Digitally Transforming Environmental Assessment in Western Australia

13th July 2022

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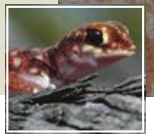
Who is WABSI?
Western Australian Biodiversity Science Institute



VISION

To bring together diverse knowledge to protect and conserve Western Australia's unique biodiversity.

We are a collaboration of leading research organisations and are a strong collective voice for managing biodiversity outcomes in Western Australia.

As an independent entity, we engage with end users to address knowledge gaps, needs and priorities. Our aim is to help shape strategic priorities in biodiversity knowledge, to deliver excellence in biodiversity research and ensure that biodiversity information is accessible to stakeholders.

CSIRO

Curtin University

ECU Australia Edith Cowan University

Murdoch University

The University of Western Australia

Western Australian Museum

Department of Biodiversity, Conservation and Attractions

Department of Primary Industries and Regional Development

Government of Western Australia
Department of Jobs, Tourism, Science and Innovation

Government of Western Australia
Department of Mines, Industry Regulation and Safety

Government of Western Australia
Department of Water and Environmental Regulation

Acknowledgment of Country

WABSI wish to acknowledge the Nyoongar Whadjuk people - traditional custodians of this land.

We wish to acknowledge the strength of their continuing culture and offer our respects to Elders past and present.

Digitally Transforming EIA in Western Australia

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1. Our focus since 2017 has been to progress our “Understanding of the cumulative impacts, of an action, on a region over time” while “streamlining environmental assessment and approvals”. **This requires high volumes of quality data that can be shared, a place to put it, work-flow tools to enable process efficiencies and analytic tools for decision support and forecasting.**

2. That can be leveraged by State and Commonwealth regulators, proponents and the community, which will:

3. Improve the efficiency for environmental assessments from project inception to final decision, for both the proponent and regulator

4. Improve the confidence of the regulator that they have made the correct decision at both the project level and at a landscape cumulative impact scale

5. Improve public trust in EIA decisions through transparency and visibility of data and methods underpinning decisions

6. Provide assurance that commitments to Ministerial conditions are proceeding as planned through continuous monitoring and assessment

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Disruption, objectives and drivers

1. Three disruptions – Data, Digital and Decision Support >> Cumulative

2. Three objectives – Robust, Repeatable and Sustainable

3. Three drivers – Efficiency for proponents, Confidence for Regulators, transparency / clarity for community >> improved environmental and economic outcomes

Why is this important? Transition from efficiency, to effective to cumulative.

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Direct Environmental Impact Assessments Benefits

1. **Improved and sustained environmental outcomes**, via:
   a) enhanced information and decision making during EIA process, and b) ability to measure results of mitigation and rehabilitation activities
2. **De-risking proponents EIA submissions through increased investment certainty & reduced risk of delay**, via:
   a) informed and improved earlier stage decision making, and b) alignment of access to common sources of information and analytics
3. **Streamlined EIA development and assessment**, via:
   a) reduced time, effort and cost to collect environmental information, and b) accessible pre-defined regional cumulative impact assessments
4. **Agility for proposed and actual legislative changes**, via:
   a) support further EIA process digitisation, and b) meet needs of proposed legislative changes

ESG Enabling Benefits

5. **Helping organisations more efficiently meet their ESG agendas and stakeholder expectations**, via:
   Access to consolidated, consistent, current and trusted reporting

Transparent, Independent Reporting Benefits

6. **Enabling Environmental Economic Accounting (EEA) and Taskforce for Nature-related Financial Disclosures (TNFD) related outcomes**, via:
   Aggregated, curated and assured date and reporting to lower the barrier of entry to uptake for organisations and governments
7. **Support implementation of Environment Protection and Biodiversity Conservation (EPBC) Act review recommendations**, via:
   Assisting a) adoption of a National Environmental Standard, and b) digitising the environmental value chain
8. **Independent Reporting on State of the Environment and Country**, via:
   Ability to produce purpose built reports to assist various stakeholders in their understanding and reporting of environmental condition

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Environmental Impact Assessment Overview

#Caveat – I am not an EIA Practitioner or expert.

They are here:

https://www.eca.org.au and https://www.eianz.org

Western Australia EIA

The Western Australian Environmental Protection Authority (EPA) was established in 1971 as an independent Board providing advice to the Minister for Environment.

https://www.epa.wa.gov.au

https://www.epa.wa.gov.au/sites/default/files/EPA%20Strategic%20Plan%202019-2022.pdf

Strategies

1. Improving the assessment and management of cumulative impacts
2. Being innovative in environmental information and digital EIA
3. Actively advising on the development of effective state environmental policies and plans
4. Improving the soundness, robustness and transparency of advice through our assessments

