

CALL FOR EXPRESSION OF INTEREST FOR ERP 2 – ECOSYSTEM RESILIENCE

Proposals due **20 July 2018** to office@bnhcrc.com.au

INTRODUCTION

The Bushfire and Natural Hazards Cooperative Research Centre (hereafter the CRC), in conjunction with our client, the Department of Environment Land Water and Planning (Victoria) (DELWP) is seeking expressions of interest for the following project.

Ecosystem Resilience – Establishment of collection and analyses for four priority Ecological Fire Group’s (EFG)

PROJECT AIMS AND OBJECTIVES

1. To undertake research into the effects of fire, including both bushfire and planned burning, on ecosystem resilience and provide knowledge and evidence to support decision making for strategic bushfire management.
2. To assess ecosystem resilience metrics across four ecosystems and measure their effectiveness for guiding fire management.
3. To provide data for models and tools used for decision making in relation to bushfire management across the state; specifically, ERP1

BACKGROUND

Safer Together

1. In November 2015, the Victorian Government released the Safer Together policy platform, setting out the future direction for bushfire management in Victoria. Safer Together is part of broader government reform to Victoria’s emergency management sector and sees land and fire management agencies working together, in partnership with local communities to combine fire expertise with local knowledge.
2. A key pillar to Safer Together is science data and technology. The policy specifically states “we use the latest science, data and technology to make sure our actions are targeted at reducing bushfire risk and protecting those things we care about. It also notes under “what we do:” “Commission bushfire science research” (p. 9), “What we will do: continue to invest in new science to address knowledge gaps and reduce uncertainties in our bushfire modelling.” (p. 17) and “Risk is dynamic and constantly shifting, so we need to keep building on our evidence base. We will continue our investment in science, and in partnership with research institutions, to build

knowledge of the relationship between fire and the environment and to better manage risk.” (p. 18)

3. In May 2017 \$23m was announced to fund a two-year Safer Together program. In part these funds were allocated to ensuring that Victoria’s significant investment in bushfire preparedness and response is supported by a systematic and ongoing investment in developing scientific evidence.
4. The implementation of Safer Together is being improved by applying a systematic approach to understanding what some of the key sector knowledge gaps are, the resulting risks they may pose to the achievement of Safer Together objectives, and determining how these risks can be mitigated by specific pieces of research.
5. Through being able to clearly articulate what existing research delivers, and where the priority knowledge gaps occur, the sector will be able to respond quickly and consistently in answering questions about resource requirements, in accessing external, collaborative or partnership opportunities, or in leveraging off existing programs.
6. This project is one of nine intended for delivery through the Safer Together program.

CONTEXT

1. The Code of Practice for Bushfire Management on Public Land ([the code](#)) specifies that DELWP must report on the effectiveness of bushfire management for achieving the two primary objectives of the code. The two primary objectives for bushfire management on public land in Victoria are:
 - *To minimise the impact of major bushfires on human life, communities, essential and community infrastructure, industries, the economy and the environment. Human life will be afforded priority over all other considerations.*
 - *To maintain or improve the resilience of natural ecosystems and their ability to deliver services such as biodiversity, water, carbon storage, and forest products.*
2. Under *Safer Together* priorities three and four; measuring success, and better knowledge = better decisions, respectively; DELWP has committed to improve how we measure the health of the environment, and to report annually on the impacts of the fuel management program on plants and animals, and the effect on the local environment’s resilience.
3. The Bushfire Monitoring, Evaluation and Reporting (MER) Framework ([The MER Framework](#)) guides the department and its partner agencies to monitor, evaluate and report on the effectiveness of bushfire management on public land. The MER Framework is delivered through the Victorian Bushfire Monitoring Program (VBMP). MER supports continuous improvement through value and evidence based informed decision-making and ensures transparent reporting to government and the community on the outcomes of bushfire management.

