



Environment Institute
of Australia and
New Zealand Inc.

POLICY SUBMISSION

National Environmental Standard for Data and Information

July 2026

About EIANZ

The Environment Institute of Australia and New Zealand (EIANZ) is the peak not-for-profit, multidisciplinary association of environmental practitioners across Australia and New Zealand. Our members include scientists, ecologists, planners, engineers, lawyers, economists and policy specialists, many with direct experience in environmental assessment, biodiversity assessment, data collection, monitoring, reporting, assurance and regulatory decision-making under *the Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act).

This submission reflects practitioner experience and draws on consultation across EIANZ specialist groups, including heritage, ecology, environmental accounting and impact assessment.

Summary

EIANZ welcomes the opportunity to comment on the Exposure Draft and Policy Position Paper for the National Environmental Standard for Data and Information. As per EIANZ's 14 November 2023 submission responding to initial consultation on Australia's new national environmental laws, EIANZ supports the proposed Standard (EIANZ 2023).

However, EIANZ has identified some areas where the Standard, as currently drafted, risks not delivering on its intended outcomes:

- a) data and information used in decisions made under the Act are transparently described and representative;
- b) data and information used in decisions made under the Act are comparable and reusable; and
- c) data and information used in decisions made under the Act are ethically collected, managed and used (DCCEEW 2026b).

EIANZ considers the concerns outlined in this submission may also reduce the Standard's ability to fully achieve its stated objective: to ensure that decisions made under the Act are based on

appropriate data and information and to extend the availability of credible data and information assets for use in such decisions (DCCEEW 2026b).

Addressing the concerns outlined will help ensure the Standard achieves its desired objectives and outcomes.

EIANZ's suggestions are primarily directed to implementation, guidance, and assurance. The core direction of the Standard should be retained. However, its effectiveness will depend on clear technical guidance, proportionate application, transparent data governance and the ability of practitioners, proponents and decision-makers to understand what is required in real-world assessment settings.

Key recommendations

EIANZ recommends that DCCEEW retain the core intent and structure of the proposed Standard, while strengthening the supporting guidance and implementation materials to:

- clarify how the value of information, proportionality and decision risk should inform data collection, audit and assurance expectations
- provide guidance on statistical power, sampling design, sensitivity analysis and structured expert judgement
- clarify how representative data and information should be understood, including when sampling design and statistical power are needed to support defensible inferences about a protected matter, population or environmental condition, and when absence or non-detection data can be relied on
- distinguish accuracy, precision, uncertainty, bias and confidence in determining whether data and information are fit for purpose
- clarify how data from disparate sources may be reused, including limits on inference, provenance and sensitivity controls
- move CARE principles, and Indigenous Cultural and Intellectual Property (ICIP) obligations where relevant, into the operative text of the ethical use principle (Principle 5), consistent with the Commonwealth's Framework for Governance of Indigenous Data (NIAA 2024)
- address access controls for sensitive cultural, heritage, threatened species and ecological community data
- clarify whether, and in what circumstances, data sharing by proponents is voluntary or required
- clarify interoperability requirements for reusable data across organisational, legal, semantic and technical layers, and consider aligning the register of trusted assets and the Biodiversity Data Repository with data sovereignty approaches such as the ARDC Australian Dataspace Program
- clarify that standard vocabularies, classifications and metadata standards should be prescribed only where essential to national comparability (for example, taxonomy, units, spatial reference systems and Darwin Core), and recommended rather than mandated elsewhere
- clarify expectations for competency, peer review and assurance where data and information are collected, interpreted, reviewed or relied on for regulatory decision-making
- clarify the standard of evidence required under the 'other evidence' pathway in sections 8 to 12, including why the primary criteria could not be met and what weight the alternative evidence must carry

- define, or give guided meaning to, the terms that decide whether a principle is met (including scientifically robust, appropriate, authoritative sources, representative and traceable), within the Standard itself rather than only in guidance
- request that the supporting guidance be released for public comment before the Standard takes practical effect

Key suggestions

Value of information:

- Data can be difficult and expensive to collect, and informed real-world pragmatism is needed to ensure that the information collected supports decision-makers in the task of protecting matters of national environmental significance. Decision analysis and approaches like value of information can help inform considerations of the utility of data collection. Value of information methods are used in conservation decision-making to understand and manage uncertainty from the standpoint of the decision-maker (Bolam et al. 2019). Guidance and processes relating to data, including audits of the quantity, quality and reporting of data, should be informed by such considerations.