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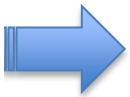
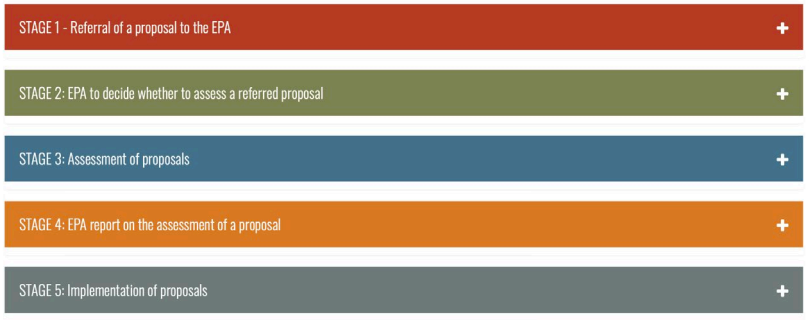
Western Australia EIA

https://www.epa.wa.gov.au/framework-assessment-procedures-eia

https://www.epa.wa.gov.au/step-step-through-proposal-assessment-process

https://www.epa.wa.gov.au/guidelines-and-procedures





Environment Online – Online Gateway for EIA

External Awareness Campaign

environment online

What is Environment Online?

Environment Online is a secure digital platform that will provide a single gateway for regulatory activities, automated case management, and an integrated data management system.

Release 1 delivers the foundation platform that will be built on in future iterative and evolving releases.

Release 1 goes live on Tuesday 16 August 2022

What's included in Release 1?

Environmental Impact Assessments under Pt IV of the EP Act:

- Referral and assessment of new significant proposals; proposals of a prescribed class and strategic proposals
- Referral of other types of proposals and scheme/ scheme amendments as attachment-based applications only
- Submit comments on referrals and other documentation released for public review
- Submit enquiries
- Interactive spatial map viewer
- Search for guidance and EO related articles
- Publishing assessment documentation, EPA Report and Ministerial Statements

Government of Western Australia
Department of Water and Environmental Regulation

What's in it for me?

- Digitised process
- Real-time application status
- Receive notifications
- Application management
- Secure platform

Release one is the first step towards a:

- Centralised hub and
- Streamlined assessments

Training and support

Environmental Online will include a comprehensive range of instructional videos, reference guides and other support materials

SUPPORT

- High care support will be provided to assist at go live
- Access high care via the EO portal; dedicated phone line or email
- High care contact details will be published closer to go live

What's next?

- User Acceptance Testing is underway
- On 16 August we will publish the External Go Live Campaign
- The campaign will include support details and information on the EO registration process for business users

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Australian Commonwealth EIA

Under the EPBC Act an action will require approval from the minister if the action has, will have, or is likely to have, a significant impact on a matter of national environmental significance.

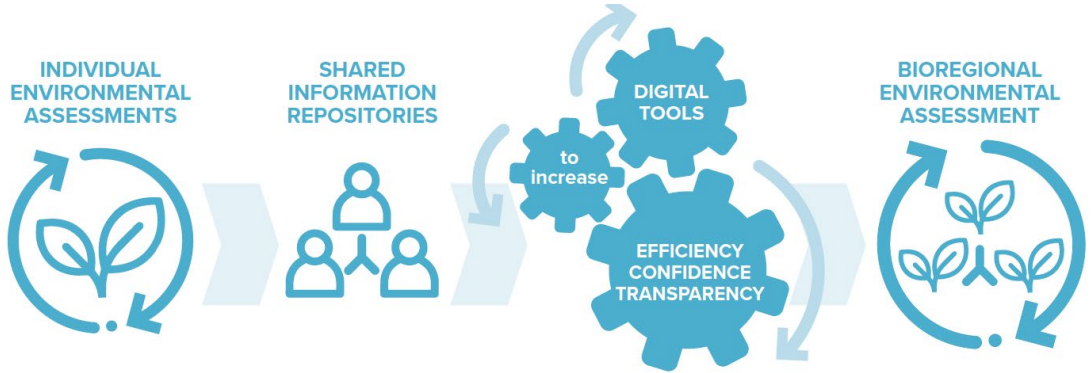
What are matters of national environmental significance?

The matters of national environmental significance are:

- world heritage properties
- national heritage places
- wetlands of international importance (often called 'Ramsar' wetlands after the international treaty under which such wetlands are listed)
- nationally threatened species and ecological communities
- migratory species
- Commonwealth marine areas
- the Great Barrier Reef Marine Park
- nuclear actions (including uranium mining)
- a water resource, in relation to coal seam gas development and large coal mining development.

Digitally Transforming Environmental Impact Assessment

So how can shared data, data science and digital transformation assist EIA practitioners, Commonwealth regulators, Western Australian Regulators, proponents, community and traditional owners to address these challenges? Through a Shared Analytic Framework for the Environment (SAFE).

