Australia's National
Science Agency

GISERA | Gas Industry Social and Environmental Research Alliance

Progress report

Breeding response of focal threatened species to a resource pulse in the Cooper Basin

Progress against project milestones

Progress against milestones/tasks are approved by the GISERA Director, acting with authority in accordance with the GISERA Alliance Agreement.

Progress against project milestones/tasks is indicated by two methods: Traffic light reports and descriptive Project schedule reports.

1. Traffic light reports in the Project Schedule Table below show progress using a simple colour code:

- **Green**:
  - Milestone fully met according to schedule.
  - Project is expected to continue to deliver according to plan.
  - Milestone payment is approved.
- **Amber**:
  - Milestone largely met according to schedule.
  - Project has experienced delays or difficulties that will be overcome by next milestone, enabling project to return to delivery according to plan by next milestone.
  - Milestone payment is withheld.
  - Milestone payment withheld for second of two successive amber lights; project review initiated and undertaken by GISERA Director.
- **Red**:
  - Milestone not met according to schedule.
  - Problems in meeting milestone are likely to impact subsequent project delivery, such that revisions to project timing, scope or budget must be considered.
  - Milestone payment is withheld.
  - Project review initiated by GISERA Director.

2. Progress Schedule Reports outline task objectives and outputs and describe, in the 'progress report' section, the means and extent to which progress towards tasks has been made.

Project schedule table

TASK NUMBER	TASK DESCRIPTION	SCHEDULED START	SCHEDULED FINISH	COMMENT
1	Identify focal species of plants and animals	2 Sept 2024	24 Dec 2024	Completed
2	Assess geospatial data on the focal species to identify important habitat during dry periods	2 Jan 2025	28 Mar 2025	Completed
3	Undertake field surveys of potential breeding habitat of focal species	3 Nov 2025	30 Sep 2026	
4	Measure the magnitude of threats at breeding sites of focal species	3 Nov 2025	30 Sep 2026	
5	Measure habitat attributes and assess habitat condition of breeding sites	1 May 2026	30 Sep 2026	
6	Project reporting	2 Sept 2024	15 Nov 2026	
7	Communicate project objectives, progress and findings to stakeholders	2 Sept 2024	15 Nov 2026	

Project schedule report

TASK 1: Identify focal species of plants and animals

BACKGROUND

The GBA prioritised 12 threatened species (4 birds, 3 mammals, 5 plants) as the focus of causal pathway assessment. However, other endemic or near-endemic species to the Cooper Basin may be valued by the community. Of these 2 groups of species only a subset will be chosen to focus on in this project. The species chosen will be those expected to occupy drought refuges and that will occur within areas of high prospectivity for onshore gas development.

TASK OBJECTIVES

To examine existing reports and consult with interested stakeholders to develop a list of threatened and significant species in the Cooper Basin that occupy terrestrial environments and are likely to depend on drought refuges for continued survival and resilience.

TASK OUTPUTS AND SPECIFIC DELIVERABLES:

A list of target focal species that will be the basis of the remaining tasks for the project.

There are no other specific deliverables for this task; however, the methods and outcomes will be discussed in the final report for the project.

PROGRESS REPORT

This task was completed on 11th December 2024. The final list of six species was developed from a candidate list of 31 animals and five plants.

TASK 2: Assess geospatial data on the focal species to identify important habitat during dry periods

BACKGROUND

A range of databases hold location records of the focal species that will be determined in task 1. Most of these data have not been systematically collected and none have been interrogated with the aim of obtaining the location of drought refuges. Most species in the study area occur widely during wet (boom) periods when primary productivity is high. In contrast, records during the long intervening dry periods are rarer. Database searches will be carried out to identify those sites that are only occupied during dry periods. This will be done by accessing historical rainfall data and determining the occurrence of dry periods. Records during wet periods will be filtered out of the search for each species. This will produce information of potential drought refuges of each of the focal species.

TASK OBJECTIVES

To obtain information on the geospatial locations that are potentially drought refuges of each of the target species

TASK OUTPUTS AND SPECIFIC DELIVERABLES:

A database that for each of the focal species has the locations of potential drought refuges within the study area. The results will be discussed in the final report for the project. There are no specific deliverables for this task; however, mapping outputs will be used in subsequent tasks.

PROGRESS REPORT

This milestone is complete.

Data has been obtained from publicly accessible sources including Atlas of Living Australia. Other data sources have been pursued with varying success.

TASK 3: Undertake field surveys of potential breeding habitat of focal species.

BACKGROUND

Field surveys will be undertaken to look for breeding sites of grey grasswren, letter-winged kites, and the other focal species. The desktop assessment in task 2 identified the geospatial location of a number of potential breeding sites for each species. Field surveys in each location are needed to determine whether the species is present and to record characteristics of the breeding habitat. The study design will include multiple visits to each location. Surveys will be undertaken using methods that are appropriate for the target species. These methods will vary but will include active searches, call playback, spotlighting, and remote acoustic detection.

In particular, because of timing issues and the onset of warm weather in November, there will be an emphasis on using remote acoustic detection to determine the presence of grey grasswren.

TASK OBJECTIVES

To undertake field surveys to determine whether the focal species are breeding in the study region.

TASK OUTPUTS AND SPECIFIC DELIVERABLES:

Knowledge of the location of breeding sites of the focal species and their occurrence within the region during a resource pulse.

A specific deliverable will be geospatial data on the spatial extent of breeding sites.

