A *"Biodiversity (and Environment) Shared Analytics Partnership"* for Western Australia

THE WESTERN AUSTRALIAN BIODIVERSITY SCIENCE INSTITUTE



The Western Australian Biodiversity SCIENCE INSTITUTE

Who are our Customers?

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Planning

Research

Approvals & Compliance

New Opportunities

Body of data about WA's flora and fauna

Production

Community, Landcare & Education

Conservation

Tourism

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Challenge…

- …is to “improve our understanding of the cumulative environmental effects of an action, on a region, over time, and ensure that these impacts can be transparently communicated to policy makers, regulators and the community.”
- “If you do nothing else capture & manage the survey data collected as part of the environmental approvals process and make it accessible” – 2017
- Index of Biodiversity Surveys for Assessments (IBSA) – 2018
- IBSA Impact – collecting a data asset for the state at $38m per annum
- ***So what may this enable? In 2019? In 2023? In 2028?***

Value of Biodiversity Information to WA - Key Points

1. Currently no-one is charged with aggregating, managing and enabling the use of biodiversity data in Western Australia. **What if we had the equivalent of the Geological Survey, for Biodiversity information?** A Biodiversity (and Environment) Shared Analytics Partnership?

2. The primary quantitative economic benefit of collecting and managing biodiversity information comes from the ability for improved understanding of cumulative and regional impacts of an action on the Western Australian environment. The benefits of efficiently enabling this understanding for EIA proponents are estimated at $39m per year.

3. Qualitative benefits are derived from having access to a significant increase in the volume of biodiversity data available to support local, regional & strategic planning, cumulative impact assessment, conservation planning and policy >> all of which are **'evidence based, but with imperfect knowledge.'**

Qualitative benefits (1)

Creating an information asset for the State to help inform policy and decisions	Biodiversity is a natural capital asset with immense economic significance for Western Australia. To ensure it is managed over time, we need to have information about the asset to inform policies, regulations, and on-ground management. A consolidated, curated, and accessible repository of information should be regarded as an appreciating and strategic State asset.
Capitalising on existing investment in data collection by capturing it for reuse	Many businesses, government agencies, and community groups routinely collect information about the environment and its biodiversity. Capturing and sharing this data makes best use of existing effort, providing a cost-effective and efficient way of maintaining data currency over time.
Better assessment of environmental change and its impact on biodiversity	Assessing change in the natural environment requires sound baseline data. Establishing an aggregated database of biodiversity information will help the state make meaningful assessment of impacts on biodiversity from climate change and incremental human development. Such data does not currently exist in a way it can be used.
Delivering greater investor confidence and certainty through increased regulatory transparency	Aggregated and publicly accessible biodiversity baseline data will assist proponents and regulators in the EIA process. Accessibility of base data guiding environmental decisions will make the process more transparent, and build confidence and certainty in the process. There will be less reliance on the precautionary principle, with more actual data to guide decisions. In many cases, there will be reduced costs and delays for proponents, leading to earlier return on investment. The net benefit of increased investor confidence will be continuing interest in business development in the state.