Statistical power and sampling design:

- The draft Standard and policy paper refer in multiple places to the need for the method of data collection to be 'scientifically robust', minimum information requirements, and justification for proportional evidence collection (DCCEEW 2026a; DCCEEW 2026b).
- The policy and Standard proposed would be strengthened by inclusion of guidance on:
 - statistical power, sampling design, the use of sensitivity analysis, and best practice for eliciting expert judgements. Structured expert elicitation protocols can help improve transparency, reduce bias and support the use of expert judgement in conservation and natural resource management contexts (Hemming et al. 2018).

Reuse of data:

- The draft Standard and policy paper refer to the desirability of reusing data, including to reduce survey effort, and for purposes beyond the intended regulatory application and compliance with legal, ethical and cultural obligations. Potential cultural sensitivities associated with data are noted. This is consistent with the Standard's references to FAIR and CARE principles, including findability, accessibility, interoperability, reusability, responsibility and ethics (DCCEEW 2026b).
- In the Policy Position Paper, the CARE principles and Indigenous Cultural and Intellectual Property (ICIP) agreements are treated as operative. In the Standard (s12), however, the operative text asks only for 'all reasonable efforts' consistent with 'any relevant ethical data principles', and CARE, FAIR and ICIP appear only in a note, which is interpretive and imposes no obligation. A proponent could satisfy Principle 5 without engaging CARE or ICIP.
- Consideration should be given to moving CARE, and where appropriate ICIP, into the operative text of Principle 5, consistent with the Commonwealth's Framework for Governance of Indigenous Data (NIAA 2024).
- The draft notes that it may be desirable to generalise or mask locations, but it does not acknowledge that this already occurs in practice. CSIRO's Atlas of Living Australia (CSIRO n.d.) screens records at ingest and generalises coordinates to one or ten kilometres against State and Territory sensitive species lists. The problem is that there is no national standard: each

custodian acts differently, accidental releases recur, and around 45 per cent of biodiversity data is withheld or restricted as a result, which works against the comparable and reusable outcomes the Standard is seeking. A National Framework for restricted access species data already exists (ALA 2023), developed by the Atlas and partners and championed by the ARDC Planet Research Data Commons.

- The policy and Standard proposed would be strengthened by requiring location controls aligned with the established Atlas of Living Australia practice and the National Framework for restricted access species data, giving it the national consistency it currently lacks.
- The policy and Standard proposed would be strengthened by inclusion of guidance on:
 - the use of, and making of inferences based on, disparate data. This should include guidance on provenance, fitness for purpose, assumptions, limitations, data sensitivity and the circumstances in which data collected for one purpose can appropriately be reused for another.
 - other sensitivities and their implications for various data types. For example, it may be desirable to generalise, mask or restrict access to the locations of cultural heritage sites, threatened species and threatened ecological communities to protect them from harm, or there may need to be user/administrator access controls.
 - whether sharing of data by proponents is voluntary or required and for what data assets.

Uncertainty:

- The Standard and policy paper refer to uncertainty associated with data and the desirability of reducing it. Principle 1 also refers to data accurately reflecting and describing relevant protected matters and environmental conditions (DCCEE 2026b). EIANZ considers that supporting guidance should more clearly distinguish accuracy, precision, uncertainty, bias and confidence, and explain how each should be considered when determining whether data and information are fit for the decision being made. Accuracy is also recognised as a core dimension of data quality in the *Australian Bureau of Statistics Data Quality Framework* (ABS 2010).
- The policy and Standard proposed would be strengthened by the inclusion of guidance on:
 - the various potential sources of uncertainty, including random error, and how they may be described and reduced.
 - for example, measurement uncertainty should be characterised by the probability distribution, standard deviation, statistical confidence intervals or other measures of variability.
 - accuracy. Data might have low uncertainty and low accuracy, or high uncertainty and high accuracy. Precision, or low uncertainty, is not very useful if the sample is biased, there is systematic error, and the estimate of the mean is not close to the true value.

Representative:

- The objectives, outcomes and principles of the Standard and policy paper assert that data should be appropriate and representative.
- The policy and Standard proposed would be strengthened by:
 - the use of more precise terminology. It would seem better to seek to ensure that data is a statistically robust sample of the protected matter/population of interest, and that sampling designs have adequate statistical power to support the inferences and decisions being made. E.g. absence of evidence is not evidence of absence.