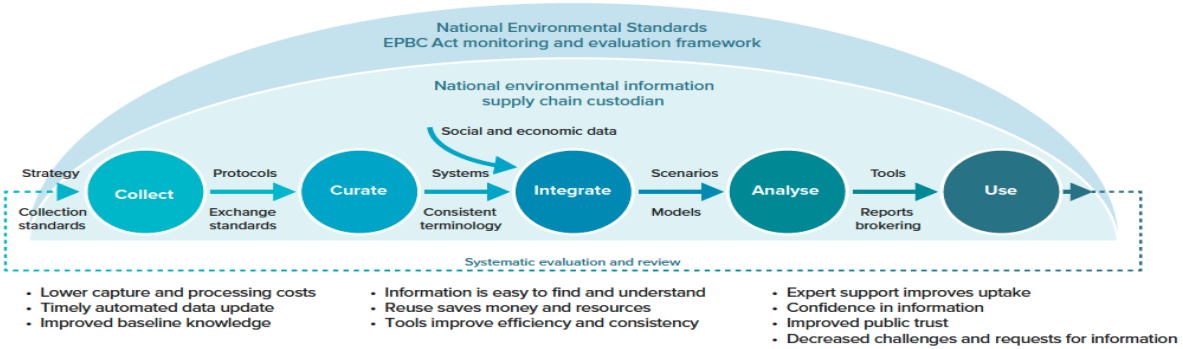


Vision >> Shared Analytics Framework (1)

The value of having a shared analytic framework includes:

- **Flexibility:** different organisations and researchers can work within their own area of expertise while contributing to a larger effort to support information and analytic supply chain.
  - The current approach includes many independent actors providing solutions that do not readily integrate and with low collective improvement.
- **Reuse:** Analytics tools developed for one purpose can readily be re-used.
  - Tools developed for decision support can often be reused for reporting or to guide environmental management.
- **Progressive improvement:** once solutions are in place, they can be incrementally improved through a consistent and managed framework as new knowledge and methods become available.

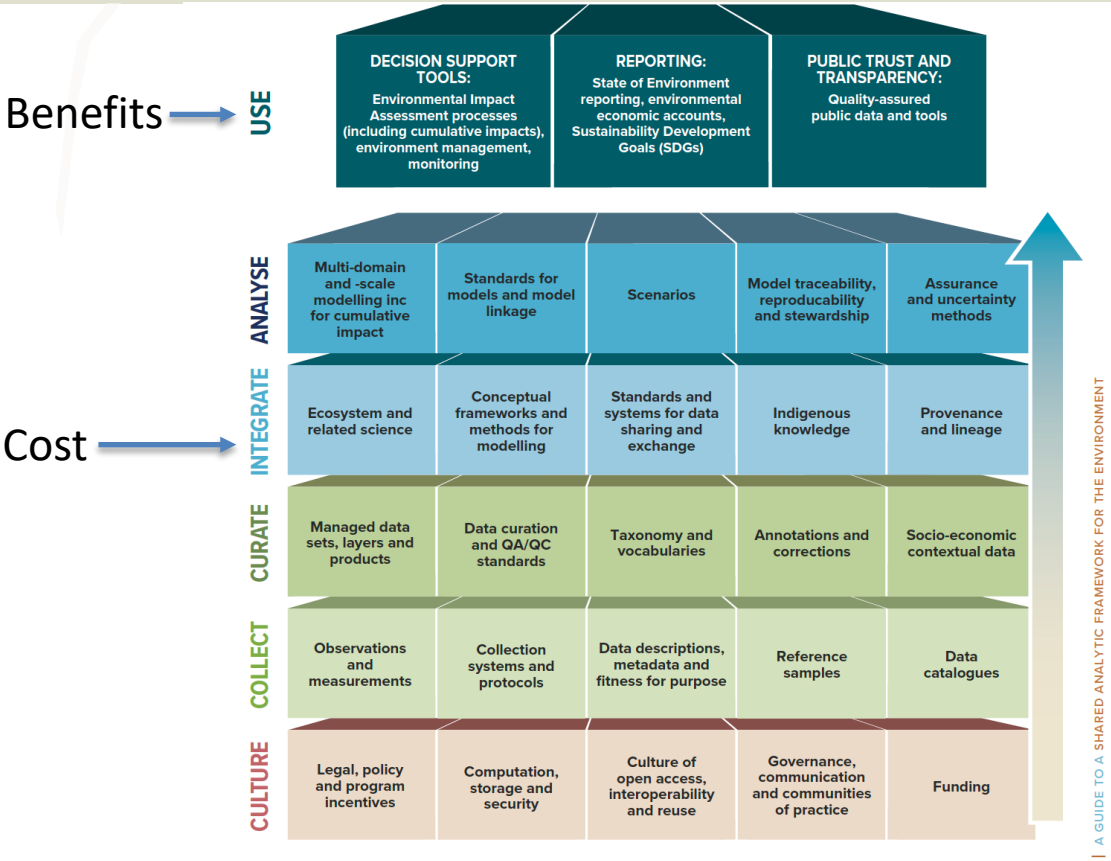
The value of SAFE is illustrated by the future state depiction contained in the *Final Independent Review Report*.



