A Shared Environmental Analytics Facility

Unlocking value from shared data and analytics to improve environmental outcomes

The Western Australian **Biodiversity** SCIENCE INSTITUTE

WESTERN AUSTRALIAN **MARINE SCIENCE INSTITUTION**

Acknowledgements

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GOVERNMENT OF
WESTERN AUSTRALIA

Responding to changing societal expectations
and regulatory requirements

Community expectations are driving changes in the way governments and industry invest, undertake planning and development, and report on their activities. The community now demands greater transparency in decisions and greater accountability in protecting natural assets and biodiversity conservation.

This is reflected in regulatory changes in Environmental, Social and Governance reporting requirements and targets towards net zero emissions. Increasingly, these are essential to maintain social licence to operate for organisations not just in Australia, but globally.

Proactively addressing these changes will improve and sustain environmental outcomes while unlocking latent value across the environmental information value chain.

How can industry and government better utilise environmental information to improve and sustain environmental outcomes?

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Each year, a substantial amount of information on the State's biodiversity is collected by industry and government. Unlocking latent value from data collection and curation means not just sharing data but developing crucial analytics to get the greatest value possible for proponents, regulators, traditional owners and the wider community.

Western Australia is already at the forefront of biodiversity conservation practice. We now need to consider cumulative environmental impacts.

To do this, we must leverage our successes in data sharing and curation, with existing services and capabilities across the public and private sectors, and science research. The challenge is to address barriers and inefficiencies in the current management of environmental information.

In Australia in particular, there is increasing expectation among industry stakeholders, governments, traditional owners and the wider community that the information used in environmental decision-making needs to be more comprehensive, transparent and assured.

Each new decision that might impact on our environment must be better placed in a context of the cumulative impacts of previous and foreseeable developments, and a sound and contemporary characterisation of its current state.

Western Australia's success in data collection, sharing and curation
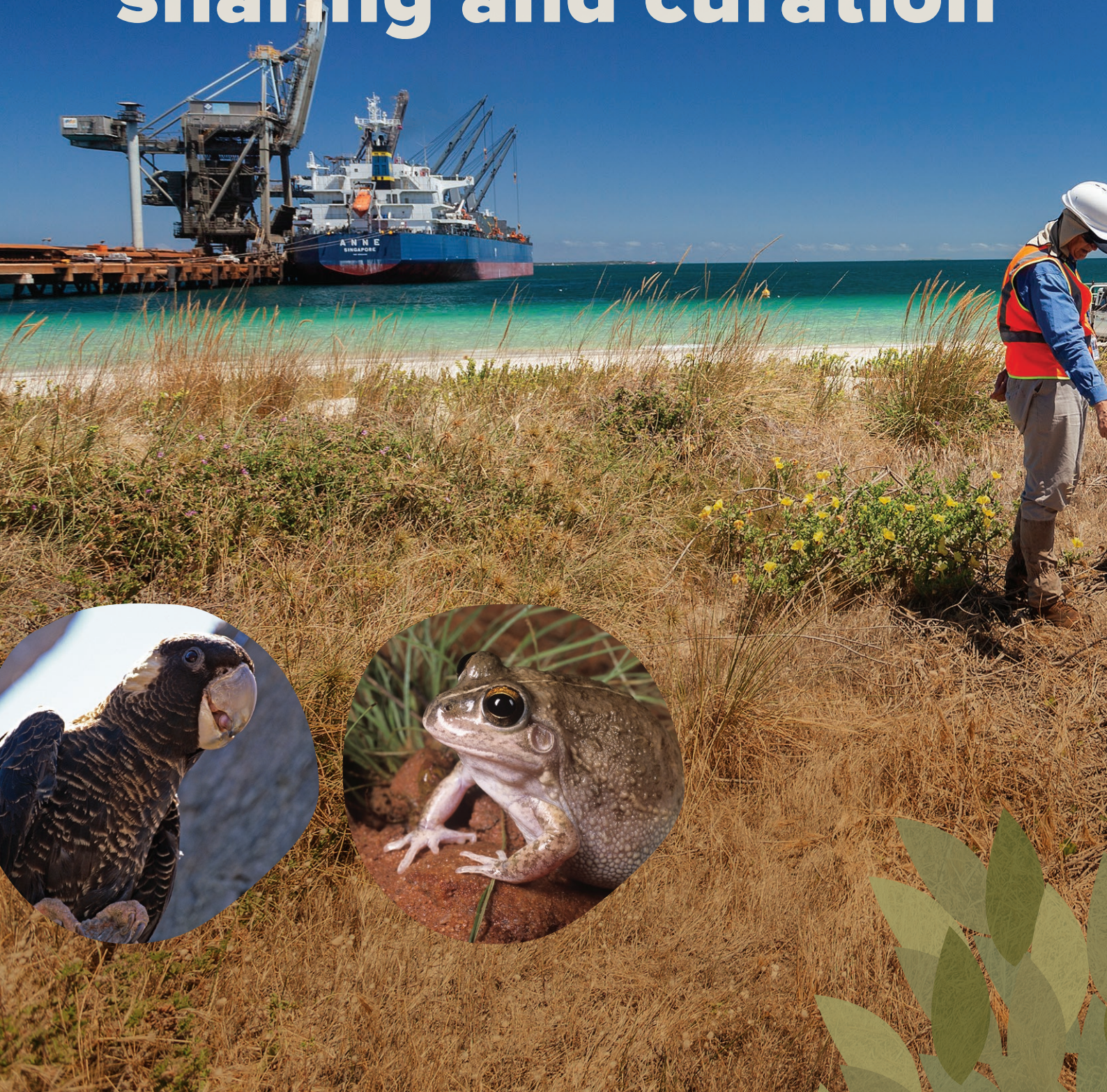
Since 2016, WABSI, together with WAMSI and partners, has formed a strong collaboration of senior stakeholders from industry, government, regulators and the science community. The collaboration has built a data sharing culture, to improve an understanding of cumulative environmental impacts and better interpret and manage biodiversity information collected in Western Australia. This journey and success to date is illustrated below, with further details in the WABSI publication *Leading the digital journey*[1].