4. In 2017-18 the Victorian Bushfire Monitoring Program (VBMP) transitioned to the next phase of delivery – ecosystem resilience monitoring (ERM) to measure the effectiveness against objective two of the code.
5. Ecosystem resilience is the capacity of an ecosystem to absorb both natural and management-imposed disturbances but still retain its basic structure, function and identity. DELWP have three metrics of ecosystem resilience; Tolerable Fire Interval (TFI), Growth Stage Structure (GSS) and Geometric Mean Abundance of species (GMA) which tell us about how plants, habitat structure and animals respond to fire.
6. Resulting from the '*Scientifically based monitoring*' research project in partnership with La Trobe University (LTU), an ERM program has been developed to collect, analyse and interpret high quality data on how fire management affects ecological values. The ERM program is a two-tiered program of biodiversity monitoring, a state-based tier to assess fire regimes, and a regionally-based tier assessing fire events.
7. This project brief focusses on the delivery of the state-wide stream of monitoring within the four highest priority (of 11 total) Ecological Fire Groups (EFGs). The delivery of this state-wide ecosystem resilience monitoring project will help fulfil DELWP's requirements and responsibilities under *the code* and *Safer Together* (refer to Background).
8. The proposed sampling design for the state-wide stream of ERM involves surveys of flora/vegetation, birds and ground-dwelling mammals at 200 sites within each of 11 priority EFGs, with sites selected to encompass gradients of time since fire and inter-fire interval.
9. The outputs of this research will be used to report transparently on the effectiveness of bushfire management on public land, specifically at achieving objective two of the code, and will support evidence-based decision making for bushfire management in Victoria.
10. This project is a pilot undertaking for the first four priority EFGs under the Ecosystem Resilience Monitoring Program. Remaining EFG's will be incorporated into this project subject to evaluation of the project and funding availability.

SCOPE	
<i>INCLUSIONS</i>	<p><i>For each of the ecosystems:</i></p> <ol style="list-style-type: none"> 1. Collection of ecosystem resilience data at 200 sites in each of the four Ecological Fire Groups: <ul style="list-style-type: none"> • Grass-Heathy Dry Forest • Heathland (sands) – general • Lowan Mallee • Heathland (sands) – desert. <p>a) Expected data collection methods are outlined by the “Scientifically-based monitoring project - guidelines for ecosystem resilience monitoring, evaluation and reporting within the Victorian Bushfire Monitoring Program” (Attachment 1) report developed by La Trobe University.</p> <ol style="list-style-type: none"> 2. Data analysis and interpretation of ecosystem resilience data and metrics as outlined for the state-wide monitoring stream in the LTU Scientifically-based monitoring project report. 3. Support for integration of monitoring data into existing models for decision making.
<i>EXCLUSIONS</i>	<ol style="list-style-type: none"> 1. Data storage and maintenance.

PROJECT SPECIFICATIONS

Key Steps

In developing the project proposal to be submitted in response to this Call for Expression of interest researchers should be mindful of the following project requirements.

Key Steps	Lead	Due Date
1. Develop agreement with Bushfire Natural Hazards Cooperative Research Centre to manage the project		
2. Identify suitable candidate(s) to lead the collection and analysis of the ecosystem resilience data		
3. Establish project governance and develop a project plan		
4. Undertake site establishment and begin procurement of initial ecosystem resilience data		Sep – Dec 2018
5. Project update report		
6. Data quality assurance and integration within the VBMP database		
7. Analysis and evaluation of collected monitoring data		
8. Results reported and models updated		
9. Undertake full collection of ecosystem resilience data in accordance with the standard operating procedure		Sep – Dec 2019
10. Project update report		
11. Data quality assurance and integration within the VBMP database		
12. Analysis and evaluation of collected monitoring data		
13. Results reported and models updated		
14. Support the integration of monitoring data into new models and tools for decision making		March 2020
15. Undertake full collection of ecosystem resilience data in accordance with the standard operating procedure		Sep – Dec 2020
16. Project update report		
17. Data quality assurance and integration within the VBMP database		
18. Analysis and evaluation of collected monitoring data		
19. Results reported and models updated		
20. Support the integration of monitoring data into new models and tools for decision making		March 2021
21. Provide documentation for all elements above and reporting		