Future state of the national environmental information supply chain[3]

Vision >> Shared Analytics Framework (2)

With thanks to GBIF
Delivering Biodiversity Knowledge in the Information Age -
https://doi.org/10.15468/6jxa-yb44



The principles underlying the framework, shown in the diagram below which shows the tiers and the capabilities within each tier, are:

1. Environmental data and analytics should be open and shared
2. Build upon the knowledge and capabilities of existing programs and organisations operating to deliver environmental information
3. Collaborative with research partners to identify and meet the priority knowledge needs of industry and government.
4. Maintain the integrity and pedigree of its data and analytics
5. Remain responsive to the environmental analytics needs of stakeholders.

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What has been achieved >> Data, Digital and Decision Support

1. Index of Biodiversity Surveys for Assessments (implemented 2018, 500 surveys ~ AU$40m annually)
2. Digitally Transforming Environmental Assessment Case (completed 2019, ~$150m NPV benefit annually)
3. Index of Marine Surveys for Assessments (implemented 2020, 50 surveys ~ AU$50m annually)
4. Biodiversity Information Office (under way 2020 – 23, ~ AU$10m), CoA Biodiversity Data Repository $4m
5. Environment Online / Digital Environmental Assessment Program (under way 2020 -2022, ~ AU$50m)
6. Shared Environmental Analytics Facility >> Feasibility study underway

1 US$ = ~1.5 Aus$

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SAFE in action >> Culture, Collect and Curate

CULTURE >>

November 8th 2019 COAG Meeting of the Environment Ministers (MEM) was held. At the meeting WA and the Commonwealth requested that COAG MEM:

Note the work in Western Australia and the Commonwealth on digital reform of environmental assessments and approvals, including Western Australia's *Digitally Transforming Environment Assessments* report and the *Environment online* paper;

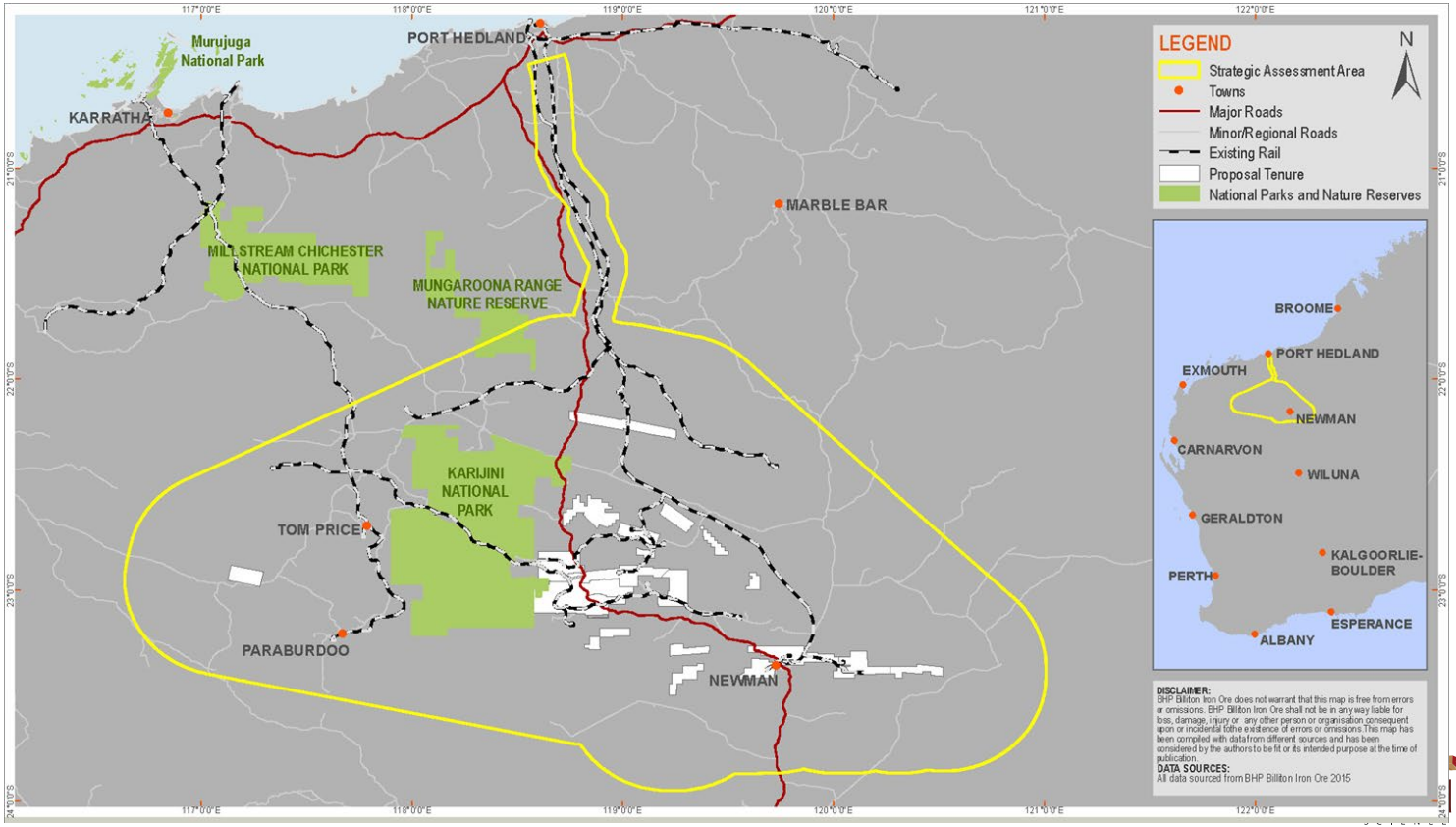
Recommend to Ministers they encourage participation in detailed scoping work that Western Australia and the Commonwealth will progress to pursue the aims of better regulation and digital transformation with specific reference to:

