Applications will remain current and may be considered for identical/similar vacancies, provided the appointment is made within 12 months of the closing date of the original vacancy.