The Environment and Heritage Group (E&H) within the NSW Department of Planning and Environment (DPE), in partnership with UNSW Sydney, led by the Centre for Ecosystem Science, is offering $5,000-$15,000 scholarships open to UNSW postgraduate students with research aligned with E&H priorities. This program will run through to 30 June 2023.

The objectives of these scholarships are:

1. To strengthen partnerships and broaden networks between E&H and UNSW
2. To support higher-degree student projects at partner institutions that are aligned with E&H priorities and which will deliver relevant outcomes for the organisation

All postgraduate students within UNSW are eligible, and encouraged, to apply. Funds can be used towards travel associated with research, fieldwork expenses, specialty software, or small pieces of equipment. There will be a selection panel of UNSW researchers and E&H staff.

Eligibility

The scholarship is available to full-time and part-time students, and domestic and international students. The applicant must be enrolled in a PhD or Master’s programs at UNSW in areas relevant to E&H’s research priorities. The E&H knowledge strategy and themes is outlined in Appendix 1.

Additionally, the scholarship funding conditions are outlined in Appendix 2.

Students who have previously applied for and successfully awarded a DPE Postgraduate Scholarships can apply again. Note that the application must be for a different project i.e., a new piece of research.

Selection Criteria

Applications will be considered by a joint DPE-UNSW Selection Committee – with advice from E&H subject matter experts, against the selection criteria provided in Appendix 3.

How to Apply

Please use the Microsoft forms link to submit your application by Friday July 15th, 2022. Students should also provide a short letter of support from their UNSW supervisors.

Timings

<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
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<tbody>
<tr>
<td>Applications Open</td>
<td>20 June 2022</td>
</tr>
<tr>
<td>Applications Close</td>
<td>15 July 2022 - 5pm</td>
</tr>
<tr>
<td>Selection Committee assesses applications</td>
<td>End of July 2022</td>
</tr>
<tr>
<td>Outcome Announcement Project Commencement and Introductory Meeting</td>
<td>August 2022</td>
</tr>
<tr>
<td>Progress Update Meeting</td>
<td>January/February 2023</td>
</tr>
</tbody>
</table>
Successful candidates

For successful candidates, a relevant sponsor (i.e. researcher or expert) within E&H will be identified by DPE. The E&H sponsor’s role will be to assist with engagement within DPE and assisting students to identify project deliverables which will be useful to government end users. Grant deliverables should be tailored to be relevant and applicable for E&H, and realistic for the student to deliver as a part of their research.

With their UNSW supervisor, successful candidates will also need to attend an introductory meeting, provide a mid-way progress update and an end of grant meeting to hand over research outputs. Successful candidates will be required to complete short surveys at each of these milestones to enable E&H to evaluate the success of the grants program.

A guide that outlines the full expectations will be provided to successful candidates.

Communication opportunities

Optional communication activities via E&H channels will be offered to applicants, e.g. blog posts, drafting social media content for relevant green/science dates etc. Successful applicants will need to consult with their supervisor and E&H sponsors about appropriateness of communication activities, then contact knowledge.strategy@environment.nsw.gov.au to discuss opportunities.
Appendix 1: Knowledge Strategy

Applications must be strategically aligned with the knowledge themes listed below. Applicants should consult the knowledge themes overview and justify how their research aligns with the priorities of the E&H Group.

<table>
<thead>
<tr>
<th>Theme</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biodiversity, conservation and land use</td>
<td>Protecting biodiversity and supporting healthy and resilient landscapes and ecosystems</td>
</tr>
<tr>
<td>Energy and climate change</td>
<td>Supporting NSW Government goal of net zero carbon emissions by 2050 and increasing our capability to adapt</td>
</tr>
<tr>
<td>Water and coasts</td>
<td>Supporting waterway health and informing coastal risk management</td>
</tr>
<tr>
<td>Environment protection</td>
<td>Effectively managing pollution, reducing environmental impacts</td>
</tr>
<tr>
<td>Community and culture</td>
<td>Engaging the NSW community and connecting with Aboriginal culture and practices to deliver environmental outcomes</td>
</tr>
</tbody>
</table>

Additional Information:

- Knowledge themes profiles for partner consideration
- Science, Economics and Insights (SEI) Presentation March 2022
Knowledge theme profiles for partner consideration
Key knowledge needs

