

Position Profile

Spatial Data Specialist

Designation:	Spatial Data Specialist
Reporting to:	GIS and Data Management Team Lead
Employment status:	Fixed Term – Full Time
Direct reports:	N/A
Based in:	As agreed

About AWC

AWC is a pragmatic global conservation leader, restoring landscapes and securing the future of Australia's most endangered wildlife through science-led, measurable impact at scale. Inspired by the richness of Australia's biodiversity, we are united by a shared commitment to protect its unique animals and habitats.

Delivering this mission depends on OneAWC: a cohesive, engaged and high-performing organisation guided by strong leadership and shared values. Every role at AWC contributes to our mission to effectively conserve all Australian wildlife and their habitats, and to our vision for a world where Australia's biodiversity is valued and effectively conserved by an engaged community. Together, we work collaboratively towards shared conservation, safety and organisational outcomes.

AWC Values

All roles at AWC are expected to demonstrate the following values:

- **Accountable** – taking ownership of our actions and outcomes
- **Informed** – working together to acquire and apply evidence, knowledge and experience
- **Respectful** – demonstrating care, recognition and integrity
- **Dedicated** – committed to delivering effective outcomes, with resilience and tenacity
- **Innovative** – applying creative thinking for effective solutions
- **Sustainable** – delivering long-term financial and ecological viability.

AWC Strategy

AWC has launched an ambitious 10-year strategy to acquire or partner on managing more land for conservation, to protect priority species and ecosystems.

AWC's Science Program

AWC's science program plays a fundamental role in helping AWC meet its mission. The purpose of AWC's science program is to acquire, analyse and disseminate information that facilitates the delivery of effective conservation, with a primary focus on AWC properties and partnership sites. AWC currently employs around 80 professional ecologists to deliver its conservation science program. Key tasks performed by AWC's science team are to:

- Monitor and evaluate the ecological health of AWC properties – AWC is a national leader in reporting conservation outcomes across our network of sites;

- Conduct research on issues relevant to the conservation of wildlife – we currently support a large number of applied and fundamental ecology projects led by AWC staff and collaborators;
- Plan, implement and monitor reintroductions - AWC is a national leader in the reintroduction of threatened mammals to parts of their former range;
- Contribute to the development of conservation and land management strategies, addressing key threats to wildlife; and
- Develop and provide advice on conservation issues to AWC's Executive and Board, and to the public.

AWC's science program is delivered in the field through Regional Science teams. Each team is led by an experienced Regional Ecologist, responsible for overseeing implementation of the AWC's science program in the region, while ensuring that the program gives effect to AWC's national frameworks. Regional teams comprise Wildlife and Field Ecologists, who are responsible for implementing the science program (designing surveys, conducting field work, evaluating and reporting outcomes) at AWC properties and partnership sites.

The Regional Science teams are supported by AWC's National Science team (NST), comprising conservation ecologists, spatial analysts and data managers. The NST coordinates national conservation and reintroduction programs, leads national research projects, runs specialist ecological surveys, analyses and maps spatial data, develops data management systems, and provides information to AWC's Executive and other parts of AWC.

Role Purpose

This position works at the intersection of ecology, spatial analysis and data management, applying GIS, database, data analysis and spatial modelling skills to maintain, analyse and improve organisational information and support conservation decision-making.

Key components of the position include providing support for AWC's SQL databases and organisation-wide GIS systems, maintaining and improving ecological and spatial datasets, and contributing to the development and improvement of spatial data collection, analysis, modelling and monitoring methodologies. The position will contribute to the development and application of efficient, repeatable and, where appropriate, automated approaches to the mapping and monitoring of ecological values and processes, including weeds, fire and native vegetation.

In addition, the role will be expected to contribute to the broader tasks of the National Science program, as requested, related to the development and review of strategies to prioritise research, conservation land management and Ecohealth monitoring and evaluation. The candidate must be strongly motivated to make a substantial difference in nature conservation, contribute to the development of the private nature conservation sector, and be willing to help develop and promote AWC's conservation model.

This role contributes to AWC's mission by delivering conservation outcomes while supporting a safe, respectful and inclusive working environment where people are treated with dignity and fairness.

Strategic Alignment

The role contributes directly to Strategic Goals 1 and 4 by strengthening ecological and spatial data capability, supporting evidence-based conservation decision-making and using technology and innovation to improve conservation outcomes and efficiency.

Inherent Requirements of the Role

This role requires the ability to work effectively from a home-based or other approved remote work location. The role holder must be able to maintain reliable connectivity, use computer systems and online collaboration tools, participate in virtual meetings, communicate clearly with colleagues and stakeholders, and manage work independently with a high level of personal autonomy and self-management. The role may involve sustained periods of desk-based activity and screen use, occasional travel to AWC locations, and the ability to manage the practical, psychological and lifestyle

impacts of working remotely. The role holder must be able to safely and effectively perform these inherent requirements, with reasonable adjustments where appropriate.