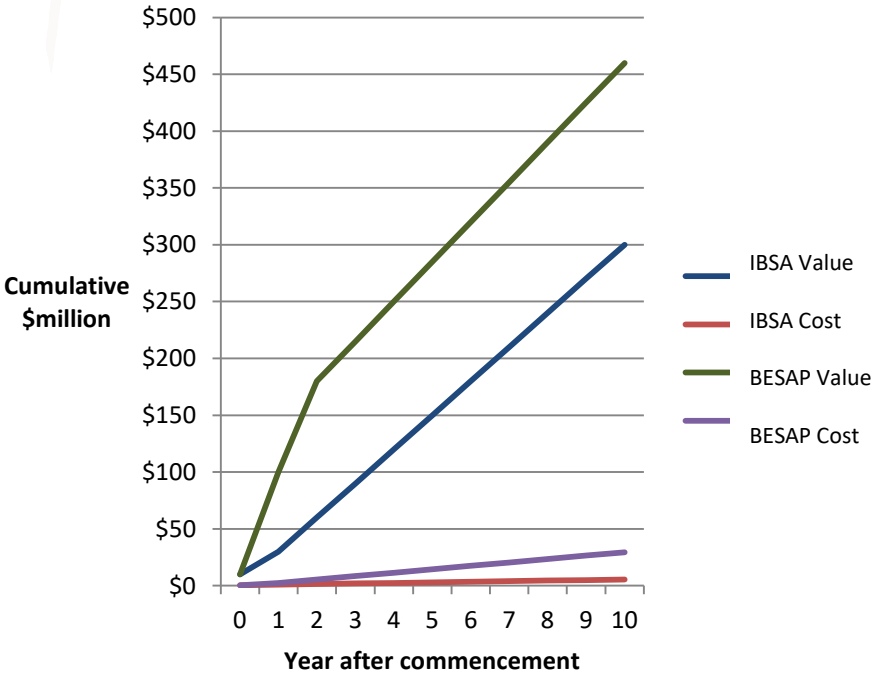
Qualitative benefits (2)

Contributing to efficiencies in strategic, regional and local planning	Increasingly regional and local planning, including Strategic Assessments under the EPBC Act, includes biodiversity as a significant planning component of critical economic and social importance. An aggregated baseline of biodiversity data, which does not exist at the moment, will make this process more efficient, transparent, and effective.
Optimising returns on offset investment decisions	Environmental offsets need to be cost-effective, relevant and proportionate to the significance of the environmental value being impacted. Baseline data will help assess the scale of the impact, and the value of any proposed offsets.
More informed reserve planning for the National Reserve System	The State acquires land to build the National Reserve System. Sound baseline data will help it assess whether proposed acquisitions meet the Commonwealth's Comprehensive, Adequate, and Representative criteria.
Enhancing the relevance and efficiencies of biodiversity research	Research will benefit from having aggregated baseline biodiversity information. The result will be better guidance to inform policy, regulation, and environmental management actions.
Supporting national and international frameworks	Australia is building a solid and comprehensive network of biodiversity information, which contributes to the global biodiversity information network. Aggregated information at a state level will allow Western Australia to provide quality data into the national and international frameworks.

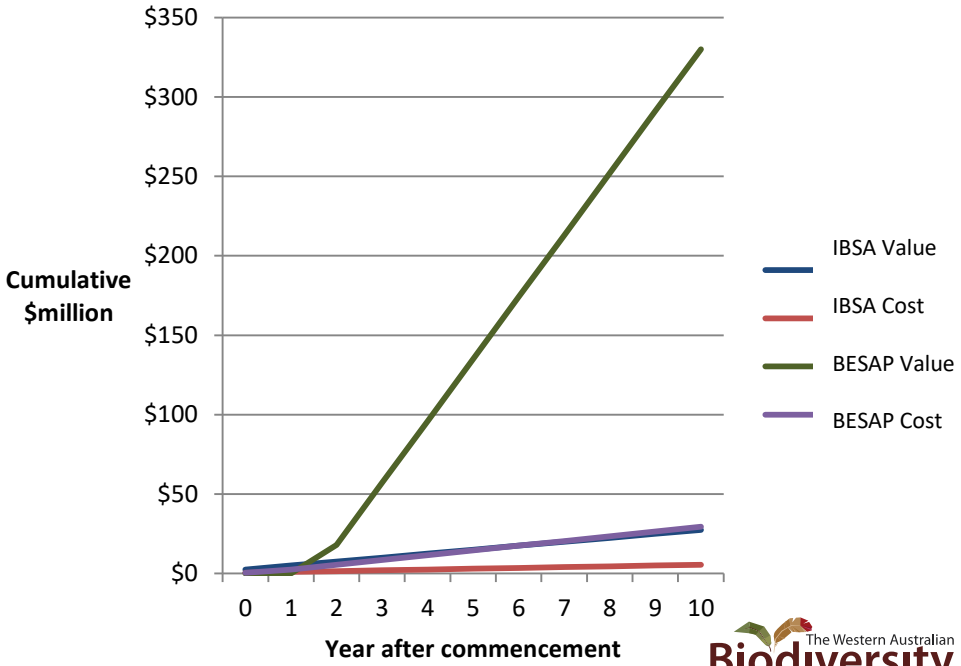
What will BESAP cost? What may it enable?