Science, Economics and Insights Division: helping understand NSW together

Biodiversity, conservation and land use
Protecting biodiversity, supporting healthy and resilient landscapes and ecosystems

Energy and climate change
Supporting the NSW Government’s goal of net zero carbon emissions by 2050 and increasing our capability to adapt

Environment protection
Effectively managing pollution, reducing environmental impacts

Water and coasts
Supporting waterway health and informing coastal risk management

Community and culture
Engaging the NSW community and connecting with Aboriginal culture and practices to deliver environmental outcomes

Evidence informed policy and program decisions, for a better NSW environment
Protecting biodiversity, supporting healthy and resilient landscapes and ecosystems

Knowledge needs

Research to expand the protection and enhancement of ecosystems, and improve the impact of biodiversity and conservation actions in NSW. Native vegetation management and land use impact knowledge is important to understand and implement to minimise key threatening processes on ecosystems. We also work towards ensuring recognition of the cultural value of ecosystems and Aboriginal knowledge sharing.
Biodiversity, conservation and land use

Threatened species conservation
- Threatened Species Scientific Committee listings
- Wildlife management, rehabilitation and release
- Threatened species/populations and communities - location, management and protection
- Koala management

Ecosystem protection, restoration and adaptation
- Ecological restoration
- Fire management
- World Heritage Sites monitoring and climate change adaption planning

Biodiversity and ecological health monitoring
- Biodiversity corridors
- Biodiversity offset scheme
- Biodiversity monitoring
- Integrated threat and scenario modelling
- Soil profiles and soil landscape mapping
- Terrestrial vegetation information
Biodiversity, conservation and land use cont.

Land use change

- Impacts of environmental water management on biodiversity
- Mapping and evaluation of Comprehensive, Adequate and Representative (C.A.R) network/National Parks Estate
- Assessment and evaluation of regulatory actions
- Integrated spatial information to assess potential harm and compliance
- Native vegetation retention in landscape
- Unexplained vegetation clearing data
Engaging the NSW community and connecting with Aboriginal culture and practices to deliver environmental outcomes

Knowledge needs

Research to engage communities to help deliver environmental outcomes, encourage environmental responsibility and appreciation for nature. Our focus is on embedding Aboriginal knowledge in our practices, respectful engagement with communities, culture and Country, and fulfilling mutually beneficial knowledge needs.
Community and culture

Two eyed seeing
- Collaborative care for Country
- Data to inform Aboriginal policies and strategies
- Integrated Aboriginal and scientific knowledge repositories

Community impacts and insights
- Energy affordability
- Stakeholders interactions with policy and programs
- Community value and persona's related to environmental issues and assets
Energy and climate change

Supporting the NSW Government’s goal of net zero carbon emissions by 2050 and increasing our capability to adapt

Knowledge needs

Research to understand the impacts of climate change on our environmental systems, and increase knowledge of the risks across NSW to improve management and mitigation. Knowing the impacts a climate change impacts will help build adaptive capacity, to support communities and respond to extreme weather events. Our role is to contribute to lowering greenhouse gas emissions and ensure our electricity system is reliable, affordable and sustainable.
Energy and climate change

Energy management and consumption
- Social benefits of targeted programs
- Evaluation of reduction in energy consumption
- Household energy use and minimum demands
- NSW infrastructure road map

Supporting climate change adaption
- Building Sustainability Index - residential water consumption
- Targeted climate products for end users
- Hazard risk management
- Net zero modelling and reporting

Financial analysis
- Impact of emerging technologies and investments on emissions outcomes
- Impacts of financial investments on emissions outcomes
- Characteristics of consumer profiles
Effectively managing pollution, reducing environmental impacts

Knowledge needs

Research to protect, restore and enhance environmental health. We utilise scientific services and expert advice to deliver essential support for environmental policy development, implementation and broader decision making.
## Environment protection

<table>
<thead>
<tr>
<th>Environmental impacts</th>
<th>Pollution monitoring and management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Carbon (Net Zero Policy)</td>
<td>Beachwatch</td>
</tr>
<tr>
<td>Marine Estate threat and risk assessment</td>
<td>Diffuse source</td>
</tr>
<tr>
<td></td>
<td>Fire management</td>
</tr>
<tr>
<td></td>
<td>Pesticides</td>
</tr>
</tbody>
</table>
Water and coasts