Key Duties

- Assist with the maintenance and ongoing development of relational databases, including undertaking complex data and database updates, querying and manipulating data using SQL, and applying appropriate processes to maintain data integrity, consistency and reproducibility.
- Maintain and improve ecological and biodiversity datasets, including data cleaning, validation, transformation and migration, and assisting with updates to taxonomic and threatened species information.
- Provide responsive GIS, spatial data and technical support to internal staff, including mapping and spatial information, assisting with problem solving and helping staff access, understand and use spatial and related information.
- Create, edit, analyse and manage spatial data using QGIS and/or ArcGIS, including undertaking spatial analysis and producing high-quality maps and other spatial information products to a professional standard.
- Assist with the development and application of spatial tools, models and automated workflows, including the use of remotely sensed and other data, to improve the monitoring and mapping of ecological values and processes such as weeds, native vegetation and fire.
- Investigate and apply opportunities to improve the efficiency, repeatability and automation of ecological and spatial data collection, processing, analysis and monitoring.
- Develop and maintain data visualisation, reporting and information products using Power BI and/or other relevant tools.
- Maintain appropriate documentation, metadata and records relating to datasets, processes, technical procedures and data management activities.
- Contribute to the continuous improvement of GIS, data management, database and reporting processes, including identifying opportunities to improve data quality, efficiency, consistency and usability.
- Contribute to other components of the National Science Program, as delegated by the TL.

Location

AWC manages properties across Australia, with offices in Perth, Melbourne, Sydney, Cairns, Broome, Alice Springs, Buronga and Narrabri. Many AWC wildlife sanctuaries are in remote locations. The position may spend time on AWC properties, many of which are remote; however, the position is predominantly office-based. The position will be based at a location agreed with AWC.

Key Relationships

- The position reports to the GIS and Data Management Team Lead, then to the National Science Team Manager and ultimately to AWC's Chief Science Officer. Reporting lines may change over time.
- The position will work as part of the GIS and Data Management Theme within AWC's National Science team, which comprises ecologists at a range of levels and varied skillsets, developing, managing and/ or coordinating key components of AWC's science program: monitoring, research, reintroductions, acquisition prioritisation, spatial analysis and data management, climate change adaptation, genetics, botany and other specialist ecology. The NST is structured to ensure appropriate delegation within the team.
- As delegated, the position may have responsibility for day-to-day management of one or more AWC staff employed to assist with the projects.
- The position may work with Traditional Owners and Ranger Groups to facilitate their involvement in the delivery of AWC's science program on AWC sanctuaries and partnership sites.

- The Science Team works in an integrated manner with the Operations Team to design and deliver effective land management, and to measure and report on ecological health.

Critical Competencies

- **SQL and relational databases:** Strong applied capability in SQL and relational database systems.
- **Data integrity and quality assurance:** Strong judgement in maintaining data accuracy, consistency, integrity and reproducibility.
- **Data processing and workflow development:** Ability to design and improve efficient, reproducible data processing and integration workflows.
- **GIS and spatial data management:** Strong applied GIS and spatial data management capability.
- **Ecological knowledge:** Strong applied knowledge of Australian ecology, biodiversity conservation and ecological data.
- **Problem-solving, initiative and learning:** Resourceful and systematic approach to solving technical problems, learning technologies and improving processes.
- **Planning and prioritisation:** Ability to manage competing demands and balance planned technical work with emerging support requirements.
- **Communication and collaboration:** Strong relationship-building and communication skills, including translating technical information for different audiences.

Qualifications

- Degree in ecology, conservation biology, environmental science, geospatial science or a related discipline.
- Postgraduate qualification in database management, spatial analysis and modelling, remote sensing or a related area is desirable; equivalent demonstrated professional experience may also meet this requirement.

Licences/Certificates

- Legal right to work in Australia.
- Valid manual driver's licence.
- Competence driving a 4WD in field conditions is required for field work. Relevant training may be provided or required.

