

Implementing CARE Principles to Link Noongar Language and Knowledge to Western Science through the Atlas of Living Australia

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Abstract

The Atlas of Living Australia (ALA), Australia's national online biodiversity database, is partnering with the Noongar Boodjar Language Centre (NBALC) to promote Indigenous language and knowledge by including Noongar names for plants and animals in the ALA. Names are included in the ALA species page for each plant and animal and knowledge is built into the [Noongar Plant and Animal online Encyclopedia](#), hosted in the ALA. We demonstrate the use of CARE principles (Collective Benefit, Authority to Control, Responsibility, and Ethics (Carroll et al. 2020)) to engage, support, and deliver the project and outcomes to the Noongar people and communities working with us.

The ALA addresses the FAIR principles (Wilkinson et al. 2016) for data management and stewardship ensuring data are findable, accessible, interoperable, and reusable. The ALA is partnering with NBALC in Perth to ensure all sharing of Noongar data is on Noongar terms. NBALC and ALA have been working with Noongar-Wadjari, a southern clan from the Fitzgerald River area in Western Australia, to collect, protect and share their language and traditional knowledge for local species.*¹

The Noongar Encyclopedia project exhibits Collective Benefit because it is a co-innovation project that was co-designed by NBALC and ALA. The project's activities were designed by the Community-endorsed representatives, the Knowledge Holders. The aims and aspirations of the Community were included in the project design to ensure equitable outcomes. NBALC's more than 25-year relationship with the Community, and as Noongar people themselves, meant they had a good understanding of what the Community might want from the project. These assumptions were tested and refined during the first Community consultation, before the project plan was finalised. The Community are keen for their traditional knowledge to be shared and freely available to their Community. The ALA only shared knowledge that has passed through strict consent processes. It is seen as a safe and stable digital environment for now and the future, and where the traditional

knowledge can be accessed freely and easily. The link to western science knowledge is secondary to knowledge sharing for most of the Aboriginal and Torres Strait Islander Communities that the ALA are working with although the benefits of scientists having access to both knowledge systems is seen as a positive step in care for Country into the future.

The Noongar Encyclopedia project ensures Noongar Authority to Control these data because NBALC, as an Aboriginal organisation, led by Noongar people, understands the rights and interests of the Communities we are working with. Protection of these rights and inclusion of Community interests are written into the project methodology as part of the project co-design. It is important to ensure the project is working with the right people within the Community. NBALC facilitates this by finding people who hold traditional knowledge, and can trace the stories back to their source. The appropriate governance of data is ensured because all collected data are stored and managed by NBALC. Project design includes rolling consent from Knowledge Holders who review all data collected, add or edit as needed, and give or deny consent for knowledge to be shared publicly through the ALA.

The Noongar Encyclopedia project design ensures we understand the Responsibilities (CARE "R") involved in Indigenous data collection, protection, management and sharing. Through the partnership with the ALA, the NBALC is expanding its capabilities and capacity for digital data collection and management. The Community is building its capabilities and capacity for working with linguists and scientists. Including the Noongar language and traditional knowledge in the ALA shows non-Indigenous users of the ALA that there is another way to name, look at, talk about and record knowledge about species. This view differs from Western science. The Noongar view everything to be connected and group things based on their use and connectivity. Western science tends to classify species based on their physical attributes. Language is the key to this alternate world view. The ALA now publishes the scientific name, the English name and the Noongar word/s. The ALA links to the alternate science view of these species through the Noongar Encyclopedia, and two other Ecological Knowledge Encyclopedias ([Kamilaroi](#) and [South East Arnhem Land](#)).

The Noongar Encyclopedia project is constantly subjected to Ethical assessment by the Community and through stringent Western ethical assessments and reviews. The Community ethical assessment included the project undergoing a number of evaluations before it started. The projects are co-designed with NBALC to ensure they are within protocol and community expectations. The ALA are then introduced to the Community. The Community decide if they are interested in the project, if it meets their aspirations, if they feel comfortable working with the ALA and potentially other scientists. Contributing scientists or academics are introduced to the Community by the NBALC. The Community maintains the right to decline to work with any introduced scientist or academic. All contributors are informed of this protocol before they are introduced to the Community.

The Noongar Plant and Animal Encyclopedia was published in September 2021 (NBALC 2021).

Keywords

Indigenous engagement, co-design, co-innovation, Noongar Boodjar Language Centre, traditional knowledge, Knowledge Holders, Noongar-Wadjari

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Conflicts of interest

The authors have declared that no competing interests exist.

References

- Carroll SR, Garba I, Figueroa-Rodríguez O, Holbrook J, Lovett R, Materechera S, Parsons M, Raseroka K, Rodriguez-Lonebear D, Rowe R, Sara R, Walker J, Anderson J, Hudson M (2020) The CARE Principles for Indigenous Data Governance. *Data Science Journal* 19 <https://doi.org/10.5334/dsj-2020-043>
- NBALC (2021) Noongar Plants and Animals. <https://profiles.ala.org.au/opus/noongar>. Accessed on: 2021-11-18.

- Wilkinson M, Dumontier M, Aalbersberg IJ, Appleton G, Axton M, Baak A, Blomberg N, Boiten J, da Silva Santos LB, Bourne P, Bouwman J, Brookes A, Clark T, Crosas M, Dillo I, Dumon O, Edmunds S, Evelo C, Finkers R, Gonzalez-Beltran A, Gray AG, Groth P, Goble C, Grethe J, Heringa J, 't Hoen PC, Hoofstede R, Kuhn T, Kok R, Kok J, Lusher S, Martone M, Mons A, Packer A, Persson B, Rocca-Serra P, Roos M, van Schaik R, Sansone S, Schultes E, Sengstag T, Slater T, Strawn G, Swertz M, Thompson M, van der Lei J, van Mulligen E, Velterop J, Waagmeester A, Wittenburg P, Wolstencroft K, Zhao J, Mons B (2016) The FAIR Guiding Principles for scientific data management and stewardship. *Scientific Data* 3 (1). <https://doi.org/10.1038/sdata.2016.18>

Endnotes

- *1 The Noongar-Wadjari knowledge is now available online through the Noongar Encyclopedia (<https://profiles.ala.org.au/opus/noongar>).