Supporting waterway health and informing coastal risk management

Knowledge needs

Research to protect, monitor and enhance NSW freshwater and marine environments, supporting waterway health and informing management, monitoring and assessment of marine, estuarine, coastal, wetland and freshwater habitats. Environmental water management is also key to ensuring shared water resources for all.
## Water and coasts

### Marine
- Blue Carbon (Net Zero Policy)
- Marine Estate threat and risk assessment
- Marine Park biodiversity
- Marine Park management

### Pollution monitoring and management
- Beachwatch
- Diffuse source
- Fire management
- Pesticides

### Coastal management
- Boundary location
- Beach monitoring, management and assessment
- Determination of metrics and methods to inform systematic evaluation
- Estuary monitoring, management and assessment

### Water management
- Floodplain management
- Ecological conditions of wetlands
- Flow and flooding impacts on water dependent biota and ecosystems
- Impact of climate change on water availability
Together, we can secure a bright, sustainable future for NSW and its people

The Science, Economics and Insights Division (SEI) of the NSW Government Department of Planning, and Environment (DPE) is NSW’s premier public environmental research agency.

Together with partners, we gather, analyse, and integrate critical information to strengthen our scientific knowledge and resources. It is our responsibility to ensure that the decisions affecting the NSW environment are supported by the best available scientific evidence, expertise and economic analysis to enable great policy development and program delivery.

As a group of multi-disciplinary experts, we tackle wicked environmental issues from all angles to find the most valuable solutions and together, build a resilient future for NSW.

More information

Email
knowledge.strategy@environment.nsw.gov.au

Phone
Director, Science Strategy and Impact
(02) 9995 5446
Science, Economics and Insights

SEI Division

March/April 2022
Acknowledgement of Country

We recognise and respect the traditional owners and custodians of the lands and waterways we work from. We acknowledge past, present and future Aboriginal peoples, and their continued care for Country.

We acknowledge our Aboriginal and Torres Strait Islander staff and partners who are an integral to Science, Economics and Insights (SEI) Division, and recognise the traditional owners of the lands and waterways our partners work from.

Aboriginal peoples have been caring for Country for more than 60,000 years, helping our understanding of the environment, the way we manage it, and the ways we protect it. They have generously shared, and continue to share, their knowledge of sustainable methods to help us manage our environment.

Uncle Mick Kelly and Uncle Geoff Simpson of Mothers Ancestral Guardians Indigenous Corporation (MAGIC), with Dr Eren Turak at Rick Farley Soil Conservation Reserve researching the benefits of cultural burning to soil health and biodiversity.
Who we are
SEI is the NSW Government’s specialist environmental research division. We provide integrated scientific research, evidence and expertise, and economic knowledge and analytical insights to underpin operational and policy delivery across the Environment, Energy and Science (DPE EES) Group, the broader Department of Planning and Environment and the NSW Government environment portfolio.

Our intent
Understanding NSW – together
Expertise in decision science and analysis for NSW

Our values
Collaborative  Creative
Daring  Trust

Urban heating – research from our climate scientists informing urban development and planning.
Our functions and capabilities

Research
• Support decision-making with data and information
• Influence environmental policy

Evidence
• Datasets to underpin decision-making
• Evidence for policy and compliance action

Expertise
• Develop innovative approaches
• Advice to solve economic and environmental problems
SEI Leadership team

Dr Georgina Kelly, Executive Director
Matthew Riles, Director
Laura Babian, Director
Mladen Kovac, Director
Dr Emily Yip, Director
Jeremy Black, Director
Dr Tom Colebrooke, Director
Dr Tim Pritchard, Director
Leanne Boyd, Manager
SEI Branches
Climate Atmospheric Science

The Climate and Atmospheric science branch provides research, monitoring, and data collection and analysis to improve our understanding of the impacts of climate change and air quality on communities. Their work includes new research on net-zero emission modelling.

The Branch also operates the largest air quality monitoring network in Australia. The network is NATA (National Association of Testing Authorities) accredited and provides data in real time across New South Wales. This allows people who are sensitive to air pollution to take precautionary action.

Working with NSW Health during the 2019 - 2020 bushfires, the Branch developed a new DPE air quality website with an air quality index and data explainers. The webpage ensures communities are able to access real-time information about the air quality around them, the types of actions they should take depending on air quality, and ways to reduce potential health impacts.