Expected Outputs

1. Ecosystem resilience data for the four priority Ecological Fire Groups.
2. Analysis of data to test the current fire management models and metrics and deliver information that can be incorporated into DELWP decision making models and tools (as per the state-wide stream outlined in the LTU Scientifically-based monitoring project report)

Quality Control

Final report and other project outputs

It is the expectation of the Bushfire and Natural Hazards CRC and our client DELWP that the material delivered as part of this project will meet the highest scientific standards and will be suitable for internal and external distribution.

It is a requirement of this project that the final report (and any supporting material) is 'submitted to the States' satisfaction'. To ensure the final report meets this expectation it will be subject to up to two rounds of review (with a minimum of two weeks for each review) by DELWP. Research organisations are required to ensure an internal peer review process is undertaken prior to the draft final report being submitted for DELWP consideration.

Before the report is final report is submitted to the State's representative for approval it must also have been

- Through an independent peer reviewer approved by the Bushfire and Natural Hazards CRC Project Manager
- Professional proof read and copy edited

These steps must be arranged by the research organisation costed as part of project budget and completed within the project timeframe.

Reports that have not been independently peer reviewed and professionally proof read and copy edited will not be considered final. A copy of the independent peer review and the researcher response to any comments must be provided to the CRC.

Communication

To further assist with the quality assurance it is expected that:

- The project team will utilise a consultative approach when developing the overall framework and data management processes/criteria, and will demonstrate this by documenting engagement activities within the relevant reports. This will involve seeking input from DELWP subject matter experts to ensure development of a framework and processes that are fit for purpose.
- The research team leader will give periodic presentations (e.g. annually) to key stakeholder groups (Ecological Risk Assessment Working Group, Landscape Evaluators Working Group) to gain critical feedback on project milestones.

Any further quality control processes that are required for this piece of work, as well as key success measures, will be agreed with the DELWP Policy Lead as part of the planning process.

PROJECT MANAGEMENT AND PROCESSES

Contractual Arrangements

This project is being delivered under an Agreement in place between the Bushfire and Natural Hazards Cooperative Research Centre and the Department of Environment, Land Water and Planning (DELWP) in the State of Victoria. Under this Agreement the CRC is responsible for the delivery of a number of bushfire related research projects. The contract put in place between the CRC and the research organisation selected to undertake this work will reflect the terms of the Agreement between DELWP and the CRC.

A copy of the draft contract the CRC will provide to the successful research organisation is provided with this document. This contract should be reviewed as part of the EOI process. This is a standard agreement, and any changes will be at the sole discretion of the CRC. If you would like to request amendments to any of the terms and conditions set out in the proposed contract, details of the proposed changes and the reason the changes are requested must be included with the submitted response. In considering, this contract and proposing changes please note we have been advised by DELWP that (i) changes to provisions relating to the ownership of Intellectual Property will only be varied to take account of substantial in-kind contribution from the successful research organisation/s and (ii) no changes can be made to the publications approvals processes.

Project Governance

Each project is carried out under the supervision of a Project Control Board (PCB) and in accordance with the governance arrangements agreed between CRC and DELWP.

While the contractual relationship for the delivery of this project will be between the research organisation and the Bushfire and Natural Hazards CRC there will also be a strong relationship between the research team and DELWP staff. Communication is an important element of the success of this project and Researchers will be required to maintain strong links with both the DELWP Policy Lead and the CRC Project Manager throughout the project.

A governance plan has been prepared which shows the roles and responsibilities of each of the participants. The successful research team will be required to comply with the processes and expectations as set out in that document.

Project Planning

The project overview included in this document describes the way the DELWP subject matter experts believe the project can most successfully be undertaken. Alternative approaches can be considered. Any alternative approaches must ensure the delivery of the required outputs including any intermediate outputs identified in this document.