Experience

- **Demonstrated practical application of SQL and relational databases**, including working with complex databases, writing and optimising queries, creating and maintaining views, manipulating and updating data, and troubleshooting database issues.
- **A track record of maintaining data quality and integrity** across complex datasets, including identifying and resolving data quality issues and undertaking safe and reliable data updates.
- **Demonstrated development of efficient, reproducible data workflows** for processing, transformation and integration, including the use of automation to improve existing processes.
- **Practical application of QGIS and/or ArcGIS** to create, maintain and analyse spatial data, resolve spatial data issues, and produce high-quality maps and other spatial outputs.
- **A background working with ecological, biodiversity, environmental or other complex scientific datasets**, including the application of GIS, data management, databases, remote sensing or spatial modelling to ecological monitoring, conservation management or environmental decision-making.
- **Familiarity with Australian taxonomic, biodiversity and/or threatened species data** is desirable.
- **Proficiency with data visualisation and reporting tools**, preferably Power BI, is desirable.

- **Demonstrated development of automated image classification, object or feature detection, change detection or predictive modelling workflows using remotely sensed data**, including high-resolution and/or multispectral imagery, is highly regarded.

Key Outcomes and Responsibilities

1. Science practice
• Actively protect the integrity of AWC's science program, by adopting, promoting and helping maintain high standards of scientific practice. • Apply appropriate scientific, analytical and quality assurance processes to ensure the reliability, integrity and appropriate interpretation of ecological and spatial data.
2. Leadership
• Promote AWC's mission and values amongst AWC staff, partners and stakeholders. • As relevant, mentor junior staff, Interns and students; encourage their professional development.
3. Data management, database maintenance and development
• Develop and maintain a strong understanding of AWC's ecological data and database systems. • Provide support to AWC staff preparing data for input into relevant systems. • Assist with the maintenance and improvement of field data capture methods and data migration • Undertake data cleaning, validation, transformation, integration and migration. • Assist with the maintenance, improvement and development of databases, data processes and associated reporting products as required. • Apply systematic quality assurance processes when undertaking complex data or database updates. • Identify opportunities to improve the efficiency, consistency, automation and usability of AWC's ecological and spatial data systems. • Work with authoritative sources and AWC ecologists to assist in maintaining current taxonomic information for Australian species relevant to AWC's work. • Assist with periodic reviews of taxonomy, AWC species information and relevant Commonwealth and State threatened species legislation and conservation status information.
4. GIS and spatial data support
• Provide organisation-wide GIS and spatial data support as required. • Assist staff to access, interpret, manage and use spatial information effectively. • Develop and maintain spatial datasets, analyses and maps to support AWC's science and conservation programs.
5. Development of spatial tools and models
• Assist with the development and application of spatial tools, models and automated workflows to improve the mapping and monitoring of ecological values and processes. • Investigate and apply remotely sensed and other spatial data to support efficient and repeatable monitoring of native vegetation, weeds, fire and other ecological values and processes. • Contribute to the development and improvement of spatial data collection, analysis and monitoring methodologies.
6. Stakeholder
• Develop and maintain good working relationships with stakeholders relevant to AWC including AWC partners, Indigenous interests, government agencies, landowners, recovery teams, conservation organisations and community groups • Represent AWC's interests and promote AWC's mission and values in interactions with stakeholders • Act with respect towards Indigenous cultures and peoples.
7. Health, safety and environment
• In accordance with the requirements of the Chief Operations Officer and Chief Science Officer, undertake

risk assessments and prepare risk management plans. The risk assessments and management plans must protect the health and safety of everyone conducting AWC activities and/ or on AWC sanctuaries including you, other staff, contractors, volunteers and visitors.

- Implement and comply with the provisions of the approved risk management plan.
- Ensure Safety Management plans and safe work systems, as approved by the Chief Operations Officer, are implemented and complied with
- In particular:
 - Ensure that you and all staff, contractors and/or volunteers have adequate training before using plant, equipment, tools and/or vehicles.
 - Ensure emergency procedures are developed and posted in appropriate locations.
 - Ensure staff members have up-to-date first aid certificates.
 - Ensure incident and near miss reports are filled out and submitted as per approved AWC policies and procedures, in a timely manner.

8. Financial management

- Ensure activities are delivered in a cost-effective manner and in accordance with AWC policies and procedures.
- Ensure that all expenditure is in accordance with the approved budget; or for expenditure not identified in the budget, a relevant approval in accordance with AWC financial procedures.
- Ensure all required financial records and paperwork are retained and, as necessary, submitted to the AWC finance department.

9. Communication and development

- Represent AWC at scientific and public events in accordance with AWC policies and requirements.
- Contribute to AWC development (fundraising) programs, grant applications, etc.

10. Other duties consistent with the scope, level and purpose of the role

Key activities and responsibilities:

- Be a champion of the AWC values and ONE AWC approach.
- Take reasonable care for your own health, safety and wellbeing, and that of others; comply with all AWC health, safety and environmental policies, procedures and reasonable instructions.
- Help to foster a physically and psychologically safe, respectful and inclusive work environment.
- Comply with AWC policies and procedures.
- Other duties, as requested.