The Branch delivers the New South Wales and ACT Regional Climate Modelling, or NARCliM, project. NARCliM provides updated regional climate projections that support numerous statewide and cross-government strategies. For example, the data/models have been used to develop statewide projections of natural hazards that are helping communities adapt to a changing environment.
The Remote Sensing and Landscape science branch leads the development and delivery of remote sensing technologies, spatial analysis, modelling and mapping to assist in the management of the state's landscapes and biodiversity. Their expertise supports the maintenance of legislative requirements and conservation actions, such as the New South Wales Koala Strategy.

The Branch has recently developed 1,100 standardised profiles for Plant Community Types derived from the analysis of data collected from over 50,000 survey plots in Eastern New South Wales. It is the first time anyone has attempted such a large pattern analysis.

They also completed the NSW State Vegetation Type Map, making New South Wales the first state to have a complete, statewide vegetation map at the community classification level.

The Branch has developed new approaches to koala population research; drones that use AI to determine species by an infrared signature. Standardised methods for drone surveying have also been developed, ensuring rigorous science and data quality and resulting in Digital Restart Funding to establish a drone hub for NSW.
The Conservation and Restoration science branch undertakes applied research that collects, applies and evaluates evidence.

They focus on the management, conservation and restoration of terrestrial species, ecological processes, ecosystems as well as the people and cultures associated with these. One of their major achievements has been supporting the eradication of rats and mice on Lord Howe Island through the Lord Howe Island Rodent Eradication program.

The branch initiated and led the development of Cultural Health Indicators to inform State of the Parks reporting and Aboriginal Cultural Heritage Reforms. This included developing and applying the Aboriginal Site Decision Support Tool mapping information which underpinned the reforms.

The Conservation and Restoration Science Branch also facilitates fire research partnerships to improve our understanding of the costs and benefits and the implications of managing the risks of fire to people and the environment. They do this work through the Bushfire Risk Management Research Hub.
The Water, Wetlands and Coast science branch provides important work and research to support the health of our water ecosystems. They assess the health of waterways and support better water management strategies, such as the Marine Estate Management Strategy.

The Branch maintains the BeachWatch program, which provides daily beach pollution forecasts for 160 swimming sites in the Hunter, Central Coast, Sydney and Illawarra. The program also monitors recreational water quality at 228 swimming locations along the New South Wales coast.

The Branch has completed 6,863 sq. km of Marine LiDAR mapping along the coast. This will improve coastal hazard assessments, and manage beach erosion and coastal inundation caused by large storms and sea level rise.
The Environment Protection Science Branch provides expertise in a range of areas including soil and landscape science and analysis and environmental forensics and risk assessments for planning and environment protection regulation. They also support compliance and emergency management, including having a key role in the State Government’s response to per- and poly-fluroalkyl substances (or PFAS) contamination.

They operate a NATA accredited laboratory which delivers 24/7 responsive support for EPA investigations. They also deploy scientific and technical support to emergencies such as oil spills, fish kills and major fires, as well as state significant issues such as PFAS contamination and mixed waste organic outputs.

The Branch manages the NSW Soil and Land Information System which contains 77,000 individual soil observations and over 5,000 soil map units. This informs Biophysical Strategic Agricultural Land assessment, environmental degradation programs, biodiversity reforms, bushfire management and research, soil carbon storage activities, land and ecosystem management, Environmental Impact Statements and local planning decisions.
The Economics, Data Analytics and Insights Branch applies deep economic expertise, open data and advanced analytics capabilities to identify and solve problems critical to the success of natural capital, markets and public policy. Advanced analytics and data are used for various purposes, such as the development and implementation of the System of Environmental Economic Accounts.

This Branch leads the Natural Capital Assessment Methodology program which develops protocols for integrating natural capital into government investment and financial market decision mechanisms. This work is undertaken through a co-design approach with State Government stakeholders, the finance sector and natural capital accounting industry leaders.

The Branch works to accelerate the uptake of artificial intelligence and advanced analytics to provide a foundation for the adoption and application of data (including via the SEED portal) in ways that are of direct value to the Environment, Energy and Science Group and to the broader New South Wales community.
Science Strategy and Impact Branch provides coordinated environmental knowledge services to enhance delivery and outcomes of projects and programs. The branch helps staff and partners:

• communicate the significance and application of their work
• coordinate the capture and resolution of knowledge needs
• facilitate effective and impactful research partnerships
• support the integration of spatial datasets for place-based outcomes, such as the South Creek catchment and the Premier’s ‘Greening our City’ tree planting project
• model and forecast statewide vegetation and soil futures
• evaluate the outcomes of major government programs including the Net Zero Plan and Climate Change Fund programs

We also developed a world leading method to collect, monitor and assess information on the status of biodiversity in NSW; the Biodiversity Indicator Program. The program is one of many tools we produce to help take effective conservation actions to support biodiversity.
Appendix 2: Funding conditions

The grant shall be administered by and awarded on the recommendation of the Selection Committee.

