

Assessing the biodiversity of the Canning Basin in Western Australia

This project will identify the plants and animals that inhabit the Canning Basin, with a particular focus on identifying species that have important conservation value or cultural significance.

The importance of baseline data

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

Researchers will undertake a desktop assessment to identify the plants and animals that live in the Canning Basin and to gain a clear understanding of where within the Basin they occur, as well as their relative abundance.

The baseline will be used to identify the occurrence of threatened species and any hotspots of high biodiversity value. It will also identify areas that have not been adequately surveyed. This information is essential for the completion of a Strategic Assessment or similar type of regional-scale assessment regarding environmental impact.

The Canning Basin

The Canning Basin is located in Western Australia, approximately 1,500 kilometres northeast of Perth. It is the largest sedimentary basin in Western Australia with an onshore area of about 530,000 square kilometres and an offshore area of about 110,000 square kilometres.

The towns of Broome and Derby provide shipping, air support and services for the Canning Basin. Broome serves as the shipping terminal for crude oil, while minor pipeline grids are located mainly near Derby.

The search for shale gas resources in the Canning Basin is in the early exploratory stage. However, in 2013 the US Energy Information Agency reported that the Canning Basin has the largest shale gas potential in Australia.



KEY POINTS

- Existing knowledge of the biodiversity of the Canning Basin is patchy; information from previous projects has not been synthesised.
- This project will use desktop research to assess what we currently know about the composition and distribution of biodiversity of the Canning Basin.
- Researchers will use the information to identify areas that require further study.
- The main outputs of the project will be databases that detail species recorded in the Canning Basin, species that are classified as threatened at national and state levels, and species that are of cultural significance.
- **More information is available** about this project online.

Identifying significant knowledge gaps

Existing knowledge of the biodiversity of the Canning Basin is patchy. A number of research projects have taken place, and there has been informal data capture through community based projects and observations, but the information from these records has never been aggregated across the entire Basin.

A major reason for the lack of a basin-wide overview of biodiversity is that the Canning Basin is a large geological unit and biodiversity assessments have been undertaken at smaller ecologically meaningful spatial scales.

This project will incorporate existing available information to develop a more thorough understanding of biodiversity in the Canning Basin and identify gaps in existing knowledge.

Making use of existing information

The first task of the project is to examine all of the information which already exists about biodiversity in the Canning Basin – in databases, literature and stakeholder communities.

Sources of information include records in the Atlas of Living Australia; databases held by the Western Australian Government and BirdLife Australia; unpublished data from organisations and naturalists who are active in the region; and publicly available knowledge of culturally significant plants and animals.

Engagement with Aboriginal organisations will be a vital part of this work.

Developing a database

Once the desktop study and stakeholder discussions have taken place, researchers will assemble the resulting species lists and occurrence records into a Canning Basin-wide database.

This database will be matched against existing lists of threatened species to identify which of the species of plants and animals occurring in the Canning Basin are threatened – either nationally, under the Environment Protection and Biodiversity Conservation Act, or in Western Australia under the Biodiversity Conservation Act.

Work will also be undertaken to identify culturally significant species – including bush foods and species of totemic and ceremonial significance.



The Canning Basin supports complex biodiversity in a range of habitats. Photo courtesy of Arthur Mory, WA Geological Survey and Resource Strategy Division, Department of Mines, Industry Regulation and Safety.

Recommendations for further work

This project represents the first attempt to conduct a systematic baseline survey of biodiversity in the Canning Basin, which makes it highly likely the information compiled in the database will be incomplete.

Through expert interrogation of the database, the project will identify information gaps - both in terms of species or groups of species that are poorly known, and locations that are poorly sampled.

This information – a list of underrepresented species, and a series of maps showing underrepresented areas - will then be presented in a final report that will help to develop recommendations for future survey programs in the area.

FREQUENTLY ASKED QUESTIONS

What is the timeline for the project?

August 2020 to February 2021.

When will the results be available?

A final report will be available in February 2021.

Who is funding the project?

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

ABOUT CSIRO's GISERA

The Gas Industry Social and Environmental Research Alliance (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, 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. Visit gisera.csiro.au for more information about GISERA's governance structure, projects and research findings.

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