



## **BIODIVERSITY INDICATORS IN THE EXTRACTIVE SECTOR – SCOPING STUDY RESULTS**

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# Desk-based research

## Identification and review of:

- Existing guidance/approaches
- Indicator frameworks
- Peer-reviewed literature
- Survey

## Looking at...

- Extractives sector
- Broader private sector
- General conservation & policy



# Review of individual indicators against 8 criteria:

Criteria	Description
<b>1. Business relevant</b>	<i>Indicator can be used directly for company's business decisions at multiple levels</i>
<b>2. Spatial extent</b>	<i>The ability to use an indicator at site level and aggregate it up to business unit or corporate level.</i>
<b>3. Sensitivity to change</b>	<i>Indicator responds to change in the issue of interest with minimal lag, enabling monitoring over time.</i>
<b>4. Data availability/accessibility</b>	<i>Extent to which data is available and inexpensive/feasible to access.</i>
<b>5. Scientifically valid*</b>	<i>Accepted theory of relationship between the indicator and its purpose, with agreement that change in the indicator indicates change in the issue of concern.</i>
<b>6. Communication</b>	<i>Ease of understanding of indicator to non-technical people.</i>
<b>7. Production</b>	<i>Data collection, analysis and calculation is straightforward and non-specialists can use the indicator.</i>
<b>8. Policy relevant*</b>	<i>Links to SDG/Aichi Targets</i>

# Key findings

## None of the sector-specific approaches met all companies' needs relating to biodiversity indicators

- Process vs framework
- Only GRI prescribed specific indicators

## Some approaches developed for other sectors could serve as models for indicator development in the extractive sector

- A number of **single composite indicators**
- **Core suite of indicators** developed for gypsum quarries

## Conservation/policy indicator frameworks show some potential

- Global frameworks may contain some indicators that could be used
- **IBA monitoring framework** – potential different type of model

# Composite indicators of biodiversity

## 5 approaches to monitoring biodiversity using single composite indicators identified

- Developed for other sectors

## Also a request from interviewees

Aim to give a simple overview of biodiversity, bringing together multiple variables

Comparable and aggregateable

Some potential to build on existing work –

- adapt for the sector
- further scientific review



# Composite indicators of biodiversity

## Example: Ecometrica's Normative Biodiversity Metric

Assesses quality of the habitat found on their land holdings.

Uses ecoregion information to assign scores for 'pristine-ness' (0-5) based on level of use.

Assesses presence of endangered species

Produces a score for habitat pristine-ness and another for endangered species presence.

### Data:

- 1) Spatial data: location and boundaries of land owned by the user
- 2) Information on the quality of habitat present on the user's land, referred to as "pristine-ness"
- 3) Information on presence of endangered species.

# Core suite of indicators

## Two examples identified

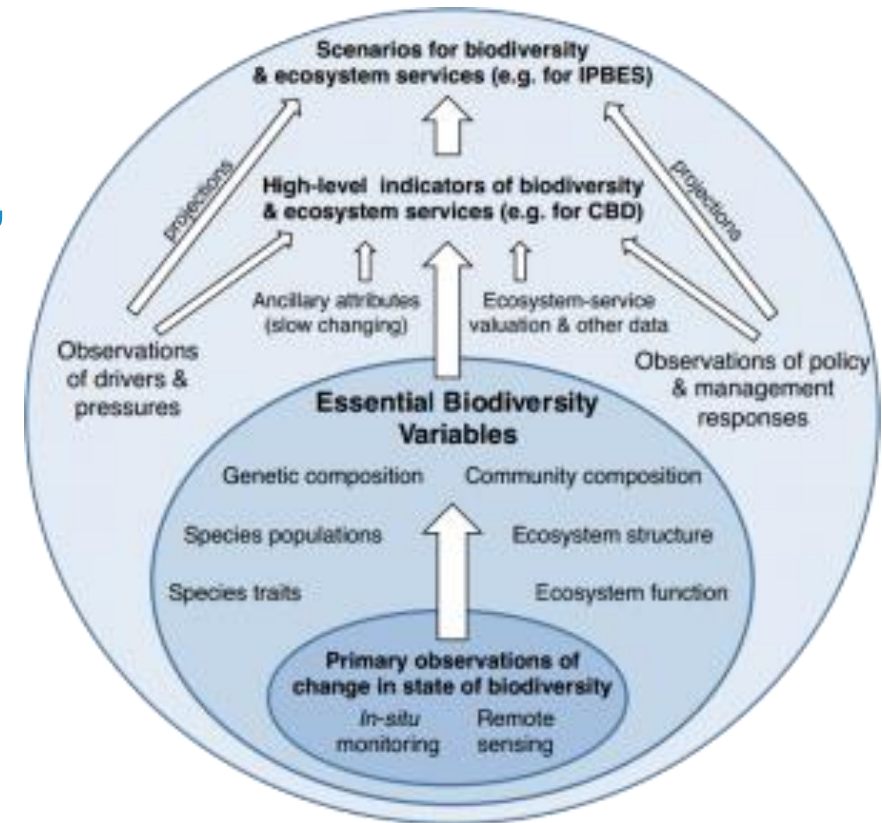
- One for Gypsum quarries - could serve as a starting point for mining/oil & gas
- Essential Biodiversity Variables – conservation framework