- The funding is intended for the nominated project and may not be deferred or transferred without the written approval of the Committee.
- The funding is payable directly into the relevant Faculty account.
- Successful applicants must seek approval from the Committee if you wish to change the project causing the milestones and budget items and budget allocation to be different from what you have been awarded funds for. If these changes cause the project to no longer satisfy the conditions of the grant the recipient may be required to repay any instalments.
- Continuation of the grant is subject to satisfactory research progress.
- Any request to vary the conditions of the grant must be made in writing and will be determined at the discretion of the Committee.

At the end of the project, all unspent funds will be returned to the DPE Grants Scheme.

What the funds can be used for:

- Only studies that can demonstrate direct alignment with the knowledge needs of NSW DPE
- Travel to field sites
- Accommodation
- Equipment under $5,000 (not computers)
- Research and technical assistance
- Assay costs
- Up to $5,000 stipend top-up for the named PhD student

Note that applications for funds to support field work will be considered over funding requests to attend conferences.

What the funds cannot be used for:

- Non-aligned research
- Retrospective funding of activities
- Infrastructure including equipment over $5,000 and computers
- Open access journal costs over $2,000
- Visa and other immigration paperwork
- Medical expenses associated with field work (e.g. immunizations)
- Visiting fellow costs
- Training such as first aid or 4-WD training
- Software development
- Textbook purchases
- Journal subscriptions
Appendix 3: MOU Partner Grants – Research Proposal Assessment Form

Applicant name:  
Proposal title:  

<table>
<thead>
<tr>
<th>Performance rating</th>
<th>1 = Unsatisfactory</th>
<th>2 = Below average</th>
<th>3 = Average</th>
<th>4 = Above average</th>
<th>5 = Exceptional</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Assessment criteria</th>
<th>Rating</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Rationale / alignment with knowledge strategy</strong>&lt;br&gt;Does the proposal clearly explain the broader context that the research fits into—including why it is needed and how important it is? Is the research focused on a significant or high priority gap/s in current knowledge? Does it align with an identified knowledge need from the E&amp;H knowledge strategy? Circle relevant theme: i) biodiversity, conservation and land use, ii) climate change, iii) water and coasts, iv) environment protection, and v) community and culture.</td>
<td></td>
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</tr>
<tr>
<td><strong>2. Content / scientific rigour</strong>&lt;br&gt;Is the proposal of a high quality? Have all aspects of the research been carefully considered and is the proposed research design and methodology sound?</td>
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<td></td>
</tr>
<tr>
<td><strong>3. Potential for success</strong>&lt;br&gt;Is the proposal well-written and are the aims, methods and proposed deliverable/s clearly defined and achievable? Has the applicant demonstrated an appropriate level of scientific knowledge, technical skill and understanding? Does the applicant have a strong track record and experience relevant to the proposed research? Have relevant collaborators including researchers in relevant fields of study been involved in the scoping of the proposal?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assessment criteria</td>
<td>Rating</td>
<td>Comments</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Does the applicant show demonstrated ability for effective knowledge exchange and communication to end users of research?</td>
<td></td>
<td></td>
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<tr>
<td><strong>4. Feasibility / value for money</strong></td>
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<tr>
<td>Does the proposal meet the funding conditions (see Appendix 2)?</td>
<td></td>
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<tr>
<td>Does the proposal aim to deliver broad benefits to NSW – e.g. through upfront savings, ongoing benefits or reduced costs? Is the research fit for purpose?</td>
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<tr>
<td>Does the proposal demonstrate any anticipated leverage or return/s on investment for the University and DPE?</td>
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<tr>
<td>Are there commitments from the applicant and proposed partners to supply the infrastructure and other supports needed to provide a high-quality research environment?</td>
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<tr>
<td>Does the proposal show appropriate use of public funds and provision for contingencies?</td>
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</tbody>
</table>

**TOTAL SCORE / FINAL ASSESSMENT:**

Assessor name:  
Date assessed: