



GISERA | Gas Industry Social and Environmental Research Alliance

Baseline assessment of the biodiversity of the Canning Basin

CSIRO researchers have recently completed a project to identify the plants and animals that inhabit the Canning Basin in Western Australia. Their key focus was to identify species that have important conservation value or cultural significance.

Project background

Until now, knowledge of the biodiversity of the Canning Basin has been limited. Although research projects have been undertaken previously, and there has been some informal data capture through community projects, this information has never been aggregated.

A major reason for this lack of comprehensive data is the sheer scale of the Canning Basin. It is a large geological unit, and previous biodiversity assessments have focused at a smaller geographical scale.

To address this significant knowledge gap, researchers undertook a desktop study that incorporated existing available information – in databases, literature and stakeholder communities – to develop a more thorough understanding of biodiversity across the Canning Basin.



Key points

Results confirm that the Canning Basin is a region that is poorly sampled but supports a high richness of plants and animals – a large proportion of which are significant from cultural and conservation perspectives.

A total of 43 threatened and significant ecological communities listed under Western Australia's *Biodiversity Conservation Act* (2016) occur in the Canning Basin.

The desktop study identified records of 4,225 animal and 2,838 plant species occurring in the Canning Basin, including many of conservation and/or cultural significance.

Nearly 400 species – 220 plants and 168 animals – were classified as significant on a national scale under the *Environment Protection and Biodiversity Conservation Act* (1999) and/or significant in Western Australia under the *Biodiversity Conservation Act* (2016).

Evidence from published sources identified 432 plant and 147 animal species that have cultural significance to Aboriginal people, including as bush food or medicine, and totemic or ceremonial significance. The current numbers include 52 birds, 34 reptiles, 33 mammals, 19 fish, six frogs and three invertebrates.

This information will help identify knowledge gaps and inform recommendations for further research and investigation, with a view to informing appropriate policy and management responses to gas development proposals.



Next steps

A baseline knowledge of a region's biodiversity is essential for assessing the potential risk of any future development.

This desktop assessment represents the first attempt to conduct a comprehensive assessment of available knowledge survey of biodiversity in the Canning Basin. While it has not resulted in a complete dataset, it provides an overview of the plants and animals in the Canning Basin, including the presence of threatened species, where they occur and their relative abundance.

This information is essential for the completion of a strategic or regional-scale assessment regarding the environmental impact of any future development.

It can be used to identify information gaps in terms of species or groups of species that are poorly known, and locations that are poorly sampled. Researchers identified eight areas, each of at least 1000 square kilometres, where there has been little or no sampling of the biota. These areas do not intersect with current petroleum leases.

Proposed future approaches to further understanding of biodiversity within the Canning Basin include:

- focusing geographically on areas of high interest to the resource development industry
- targeting survey efforts within the information voids identified in this project
- undertaking taxon-specific sampling that focuses on groups that are expected to be common in the Canning Basin but for which there are few records
- collating appropriate biocultural knowledge from across the Canning Basin.



Study data sources

- Records in the Atlas of Living Australia.
- Records in the Western Australia Department of Biodiversity, Conservation and Attractions (DBCA) Threatened and Priority Flora database.
- Records in the Western Australia Herbarium database.
- Environmental reports identified through a search of the Index of Biodiversity Surveys for Assessments (IBSA) website run by the Western Australian Department of Water and Environmental Regulation.
- Reports of EPA assessments.
- Georeferenced data available in the scientific literature.
- Unpublished data provided by scientists and naturalists.



More information

This project was co-funded by the Federal Government (75%) and CSIRO (25%).

More information about the project, including the final report, is available online.

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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.