Comparable:

- The Standard and policy paper refer to the use of appropriate taxonomic and ecological classifications, and guidelines for vocabularies, classifications and typology use, ostensibly with the aim of making the data comparable and reusable. Much of the above might be clarified in the proposed guidance. The value of standardised vocabularies is illustrated by biodiversity data standards such as Darwin Core, which provides terms intended to facilitate sharing information about biological diversity (TDWG 2024).
- Principle 4 requires data to be reusable and to ‘follow interoperability rules’ but defines neither. Interoperability here runs across organisational, legal, semantic and technical layers, not formats alone. Providers withhold data for commercial, privacy and security reasons, and bespoke consent and licensing arrangements do not scale. The established answer is data sovereignty, where providers share because they retain control over use after sharing. The Pilbara case in the Australian Research Data Commons (ARDC) program (ARDC 2025), which roughly \$10 million to \$15 million a year of environmental impact data is locked up by legal and security constraints, is a concrete EPBC-relevant example.
- Consideration should be given to whether the policy and Standard proposed may be strengthened by:
 - prescribing only the core reference systems that national comparability genuinely depends on, taxonomy through the Australian Biological Resources Study (ABRS n.d.), SI units, common spatial reference systems and Darwin Core for data exchange, and recommending, rather than mandating, the rest, since the Standard deliberately declines to standardise scientific methods and classifications legitimately vary by region, species and community.
 - pointing to the ARDC Australian Dataspace Program, within its Planet Research Data Commons and adapting the International Data Spaces model, and recommending that the register of trusted assets and the Biodiversity Data Repository be designed to interoperate with it.

Competency and assurance:

- The Standard relies on judgements about whether data and information are scientifically robust, accurate, representative, comparable, reusable and ethically managed. The draft Standard includes requirements relating to quality assurance and quality control, technical and scientific methods, provenance, version and change control, reliability, transparency and traceability (DCCEEW 2026b).
- The Standard builds in self-assessment with no independent verification, the same gap that financial reporting closes by separating the preparer who attests from the auditor who assures.
- The policy and Standard proposed would be strengthened by the inclusion of guidance on:
 - when suitably qualified and experienced practitioners are required to collect, interpret, review or certify data and information;
 - expectations for peer review, independence and assurance for high-risk, complex or contested data; and
 - how professional accountability and relevant expertise should be demonstrated.

Satisfaction test and the ‘other evidence’ provision:

- Each principle in the Standard is met in one of two ways (ss 8 to 12). Either the data meets the listed criteria, or, where it does not, the proponent provides ‘other evidence’ that the

data is representative, transparent, comparable, reusable or ethical. The second limb has no boundary. It does not say what weight of other evidence suffices, does not require the proponent to explain why the criteria could not be met, and gives the decision-maker no basis for weighing it. As drafted, the flexible path can quietly become the default and hollow out the criteria.

- The policy and Standard proposed would be strengthened by disciplining the second limb rather than removing it, including by requiring a stated reason why the first limb was not met, requiring the other evidence to address each element of the principle, and giving decision-makers a stated standard of evidence.

Definitions of load-bearing terms:

- The Standard defines six terms (s4), but its tests turn on undefined ones: scientifically robust, appropriate, authoritative sources, representative and traceable. Undefined operative terms reproduce the inconsistency that the Standard exists to remove, and they make the second limb impossible to police because there is no benchmark to clear.
- The policy and Standard proposed would be strengthened by defining, or giving guided meaning to, the terms that decide whether a principle is met, within the Standard itself, rather than only in guidance.

Release of supporting guidance:

- So much of the Standard's effect lives in guidance that has not been published that its workability cannot be fully assessed.
- The policy and Standard proposed would be strengthened by requesting that the supporting guidance be released for public comment before the Standard takes practical effect.

Conclusion

EIANZ supports the intent and overall direction of the proposed National Environmental Standard for Data and Information. The Standard provides a sound basis for improving the quality, transparency, comparability, reusability and ethical management of data and information used in environmental decision-making.

Its success, however, will depend on clear and practical implementation guidance that supports scientifically robust, proportionate and fit-for-purpose evidence. Clearer guidance on evidence quality, data reuse, sensitive information, standard vocabularies, competency and assurance will help ensure the Standard is practical, consistently applied and capable of supporting better protection of matters of national environmental significance.

EIANZ would welcome opportunities to support the Commonwealth in the further development and implementation of National Environmental Standards. This could include providing expert practitioners for advisory committees, preparing written submissions, and offering confidential advice to support robust, practical and effective environmental policy and standards.

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