Following acceptance of a project proposal the successful research organisation must prepare a detailed project plan and risk treatment plan **using the DELWP template**. This plan must be approved by the DELWP Policy Lead and will become an attachment to the contract. The project plan must be approved within 3 months of the notification of the acceptance of the project proposal.

Reporting

The successful research organisation will be required to make at least one presentation (and possibly two) annually to the Project Control Board or other nominated DELWP group during the life of the project.

Research organisations will also be required

- to provide a poster for the annual AFAC/BNHCRC conferences;
- detailed progress reports on a quarterly basis; and
- and contribute to the Project Evaluation Report

Dates for submitting Quarterly Progress Reports

Period covered	Report required
1 July to 30 September	24 October
1 October to 31 December	24 January following calendar year
1 January to 31 March	24 April
1 April to 30 June	24 July

SUBMISSION OF EXPRESSION OF INTEREST

Submission Requirements

Research teams responding to this Call for Expression of Interest are required to submit their response, including:

- A draft project proposal (4-6 pages) clearly addressing the requirements of the specifications set out in this document. Proposals must include achievable timelines, which will be used to monitor progress. A statement of capability demonstrating the ability of the proposed project team to undertake the work. This statement of capability should include the names and experience of key team members and their proposed contribution to the project. (The capability statement should not exceed 4 pages)
- Project budget including details of any in kind contribution from the research organisation. A statement of acceptance of the terms and conditions of the proposed

contractual arrangements. If such arrangements are not acceptable details of any changes must be included with the submitted response.

Additional information

- Research bids from a consortium of research organisations with expertise in the relevant fields are specifically encouraged.
- Attached is a draft contract which we ask your organisation to review. In your response to the EOI you should identify any items in this contract that will require attention /amendment should your organisation be selected to undertake this piece of work. This contract is based on the Head Agreement between DELWP and the Bushfire and Natural Hazards CRC and as such there is very limited scope to make changes to the draft contract.

The total maximum budget for this project is Part 1: \$636,370 (excl. GST) and all work must be completed by 30 June 2021.

Any research proposal once submitted will be treated as commercial in confidence. Applications, must be submitted to: office@bnhcrc.com.au by 20 July 2018.

Evaluation Criteria

After the closing date the Bushfire and Natural Hazards CRC along with the DELWP policy lead will review proposals against the evaluation criteria below and make a recommendation to the State's representative on the most appropriate organisation to undertake this work. The evaluation criteria provide an indication of those matters that should be included in the project proposal and associated documentation. Details are provided below.

Successful applicants will be advised by 13 August 2018 and it is expected work on the project will commence no later than 3 September 2018.

The decision of the BNHCRC and our client DELWP will be final. The BNHCRC reserves the right not to offer the work, or only allocate a proportion of the available funding, if a proposal does not meet the client's needs. The Project Control Board reserves the right to invite any other specific researchers as it sees fit to submit proposals before or after the closing date.

Evaluation Criterion	% weighting
Research Capability The capacity and capability to deliver an excellent applied research project in a Victorian environment.	15
Project Proposal A clear demonstration that the research team has an understanding of the project scope through the proposed research approach The proposal must also include an indicative timetable of work and interim milestones/project outputs as described in this document Quality Control Clear documentation of quality control processes including proposed internal and external reviewers. Identification of copy editors and proof readers.	50
Industry Engagement Strong Track record of industry engagement with the ability to support and influence bushfire management in Victoria through interaction with land and fire agency personnel Victorian Focus Ability to undertake research in Victorian environments individually and/or in cooperation with land and fire managers	15
Value for Money Delivery of required outcome within available budget along with the ability to leverage the funds provided with in-kind contributions or supplementary opportunities. The evaluation team will consider the membership of the project team and the proposed roles and time commitment.	20

ATTACHMENTS

1. Draft Contract
2. Bushfire and Natural Hazards CRC /DELWP Governance Arrangements
3. DELWP Project Plan Template (to be provided)
4. Project Evaluation Report Template
5. Quarterly Reporting Template