May 2018

IBSA and IMSA
Indexes for Biodiversity and Marine Survey for Assessments

- A framework and IT platform for capturing all past and ongoing assessments under Part IV and Part V of the EP Act

2020

BIO
Biodiversity Information Office

- Custodian of a whole-of-state biodiversity platform

2021

SAFE
Shared Analytics Framework for the Environment

- A logic model for guiding the development of an effective and efficient digital environmental ecosystem in WA

2026

SEAF
Shared Environmental Analytics Facility

- A proposed government-owned, independent facility for developing analytical capabilities and products

**Data capture and sharing** → **Data integration and curation** → **Analytics and modelling to inform digital environmental impact assessment**

[1] https://wabsi.org.au/wp-content/uploads/2022/06/Biodiversity-Data_WABSI_Leading-the-digital-journey_June-2022.pdf

Unlocking latent value for all stakeholders —

A Shared Environmental Analytics Facility

The Western Australian Biodiversity Science Institute (WABSI[2]), together with the Western Australian Marine Science Institution (WAMSI[3]) and other partners, is leading efforts to unlock latent value and establish a Shared Environmental Analytics Facility (SEAF).

[2] https://wabsi.org.au/
[3] https://wamsi.org.au/
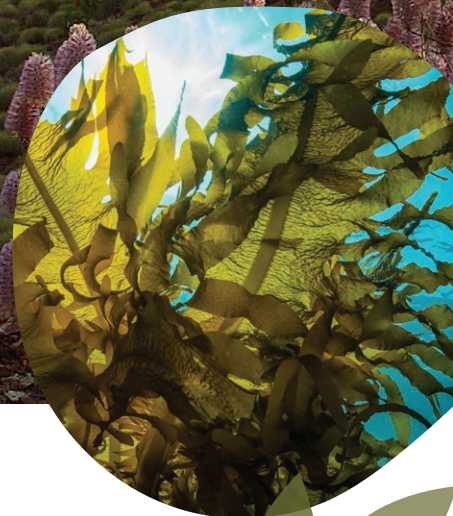
A SEAF is the next step in Western Australia's digital journey. It will develop a sustainable environmental information value chain which can provide easy and equitable access to new and existing data from all sources. It will enable multiple stakeholders to make robust, consistent and well-informed decisions, to better protect our natural assets.

Stakeholders are helping to shape a clear purpose and value proposition for a co-designed facility

- Stakeholders are shaping and endorsing the value that SEAF would deliver and are informing the design of a shared analytics facility and its key operational success elements.

- WABSI, WAMSI and other partners have, and continue to, engage widely with the Western Australian and Commonwealth Governments, industry, science and research, Aboriginal and Torres Strait Islander representatives and environmental organisations.