Also a request from interviewees

Ensures sites are monitoring a ‘minimum standard’

Ensures comparability & potential for aggregation

May lead to ‘lowest common denominator’ – may not be completely comprehensive for all sites



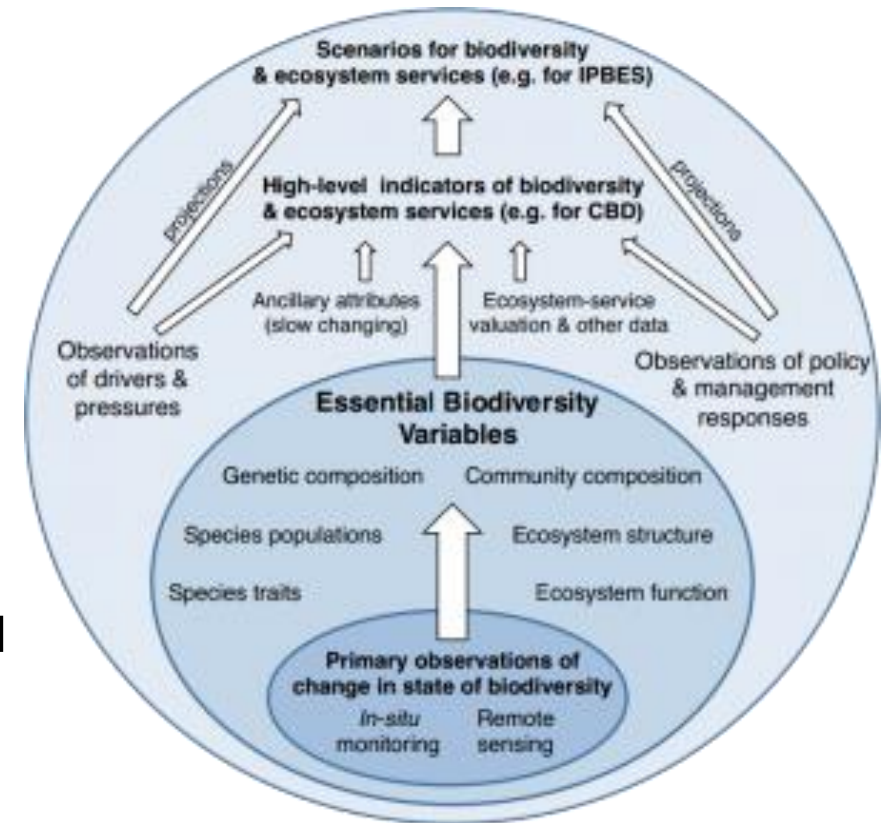
# Core suite of indicators

## Example: Essential Biodiversity Variables

“the derived measurements required to study, report, and manage biodiversity change, focusing on status and trend in elements of biodiversity”

- 22 EBVs grouped into 6 classes
- Primarily state variables
- Some more relevant than others
- E.g. Ecosystem Function:
  - Net primary productivity
  - Secondary productivity
  - Nutrient retention
  - Disturbance regime
- Methodologies currently being defined; many can be produced by remote sensing

<http://geobon.org/essential-biodiversity-variables/what-are-ebvs/>



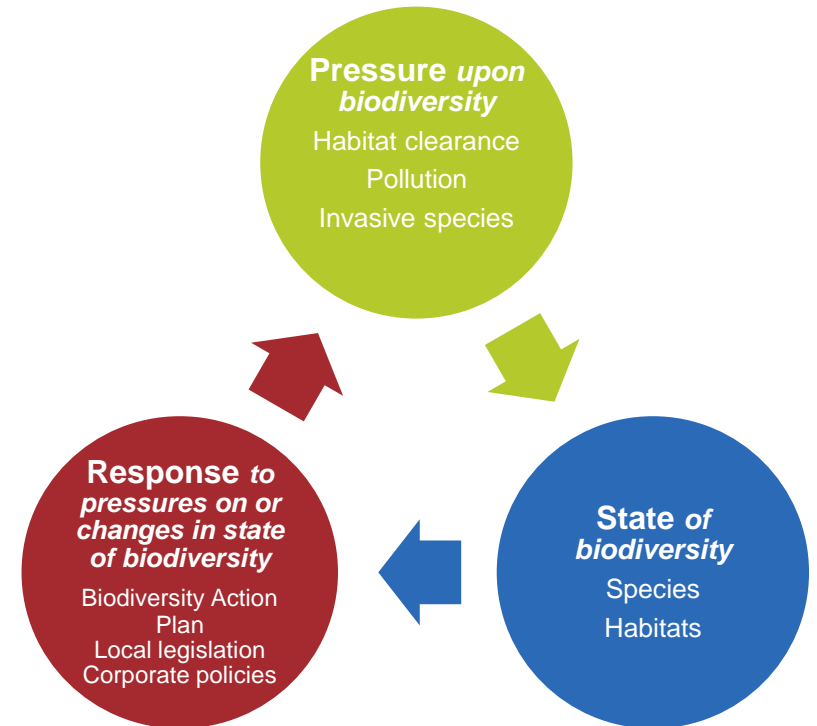
# Framework Model

## One example identified: Important Bird Areas monitoring framework

### Clear and comprehensive guidance for site-level assessment of severity of pressures/change in status of biodiversity

- Simple to apply (over simplistic?)
- Requires site-specific monitoring of biodiversity
- Provides guidance as to how to 'score' status & changes
- Scores can then be compared across sites
- Could be aggregated – easy company level overview

### Could provide a model for use by the extractives sector



# Framework Model

## Example: Important Bird Areas monitoring

Helps site managers track and respond to threats to and changes in status of biodiversity at IBAs.

Provides a standardised way to assign scores for indicators of pressure, state and response.

Integrates a wide range of information, including qualitative

Aims for simple, robust and inexpensive monitoring.

Sites select their own indicators as appropriate, and assign scores for the current status and for trends over time.

- For pressure, scores of 0-3 are assigned for each of 'timing' (is it a current, future or past threat), 'scope' (how much of the population/area) and 'severity' (speed of deterioration) and adding these together.
- For responses, scores are allocated and totalled for 'conservation designation' (is the area designated for protection), 'management planning' (does a management plan exist) and 'conservation action' (are measures being taken?).
- For state, scores of 0-3 are assigned based on the percentage of potential habitat or population that is remaining (<40%, 40-70%, 70-90%, >90%).
- Trend scores are determined by taking year one's score away from year two's.

# Decision tree model

Suggested by interviewee

No example identified in desk research

A broader suite of indicators with guidance/thresholds/criteria to understand which should be applied at which site

Not entirely consistent monitoring across all sites

- But consistent enough?
- Still potential for aggregation
- Might ensure more comprehensive monitoring





**THANK YOU –  
ANY QUESTIONS?**