At prefeasibility stage the cost of operating BESAP has been estimated at $3m per annum.

Cumulative data asset value & associated cost



Cumulative benefits value & associated cost



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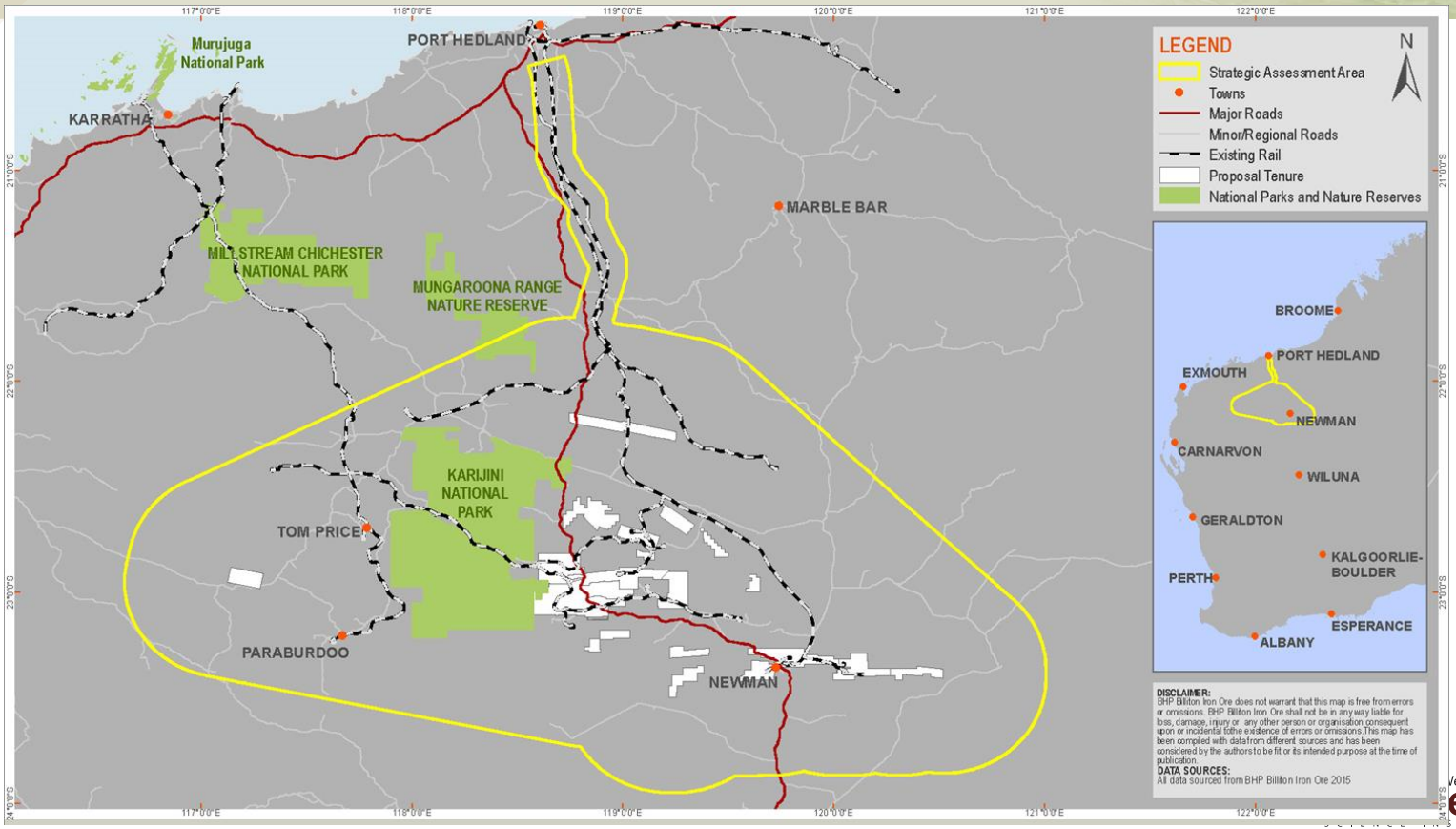
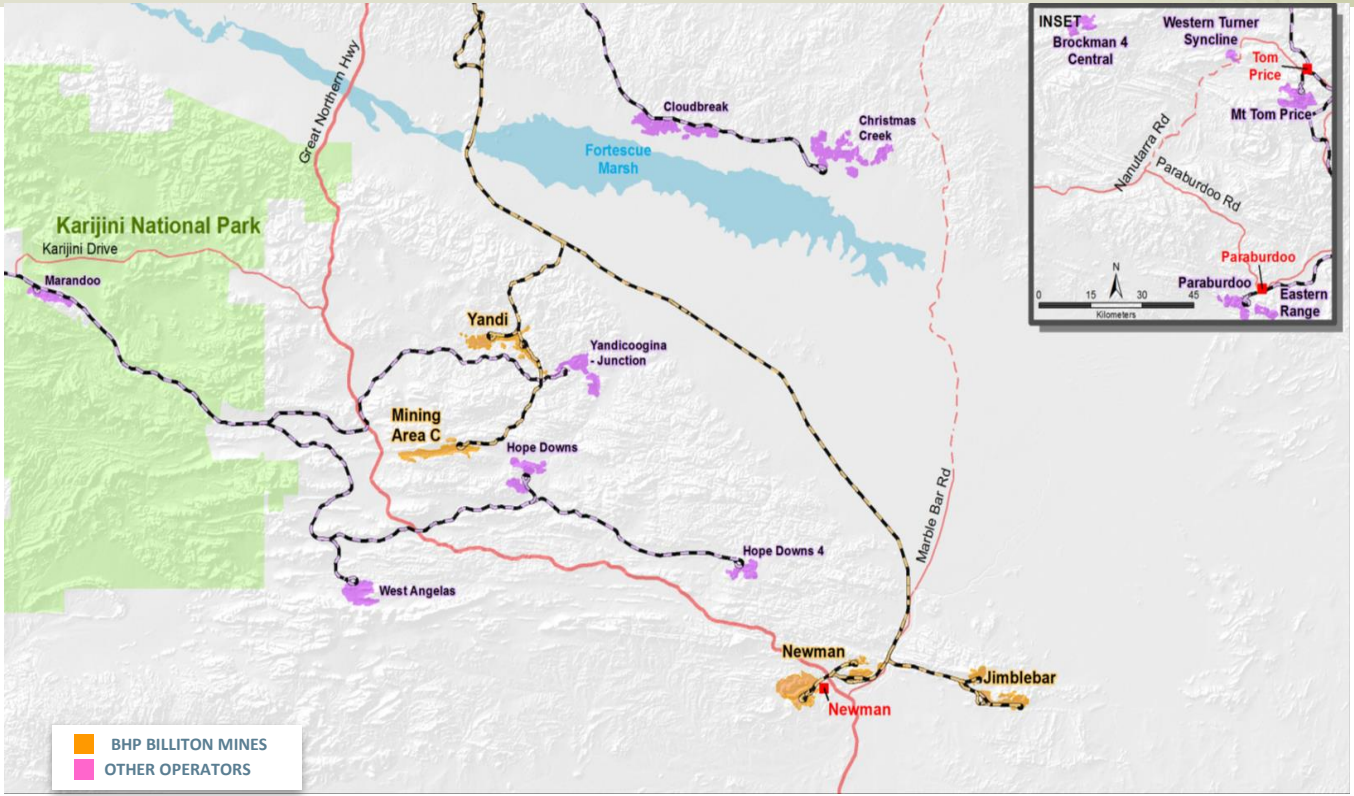
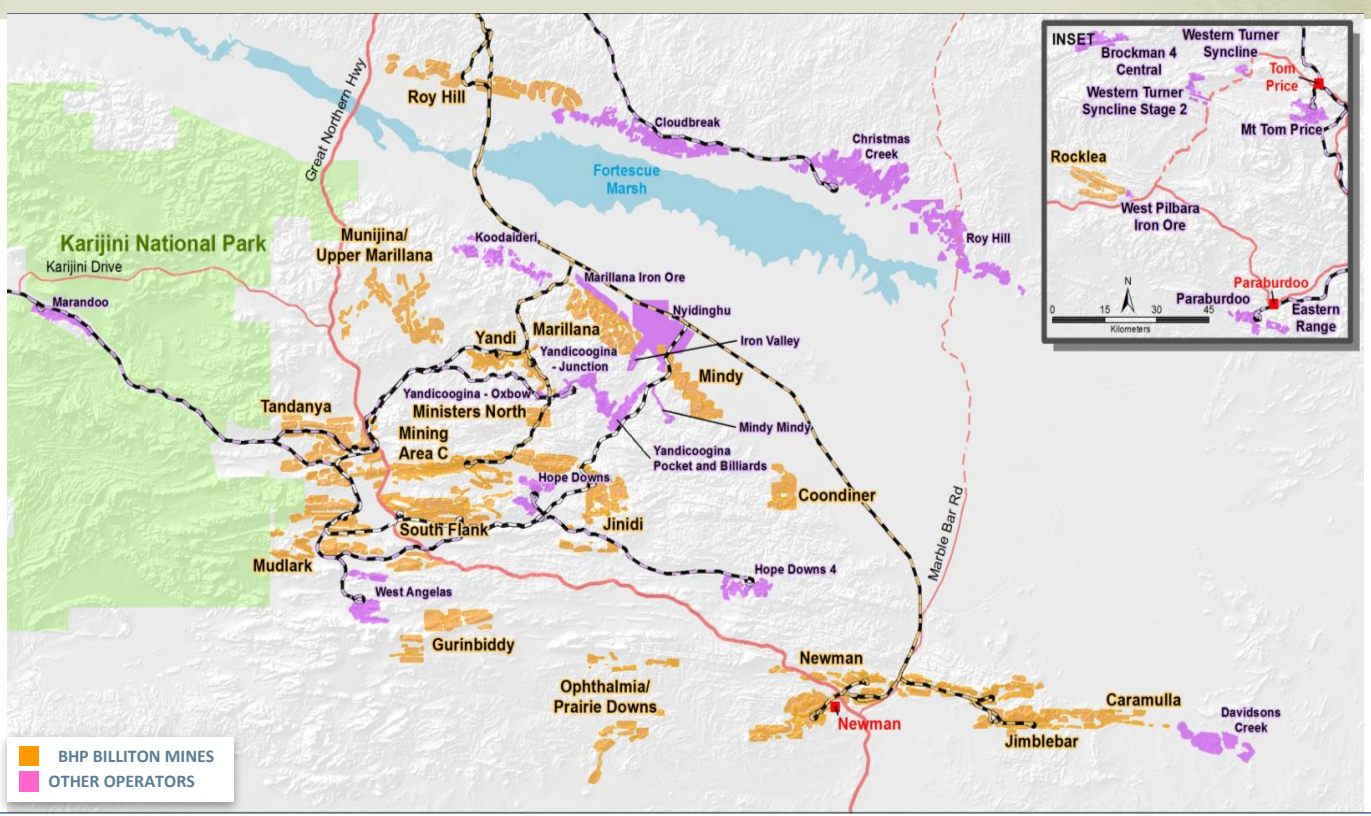
Shifting from local to regional thinking