- Exploring joint **ways to capture, curate, store and share biodiversity and other environmental data** relevant to assessments approvals; and
- Better aligning and streamlining environmental assessment and approval systems throughout the full assessment life cycle.

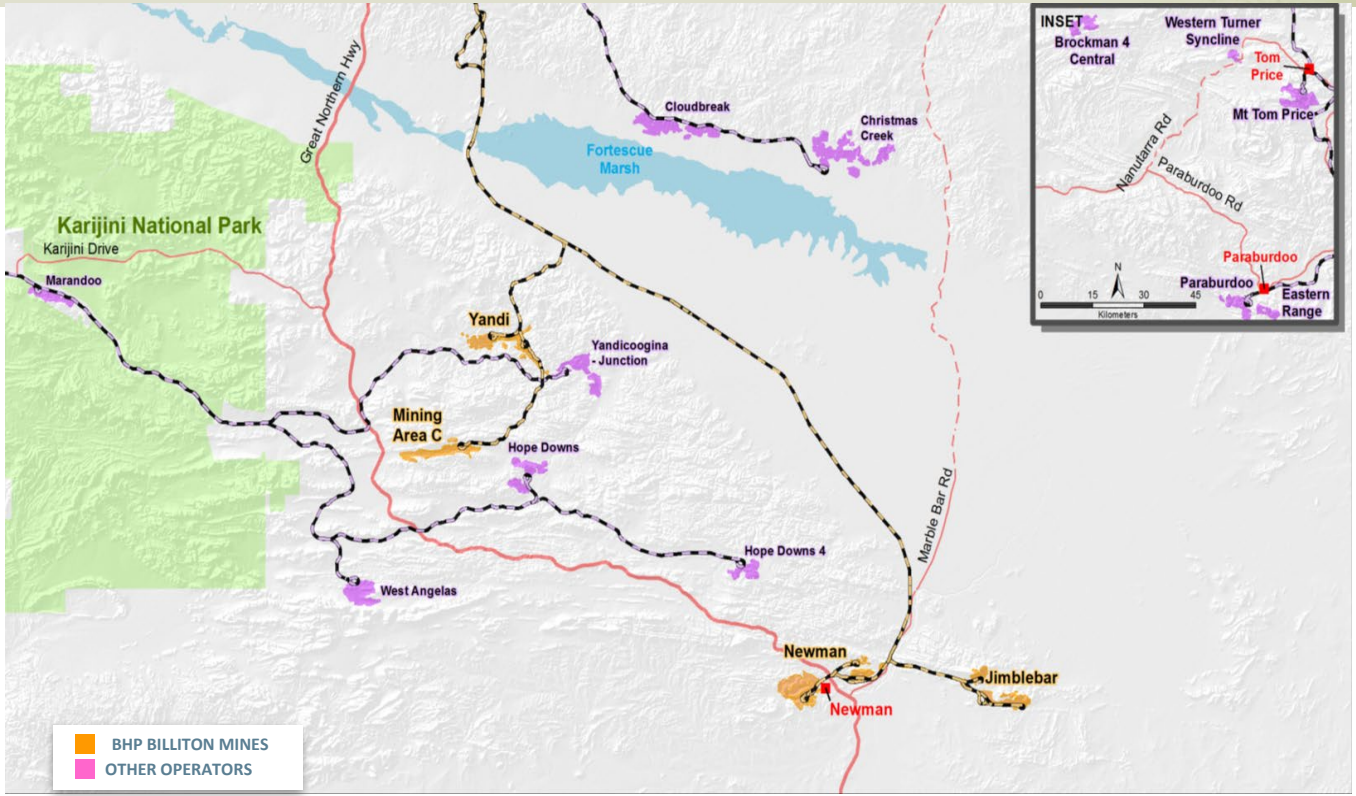
COLLECT >> IBSA: https://www.wa.gov.au/service/environment/environmental-impact-assessment/program-index-of-biodiversity-surveys-assessments

CURATE >> BIO: https://bio.wa.gov.au

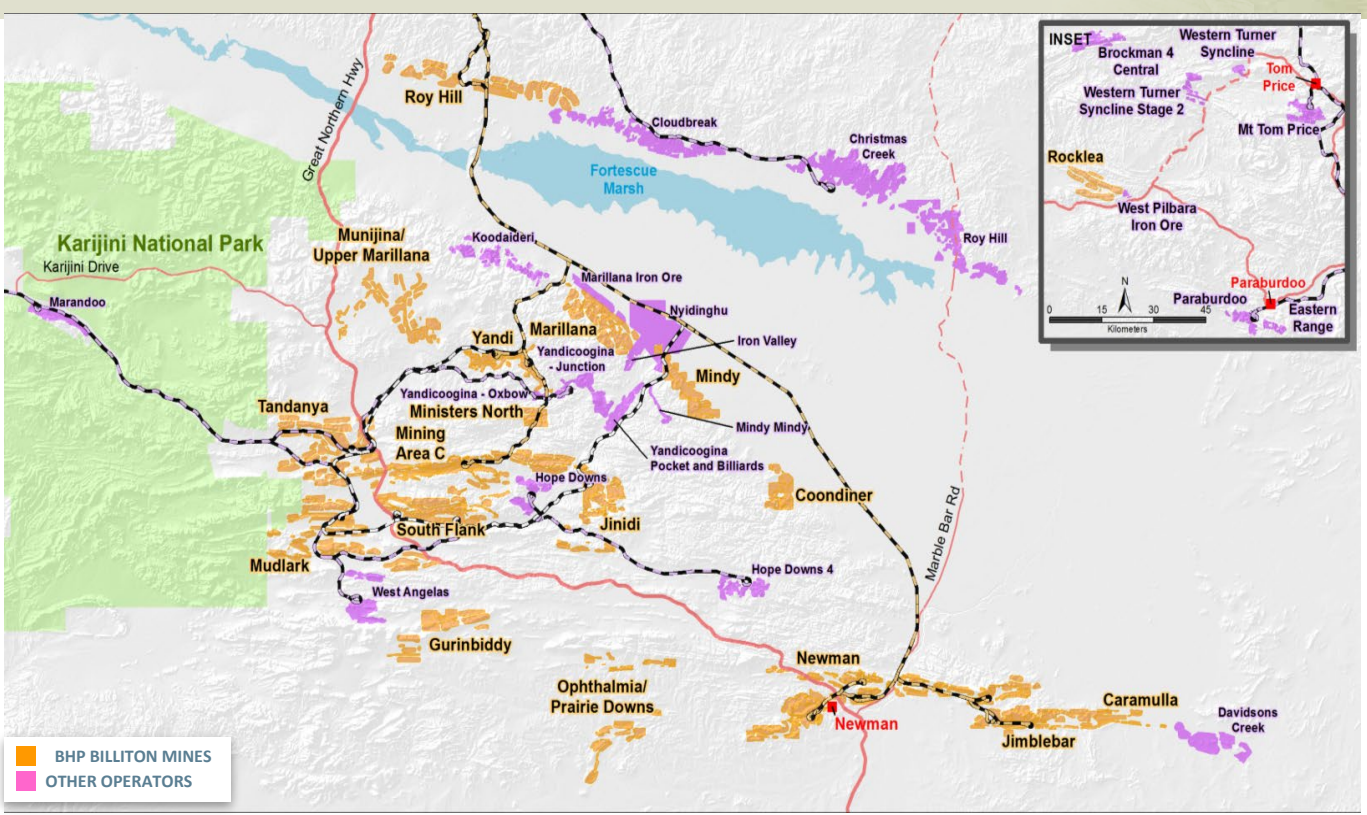
Shifting from local to regional thinking (Pilbara ~= Land Area as Spain)



2015 Pilbara operations



Planned development in the Pilbara



So what about Integrate, Analyse and (very importantly) Use?

1. Our focus since 2017 has been to progress our “Understanding of the cumulative impacts, of an action, on a region over time” while “streamlining environmental assessment and approvals”. **This requires high volumes of quality data that can be shared, a place to put it, work-flow tools to enable process efficiencies and analytic tools for decision support and forecasting.**

2. SAFE depicts the capabilities – the building blocks – which work together across the information and analytic supply chain to provide input decision-support and reporting tools for environmental assessments. It is a management tool, providing a framework and language to:
    - Facilitate a consistent view of the capabilities and their interdependencies; and
    - Help align effort and prioritise investment across these capabilities.

3. In 2021 we partnered with Price Waterhouse Coopers (PWC) and Microsoft Australia to accelerate our understanding of:
    - The opportunities that can be delivered through shared environmental analytics; and
    - Develop an approach to operationalise shared environmental analytics that addresses the key governance, legal, operational and technology challenges that scales efficiently across regions

Vision for a Shared Environmental Analytics Facility (SEAF) (1)

During this stage of the program over 50 stakeholders across seven cohorts were consulted regarding the need for innovation in how we inform decisions affecting our environment and economy.

Stakeholder engagement objectives: to capture the voice of all relevant stakeholder cohorts to (a) gain endorsement of the value proposition, (b) inform the design, and (c) define key operational success elements.

Stakeholders engaged: We have spoken to a broad stakeholder group defined by those who will either use or have a vested interest in the SEAF's operations and/or outputs.

Key stakeholder cohorts included:

- a **State and Commonwealth Government**
- b **Influential Individuals and Organisations**
- c **Industry**
- d **Science and Research**
- e **Aboriginal and Torres Strait Islanders representatives**
- f **Environmental Interest Groups**
- g **EIA relevant Consultants**

Key messages we heard: significant value can be realised by the SEAF if structured correctly.

The **anticipated benefits have been endorsed** in principle with all stakeholder cohorts. Common requirements for the design include:

1. The Shared Environmental Analytics Facility (SEAF) should be **independent and objective**
2. **Integrating to the existing** valuable, disparate, upstream **data initiatives*** would create a valuable pillar of the environmental information value chain
3. **Equitable, transparent data access** for all parties is a consistent aspiration (with the right controls)
4. **Broadly representative governance** a key aspect to help ensure sustainability
5. Comprising **flexibility at a regional level** with a **consistent core** will help ensure sustainability and potential scalability

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Vision for a Shared Environmental Analytics Facility (SEAF) (2)

What we consistently heard through those discussions was an increasing expectation among industry stakeholders, governments, traditional owners and the wider community that the information used in decision-making needs to be more comprehensive, transparent and assured. Further, that 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 characterization of its current state.

Now: Current processes are unsustainable due to evolving stakeholder expectations, regulatory change and the current rate of human action.

The current approach to environmental management is falling short of stakeholder needs:

- Humans are unsustainably engaging with the environment. The Dasgupta Review calls for **changes in how people think, act and measure economic success** to protect and enhance natural world
- Demonstrated **commitment to Environmental, Social, and Corporate Governance (ESG) is a stakeholder expectation** and an increasing requirement of the social license to operate
- Existing **Environmental Impact Assessment (EIA) process is not cost effective, increasing risk and delaying benefit** realisation
- Legislative changes in Western Australia now require consideration of **cumulative environmental impacts** with a likelihood that this will be adopted as a national norm

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

- The latent value of existing scientific work can be accessed, ultimately **increasing total shared value for all stakeholders.** Without a unifying mechanism the current body of work will remain broad, disconnected, fragmented and often lapsing in its currency
- There is an opportunity to create a **shared, robust, repeatable and sustainable environmental information value chain** that transforms environmental assessment, reporting and assurance for regional development through connecting upstream existing work, and supports development of State of the Environment and reporting on Country
- Implementing recommendations from the EPBC act review including calling for the adoption of National Environmental Standards, **digitisation of environmental impact assessments and creation of an efficient environmental information value chain**

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Vision for a Shared Environmental Analytics Facility (SEAF) (3)

The challenge of putting this information to its fullest use and greatest value for proponents, regulators, traditional owners and the wider community remains. And at the heart of that challenge is sharing not just data but also the crucial analytics that describe, at any point in time, the state of our environment, the pressures and cumulative impacts upon it, the predicted risks associated with future development, and ultimately how we assure protections.

Challenges that need to be solved

Common Themes

- Significant effort and investment currently spent collecting data
- Data that is available can be geographically incomplete and of differing quality
- There are no common standards for foundational parameters
- There is a lack of visibility in current processes for those not directly involved
- The economic value of the environment (and its biodiversity) needs to be understood

Concerns to be considered in design and implementation

Common Themes

- Simple and equitable to access and use the SEAF
- Confidence and trust in the data and models by all
- Control mechanisms for information and data, including Intellectual Property (IP) protection
- Data standards harmonisation
- Acceptance from all jurisdictions of use
- Costs need to be equitable and not prohibitive
- Management of perceptions of what the SEAF is and is not including concerns around overlap and duplication
- Data reliance indemnities and warranties

Expected benefits

Common Themes

- Key element in streamlining processes & helping remove duplication of effort
- Dynamic cumulative impact assessments that are maintained
- Supporting the development of National Environmental Standards
- Enabler of environmental economic accounting (EEA) and ESG reporting
- Repeatable, robust, transparent and available to all stakeholders
- Core input into independent reporting whether for state of environment and/or state of country

Considerations for roadmap development

Common Themes

- Needs to be aspirational and demonstrate value
- Adaptive to lessons learned
- Confidence is needed in longevity
- Timing of expansion critical to ensure longevity
- Engagement of key stakeholders who are needed to endorse to get universal buy-in
- Clear plan for when benefits will start to be delivered
- Clear path for how it will be rolled out and scaled

Vision for a Shared Environmental Analytics Facility (SEAF) (4)

The vision, guiding principles and foundations of the service offering have been formed from consultation with stakeholders to inform design and value proposition.