- Overwhelmingly, stakeholders want SEAF to be structured efficiently: specifically, that it should be independent and sustainable, so that real value can be unlocked for government, industry, science and the community.

To maximise stakeholder value, a SEAF:

- Will be an independent and objective facility, with a representative governance structure.

- Provide equitable and transparent data access for all: a unifying analytics facility will remove the barriers of data fragmentation and disconnection which exist in the current body of environmental information.

- Support reporting on Country, development of State of the Environment and help implement recommendations from the Environment Protection and Biodiversity Conservation (EPBC) Act review[4], to progress the adoption of National Environmental Standards.

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[4] https://epbcactreview.environment.gov.au/resources/final-report

Why invest in SEAF?

Stakeholders will realise value from a digitised environmental value chain.

GOVERNMENT

- Better understand potential impacts of development.
- Lift certainty in planning decisions.
- Aggregated, curated and assured data for reporting to help inform Environmental Economic Accounting[5] and enable better outcomes for Taskforce for Nature-related Financial Disclosures[6].
- Maximise policy priorities: SEAF is aligned with Streamline WA[7], Environment Online[8], and the WA Government ESG Strategy[9].
- Greater community confidence in government decisions.
- Better support development and adoption of National Environmental Standards and support implementation of EPBC Act review recommendations[10].

REGULATORS

- Independent, assured reporting to help inform State of the Environment[10] and reporting on Country.
- Dynamic and timely cumulative impact assessments through a digitised environmental value chain.

[5] https://eea.environment.gov.au/
[6] https://tnfd.global/the-tnfd-framework/
[7] https://www.wa.gov.au/government/government-initiatives-and-projects/streamline-wa
[8] https://www.wa.gov.au/service/environment/environment-information-services/environment-online
[9] https://www.wa.gov.au/government/publications/supporting-continuous-improvement-esg-outcomes-western-australia
[10] https://epbcactreview.environment.gov.au/resources/final-report
[11] https://www.awe.gov.au/science-research/soe

INDUSTRY

- Increase investment certainty with access to common sources of data and analytics.
- More informed, improved earlier-stage decision making during the Environmental Impact Assessment process.
- Reduce risk through optimised site development.
- Realise project benefits sooner through streamlined Environmental Impact Assessments.
- Proactively identify rehabilitation activities.
- Better meet mandated and Environmental, Social and Governance reporting through easy access to required data and shared analytics.

SCIENCE AND RESEARCH

- Obtain equitable and easy access to data, with confidence in its integrity and currency.
- Deliver high quality science and optimise research outcomes.
- Enable timely uptake of new knowledge by end users.
- Develop and test cutting edge integrated modelling in a data-rich environment.

COMMUNITY

- Greater confidence in more transparent and more informed government and industry decisions.
- A sustainable future through better protection of biodiversity and environmental values.
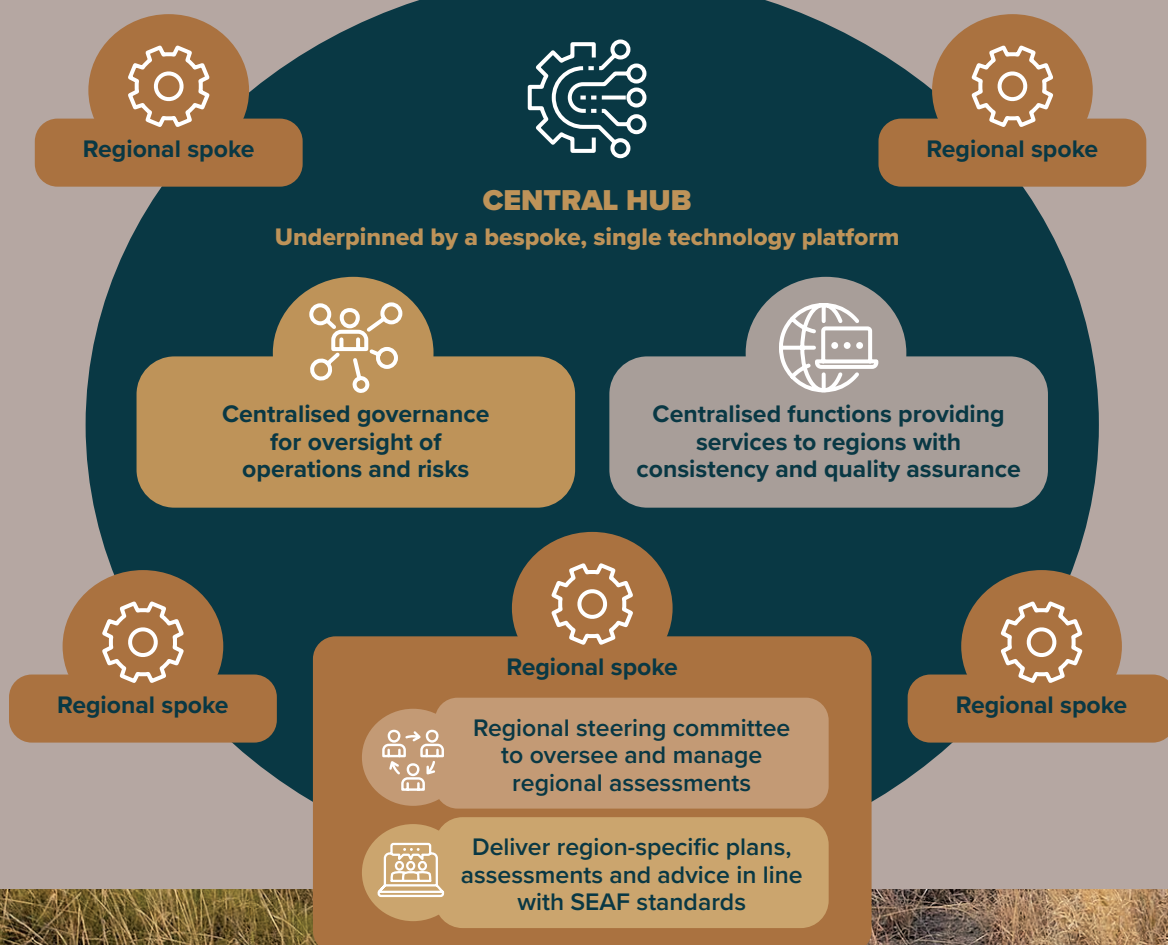
Establishing a SEAF

A digital approach to deliver robust, repeatable and sustainable outputs.

- **Dynamic cumulative impact assessment**

  Independent regional assessments reports, including regional pressures and trends.

- **Leading science, analytics and models**

  Access to a suite of knowledge, analytics and models, with guidance for 'fit-for-purpose' models.

- **Shared access point to environmental data**

  A shared entry point providing access to environmental information contributed from independent and public sources.

- **Operationalised reporting and dashboards**

  Environmental reporting and dashboards offering a snapshot of environmental condition.

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A SEAF as a hub and spoke model.

Regional spoke

Regional spoke

CENTRAL HUB
Underpinned by a bespoke, single technology platform

Centralised governance
for oversight of
operations and risks

Centralised functions providing
services to regions with
consistency and quality assurance

Regional spoke

Regional spoke

Regional spoke

Regional steering committee
to oversee and manage
regional assessments

Deliver region-specific plans,
assessments and advice in line
with SEAF standards

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Where are we now?

We have developed a high-level roadmap to position Western Australia as a national leader in digital environmental assessments.

- **Feasibility:** A collaborative effort has been underway led by WABSI and WAMSI, working with PwC and Microsoft — this has delivered a feasibility study.

- **Roadmap:** A high-level roadmap has been developed to establish an independent SEAF and to identify opportunities that can be delivered.

- **Regional model:** The roadmap proposes a SEAF as a hub and spoke model suited to scaling up.

- **Scaling up:** The collaboration is developing an approach to operationalise shared environmental analytics for addressing key governance, legal, operational and technology challenges — so that a SEAF can be scaled efficiently across regions.

PILBARA

○ COCKBURN SOUND

What next?

A targeted pilot: Applying shared environmental analytics to assess cumulative regional impact and accelerate end user benefits.

The Western Australian Government, through the Department of Jobs, Tourism, Science and Innovation has funded WABSI and WAMSI to progress a regional approach to shared environmental analytics and accelerate benefits for end users. The funding will enable the collaboration to plan a regional pilot focused on shared analytics in a defined region.

- The pilot study will focus on two regions, as illustrated above, with significant current and planned economic activity.

- The selected regions have stakeholders willing and ready to invest and participate (including project proponents, traditional owners), available data and well-established environmental, social and cultural values.

- The study is expected to be completed by the end of 2022 and will provide proof of concept for the establishment of SEAF.

For your consideration

The results from the marine and terrestrial study will be available for consideration by decision makers, to help build the next steps to establish SEAF.

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Contact us

We invite you to join us and realise the benefits of a digitised environmental value chain.

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