PROGRESS REPORT

This task will be completed September 2026.

TASK 4: Measure the magnitude of threats at breeding sites of focal species.

BACKGROUND

Several of the major threatening processes faced by species such as letter-winged kites and grey grasswrens are most prevalent during (or soon after) boom periods when primary productivity is high. These threats include predation by introduced carnivores (cats and foxes), cattle impacts through trampling and grazing of habitat, and impacts of feral herbivores causing habitat degradation. Undertaking this work while breeding is occurring will provide an understanding of the magnitude of threats during highly productive periods.

TASK OBJECTIVES

To undertake field surveys at known breeding sites of the focal species to determine the presence and magnitude of threatening processes especially introduced predators, feral herbivores and domestic cattle.

TASK OUTPUTS AND SPECIFIC DELIVERABLES:

Information on the presence and magnitude of threatening processes to be included in the final report.

Geospatial data on the occurrence of introduced species within the study area.

PROGRESS REPORT

This task will be completed September 2026.

TASK 5: Measure habitat attributes and assess habitat condition of breeding sites.

BACKGROUND

To facilitate future efforts to find the focal species it is important to characterise the key components of the breeding sites for each species that is located breeding during task 3. At each site several environmental variables will be measured including:

- structural and floristic components of the vegetation;
- soil type and condition.

At sites with grey grasswren present there will be a focus on measuring lignum cover and height. Lignum is the main attribute of relevance for grey grasswren.

TASK OBJECTIVES

To describe and quantify habitat condition at each individual breeding site of the focal species. This will enable comparison with conditions at previous sites and inform future surveys.

TASK OUTPUTS AND SPECIFIC DELIVERABLES:

The main output from this task will be a detailed description of the characteristics of the breeding sites of each focal species

PROGRESS REPORT

This task will be completed September 2026.

TASK 6: Project Reporting

BACKGROUND

All aspects of reporting are covered in this task.

TASK OBJECTIVES

To provide the necessary reporting as required.

TASK OUTPUTS AND SPECIFIC DELIVERABLES:

1) Preparation of a final report outlining the scope, methodology, scenarios, assumptions, findings and any suggestions/options for future research;
2) Following CSIRO ePublish review, the report will be submitted to the GISERA Director for final approval; and
3) Provide 6 monthly progress updates to GISERA office.

PROGRESS REPORT

This task will be completed mid-November 2026.

TASK 7: Communicate project objectives, progress and findings to stakeholders.

BACKGROUND

Communication of GISERA's research is an important component of all research projects. The dissemination of project objectives, key findings and deliverables to relevant and diverse audiences allows discourse and decision making within and across multiple stakeholder groups.

TASK OBJECTIVES

Communicate project objectives, progress and findings to stakeholders through meetings, Knowledge Transfer Session, fact sheets, project reports and journal article/s, in collaboration with GISERA Communication Team.

TASK OUTPUTS AND SPECIFIC DELIVERABLES:

Communicate project objectives, progress and results to GISERA stakeholders according to standard GISERA project procedures, which may include, but are not limited to:

1) Engagement with an established Technical Advisory Group.

2) Two project factsheets: A fact sheet will be developed at commencement of a project, and another that will include peer-reviewed results and implications will be developed at completion of project. Both to be published to the GISERA website.

3) Preparation of an article for GISERA newsletter and other media outlets as advised by GISERA's communications team.

4) Project reporting.

5) Knowledge Transfer session with Government/Gas Industry.

6) Peer reviewed scientific manuscript ready for submission to relevant journal.

7) Presentation of research results at an Australian and International Conference.

8) Development of project-specific communication tool, where appropriate.

PROGRESS REPORT

This task will be completed mid-November 2026.

Variations to Project Order

Changes to research Project Orders are approved by the GISERA Director, acting with authority, in accordance with the GISERA Alliance Agreement. Any variations above the GISERA Director's delegation require the approval of the relevant GISERA Research Advisory Committee.

The table below details variations to research Project Order.

Register of changes to Research Project Order

DATE	ISSUE	ACTION	AUTHORISATION
23/07/2025	Due to recent heavy rain and associated flooding in the Cooper Basin, the research on drought refuges will pivot to take advantage of current conditions. The GISERA Queensland Research Advisory Committee approved a variation to modify scope, reduce budget, change project title and adjust delivery dates.	Project title changed from 'Identifying drought refuges for terrestrial species in the Cooper Basin' to 'Breeding response of focal threatened species to a resource pulse in the Cooper Basin' Task 3 now 'Undertake field surveys of potential breeding habitat of focal species' will be delivered September 2026. Task 4 now 'Measure the magnitude of threats at breeding sites of focal species' will be delivered September 2026. Task 5 now 'Measure habitat attributes and assess habitat condition of breeding sites' will be delivered September 2026. Tasks 6-7 delivered dates extended by 4.5 months to 15 November 2026. The new project delivery date will be 15 November 2026. A budget reduction of $68,700 which will bring overall budget down to $469,152.	

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GISERA is a collaboration between CSIRO, Commonwealth and state governments and industry established to undertake publicly-reported independent research. The purpose of GISERA is to provide quality assured scientific research and information to communities living in gas development regions focusing on social and environmental topics including: groundwater and surface water, greenhouse gas emissions, biodiversity, land management, the marine environment, and socio-economic impacts. The governance structure for GISERA is designed to provide for and protect research independence and transparency of research.