

## NESP 2 hub research scope overview

# Resilient Landscapes Hub

The Resilient Landscapes Hub form, function and high-level research requirements are outlined below to assist applicants prepare collaborative consortia that can deliver the objectives of the next phase of the National Environmental Science Program. This document is supplementary to the Grant Opportunity Guidelines and should be read in conjunction with the overarching description of the program.

The 'Resilient Landscapes' Hub will deliver:

- applied research to support management of Australia's terrestrial and freshwater habitats, including a focus on bushfire recovery, feral animals and invasive species impacts, and accessible science to assist land managers to create and maintain resilient, sustainable and productive landscapes
- targeted biodiversity and taxonomy products to support efficient system monitoring
- environmental monitoring systems and decision support tools
- cross-hub coordination for the 'threatened and migratory species and ecological communities' functional mission to support policy development, program management and regulatory processes to protect Australia's environmental assets in terrestrial, Ramsar and marine environments.

See the high-level research requirements outlined below for a guide to potential research needs.

### Form

#### Regional Nodes

The national Resilient Landscapes Hub must include locally delivered and led regional centres in northern and southern Australia to facilitate place-based research and support local outcomes. Applied national research is built on strong collaboration across stakeholder groups and must be informed by local and traditional knowledge.

Funding within the Resilient Landscapes Hub will be split across the research centres on an equitable basis, with the Minister for the Environment to decide on final funding amounts.

If your proposed consortia for the Resilient Landscape Hub does not include northern and southern research centres with significant enduring on ground presence your application will not be competitive.

Applicants are encouraged to provide a 'Diagram of proposed hub organisational structure' (this is an optional attachment referred to under Section 7.1 of the Grant Opportunity Guidelines) to assist with the assessment of collaborative partnerships.

#### Indigenous Participation

Indigenous leadership is embedded throughout the program. The Resilient Landscapes Hub must have at least one senior Indigenous Facilitator who will sit on all senior hub leadership committees to build trusted relationships and ensure engagement with Indigenous Australians. The senior Indigenous Facilitator will form part of the cross-hub Indigenous Facilitation Network, which will be supported by the department to drive Indigenous inclusion at the program level.

Appropriate advice and engagement should be sought from traditional owners and Indigenous communities when designing the Resilient Landscapes Hub governance structure. This will ensure the cultural safety of the Indigenous Facilitator and other advisors, and culturally appropriate governance processes that meet the research interests and needs of Indigenous people.

Applicants for the Resilient Landscapes Hub must be able to demonstrate an ability from the start of the program to establish and maintain long-term, two-way partnerships with traditional owners and

## NESP 2 hub research scope overview

Indigenous communities. This means Indigenous knowledge must be treated with respect and reciprocated in culturally appropriate ways in the form of shared practical research outcomes for traditional owners, communities and land managers, and capacity building for Indigenous communities. The Resilient Landscapes Hub must include mechanisms to nurture the next generation of Indigenous researchers including in remote regions.

Applications for the Resilient Landscapes Hub that do not have Indigenous representation and true on-ground partnerships with Indigenous people in both northern and southern Australia will not be competitive.

### Functions

The national Resilient Landscapes Hub will deliver applied scientific products and advice to meet end-user requirements as agreed by the department including:

- synthesis reports of current and emerging knowledge for senior decision makers
- applied science research, analysis, process studies and models to support policy makers, program managers and regulators
- integrated management decision tools inclusive of scalable state of the environment monitoring and evaluation systems
- long-term foundational science to support end-users understand and adapt to our climate.

The Resilient Landscapes Hub must have a Mission Leader for threatened and migratory species and ecological communities research. The Mission Leader should have the expertise in the mission and the capability to lead mission research within and across the hubs. The new mission setup is designed to facilitate cross-hub collaborations and consideration of the environment as an integrated whole. Applicants must also ensure that their consortia have individual specialists and the broad capacity to support the other cross hub missions led by the other national hubs as outlined in the Grant Opportunity Guidelines and summarised below.

<b>Mission</b>	<b>Lead Hub</b>
Threatened and migratory species and ecological communities	Resilient Landscapes
Protected place management	Marine and Coastal
Waste impact management	Sustainable Communities and Waste
Climate adaptation	Climate Systems

### Requirements

The high-level research requirements outlined below provide a guide to potential research needs to assist applicants. However, detailed research plans will be co-designed with successful applicants and end-users at the start of the program and then on an annual basis.

#### Hub Research:

- Applied research to support the management of Australia's terrestrial and freshwater habitats, including a focus on bushfire recovery, feral animals and invasive species impacts, and accessible science to assist land managers to create and maintain resilient, sustainable and productive landscapes:
  - Threat abatement and recovery actions on weeds, fire, diseases, pests and feral animals
  - Ecosystem recovery and restoration after extreme events such as bushfires, floods and drought
  - Support seed banking and other ex-situ methods to assist the recovery of plant species and communities
  - Traditional ecological and cultural knowledge built into resource management
  - Indigenous communities able to apply shared knowledge in the management of their lands

## NESP 2 hub research scope overview

- Social and economic information on processes that influence conservation
- Targeted biodiversity and taxonomy products to support efficient system monitoring:
  - Support environmental offsets policies, management approaches, tools and outcomes
  - Improved monitoring for biodiversity and ecosystem function including through incorporating traditional cultural methods and developing facilitative platforms and tools
  - Fill ecological and biodiversity knowledge gaps for data-poor regions, particularly in Northern Australia
  - Support environmental impact assessments, strategic regional planning assessments and cumulative analysis of impacts
- Environmental monitoring systems and decision support tools:
  - Cost-effective landscape-scale monitoring systems, methods and technologies
  - Improved monitoring for soils, including on agricultural land, which is adjacent to sensitive ecological communities or protected places
  - Informed practical management of Indigenous values in protected places
  - Quantification of the economic, social and cultural value of ecosystem functions
  - Improved end-user engagement in co-design and co-delivery of practical science

### Mission Research:

The Resilient Landscapes Hub will ensure the delivery of **Threatened and migratory species and ecological communities Mission** via a focus on:

- Delivery tools and advice to support the conservation of habitat important for priority threatened species, threatened ecological communities and migratory species;
- Updating the National list of threatened ecological communities and species;
- Improving detection of cryptic, 'difficult' and other data deficient species; and
- Monitoring and supporting the management of species /community recovery post extreme events.

The Resilient Landscapes Hub will also provide the following support for the:

#### **Protected place management Mission** (coordination led by the Marine and Coastal Hub)

- Identify key drivers of resilient populations and ecosystems across protected areas
- Inform the improvement of governance mechanisms for protected places

#### **Waste impact management Mission** (coordination led by the Sustainable Communities and Waste Hub)

- Understand the impact of waste and pollution on our natural ecosystems
- Evaluate the direct and indirect impacts of chemicals and pollutants on terrestrial and freshwater ecological communities

#### **Climate adaptation Mission** (coordination led by the Climate Systems Hub)

- Model the impacts of passing thresholds for species resilience or ecosystem transitions
- Improve adaptation measures including conservation introductions and habitat engineering
- Identify climate adaptation information needs of land managers and communities

All research products will be made publicly available and in a form that can be integrated with relevant open information management systems to build knowledge for future stakeholders unless specifically agreed at the start of a research project.

Applicants must be able to demonstrate flexibility and adaptability to respond to emerging priorities. This should include the ability to rapidly scale outputs via applied research in regional and urban areas if

## NESP 2 hub research scope overview

additional resources are made available – this should include mechanisms to bring in external researchers as required.