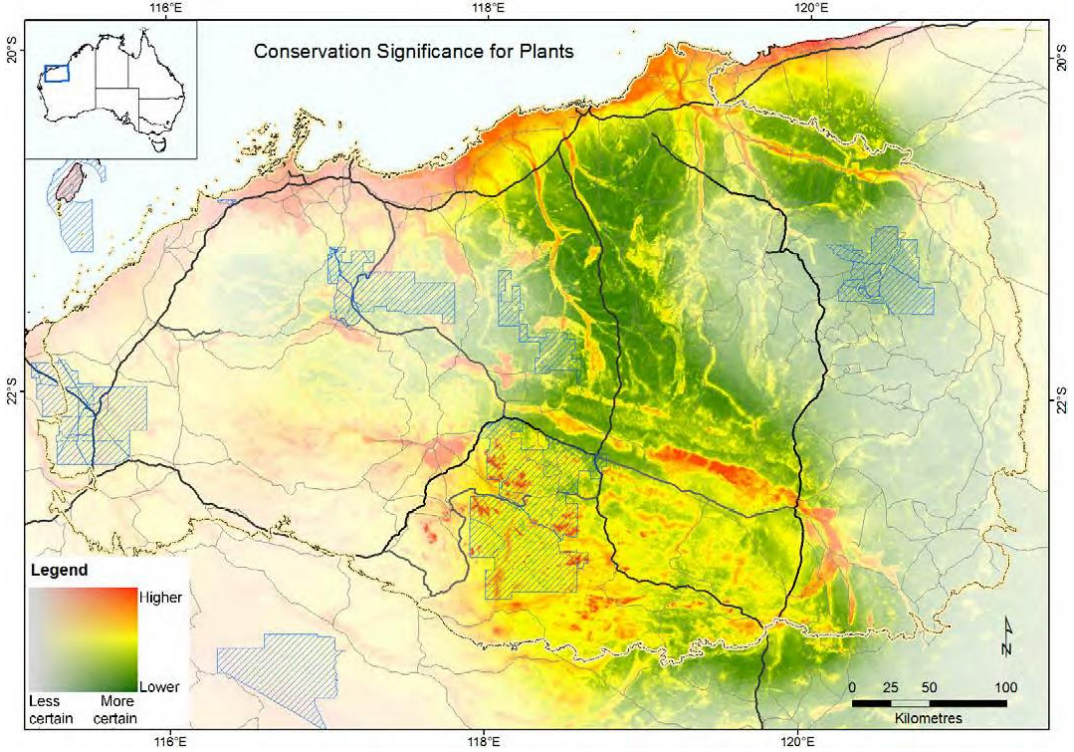
2015 Pilbara operations



Cumulative development in the Pilbara



In 2018 this is specialist task. What if in 2023 it wasn't?



"The spatial bias resulted in high confidence in model outputs surrounding BHPBIO's mining tenements, but less confidence in predictions in distinct environments with limited survey coverage."

What do we need in place to deliver enable the vision?

Strategic Objective 1: Create and lead **a culture of shared expertise, common data standards, policies and incentives** for data sharing and support a system for persistent storage and archiving of data.

Strategic Objective 2: Mobilise biodiversity data from all available sources (EIA, Government Departments, NRM Groups, Research Community, Community Groups etc.) to make the data promptly and routinely available to the entire biodiversity community.

Strategic Objective 3: Curate and manage surveys into data layers that give individual surveys context and meaning, enabling this data to be used as evidence.

Strategic Objective 4: Deliver (or enable) informed, trusted analytical and assurance outcomes using shared solutions and technologies.

Strategic Objective 5: Support **optimised policy and decision making, transparent, efficient assessment** and assurance processes and informed environmental adaptive management frameworks and provide investment confidence and an informed community.

Potential BESAP Outcomes

1. **Access** (Data services, analytics etc.) - not big data, complex data
2. **Atlas** (Naturemap, ALA, plus)
3. **Assessment** (Planning > Development Proposal > Regulatory Decision)
4. **Assurance** (Regulatory Decision > Monitoring & Reporting > Adaptive Management)
5. **Accounting** (Asset Identification > Asset Condition)

Help please.

1. People
2. Policy
3. Process
4. Data
5. Technology

How would a BESAP help you? Your customers? Your community?