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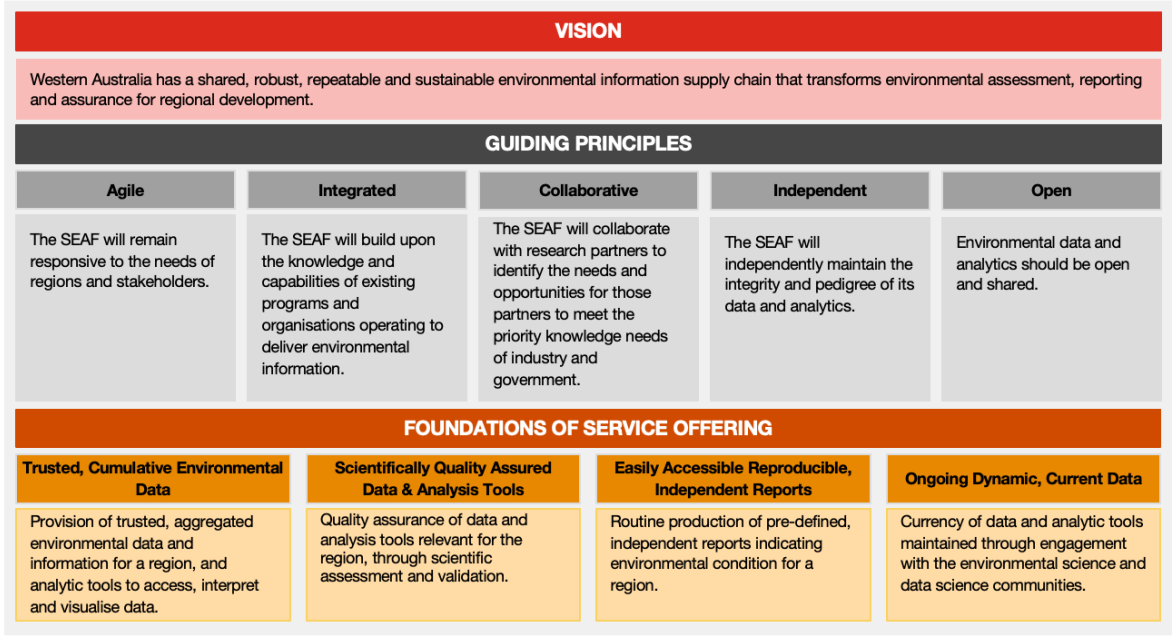
These are the elements that will help the SEAF:

- Realise its proposed benefits
- Operationally support the ability to share environmental data and analytic tools within a given region
- Be a well utilised collaboration vehicle for private sector companies, government entities and research organisations.
- Support the development, improvement and dissemination of environmental data, information, and analysis tools.
- Transform environmental planning, assessment and reporting and meet the multiple challenges driving environmental reforms



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Vision for a Shared Environmental Analytics Facility (SEAF) (5)

We are currently working with our partners to develop a feasibility and 5-year implementation plan for 'operational, shared, regional environmental analytics' in Cockburn Sound and the Pilbara.

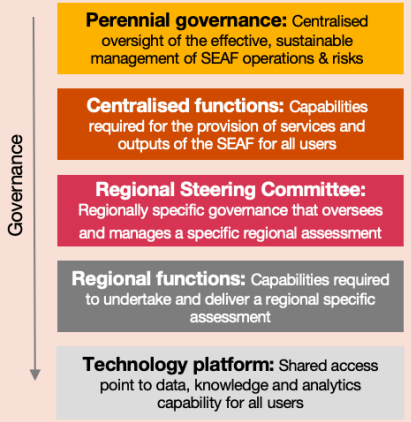
Overall: an independently run and objectively managed collaboration entity

Key attributes:

a. **Broadly representative governance** to help ensure sustainability and longevity
b. Development and articulation of **cumulative impacts by region**
c. **Collaboration vehicle** linking equitable, transparent data access for public, private and research organisations and the community
d. Support the **development, improvement and dissemination of environmental data and science**
e. Development of decision support **data models, and forecast tools and analytics**
f. **Integration with the existing** valuable, disparate, upstream **data initiatives** to create a valuable pillar of the environmental information value chain

Construct: a hub (SEAF) and spoke (Regional Study) model underpinned by a tech platform

Core entity components:



Key Outputs: four core, robust, repeatable and sustainable offerings provide value to all stakeholders

Dynamic cumulative impact assessment

- Independent regional assessments reports, inclusive of all regional activity developed and sustained. Includes state of the regions environment, its pressures and trend.

Leading science, analytics and models

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

Shared access point to environmental data

- A shared entry point providing access to relevant environmental information, including traditionally publicly available sources and contributed sources from independent parties.

Operationalised reporting and dashboards

- Environmental reporting and dashboards maintained to provide snapshot of environmental condition.

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Vision for a Shared Environmental Analytics Facility (SEAF) (6)

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3. Three drivers – Efficiency for proponents, Confidence for Regulators, transparency / clarity for community >> improved environmental and economic outcomes

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