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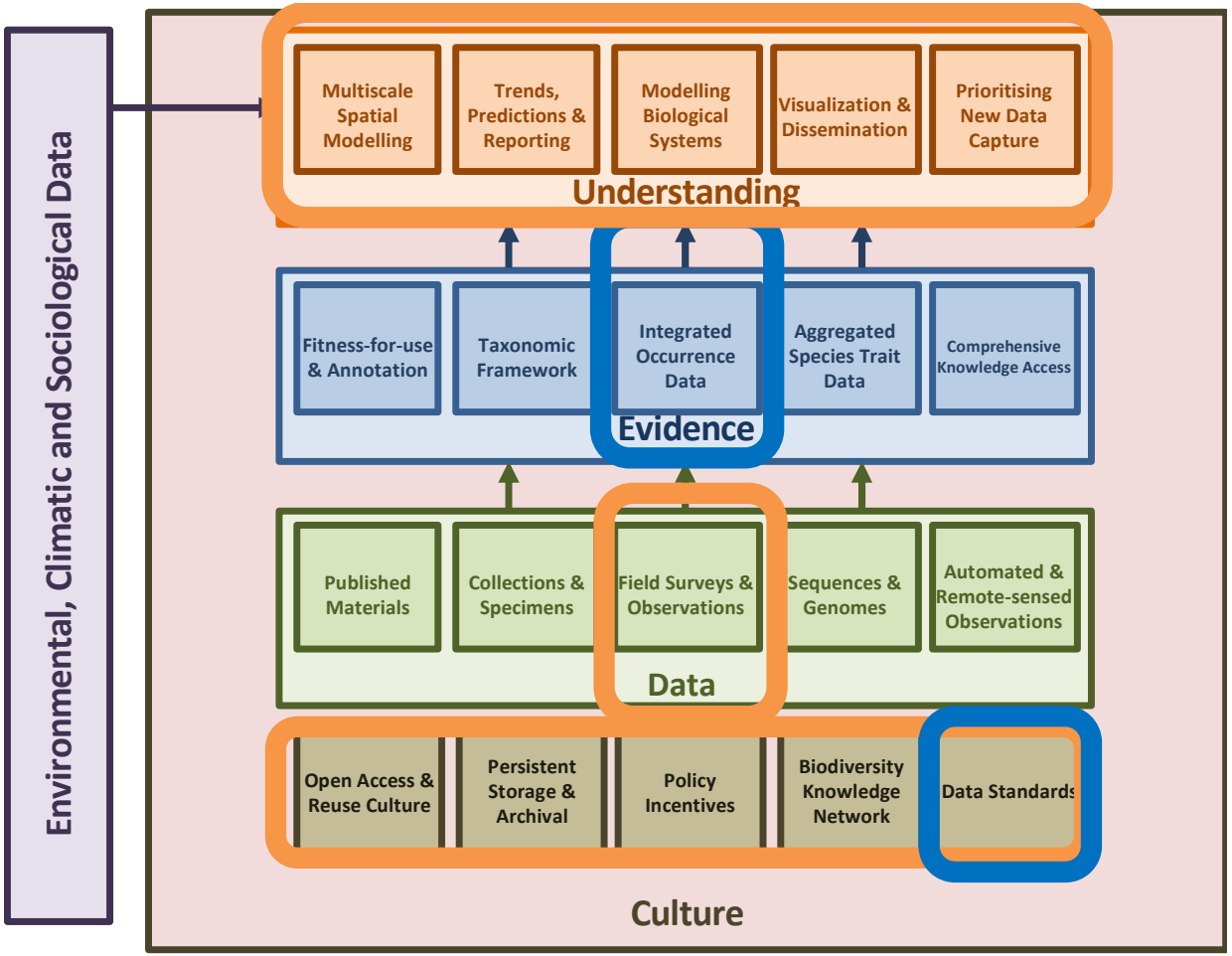

Biodiversity Informatics Capabilities (GBIO 2013)

Blue = 'Core' **Green** = 'Common' **Specific** = Purple