The Biological Diversity Protocol - Adapting double-entry bookkeeping to net biodiversity impact accounting and disclosure

Scoping workshop on SEEA and business accounting
October 17th, 2019
Introducing the Biological Diversity Protocol (BD Protocol)

- Designed as a comprehensive biological diversity accounting and reporting framework that can help you produce the credible and unbiased information needed for various biodiversity-related applications, especially disclosure.

- Benchmark for aim and structure: GHG Protocol Corporate Accounting and Reporting Standard.

- The BD Protocol is an output of the Biodiversity Disclosure Project (BDP), managed by the National Biodiversity and Business Network (NBBN) of South Africa and hosted by the EWT.

- Aligned to the Natural Capital Protocol of the Natural Capital Coalition.
Target audiences and uses

Which companies can use it?
- Any sector or industry
- Any step of value chain, including suppliers and clients

Target audiences:
- Environment / sustainability specialists within companies
- Environmental consultants
- Biodiversity specialists
- Reporting / disclosure specialists

Helps you generate 2 main types of biodiversity information:
1- biodiversity footprint (surface area adjusted for condition);
2- Species level impact data.

Pilot studies:
- 2 Eskom energy generation sites, including transmission
- 2 other in discussions (property development, mining)
The BD Protocol helps with biodiversity impact measurement and disclosure

- Approaches to reporting e.g., How to report - CDOSB, IRC
- What to report - GRI, SASB, CDP, G499 Protocol
- Strategic initiatives e.g., UN Sustainable Development Goals, Climate targets, commitments
- The Protocol helps to integrate natural capital into existing decision making processes
- Depending upon the decision that you want to inform there are various tools and methodologies to help you value natural capital
- Environmental Management Systems (ISO 14001), G499 Protocol

By understanding what you have and what you value, you can make better decisions that can have a positive impact on biodiversity.

This landscape is not exhaustive. The Natural Capital Coalition will continue to explore the landscape as it evolves.
Consultation process

Biological Diversity Protocol

• 1rst comprehensive draft completed (V1.1)

• Consultation online:
  https://collaborase.com/bdprotocol

• Hosted by the Natural Capital Coalition

• Consultation closed on August 15

• Stakeholder feedback report in late 2019

• Updated BD Protocol late 2019

• Preparing for CBD CoP China 2020
The BD Protocol includes guidance on how to:

- Develop and manage a biodiversity impact inventory according to the appropriate organisational and value chain boundaries
- Identify and determine material biodiversity impacts
- Assess impacts on biodiversity, considering the nature of the biodiversity components impacted
- Account for net changes in biodiversity, in accordance with the impact mitigation hierarchy and the associated equivalency principle
- Apply the biodiversity accounting framework to build Statements of Biodiversity Position and Performance and account for biodiversity gains and losses over time
- Validate and verify a biodiversity impact assessment
- Disclose or report on an organisation’s consolidated impacts on biodiversity in a coherent and meaningful manner
Scoping assessment boundaries

Value chain boundaries:

• **Scope 1: Direct operations** (gate-to-gate), which covers activities over which your business holds ownership or control.

• **Scope 2: Upstream** (cradle-to-gate), which covers the activities of suppliers;

• **Scope 3: Downstream** (gate-to-grave), which covers activities linked to the purchase, use, reuse, recovery, recycling, and final disposal of your business’ products and services.

For all scopes, need to distinguish:

• A: Direct biodiversity impacts;
• B: Indirect biodiversity impacts;
Building your biodiversity impact inventory

The BD Protocol recommends that your business accounts for:

• **All its impacts on land cover** => critical to produce the biodiversity footprint of your business, the headline key performance indicator for reporting or disclosure purposes

• Only its **impacts on taxa** (species and sub-species) that are **important** to its internal and/or external stakeholders.

NB1: You should use the land cover concept applicable to the jurisdiction(s) the business interest or operation is operating in.

NB2: There are several criteria worth considering in order to determine whether a taxon should be included in your biodiversity impact inventory, including whether:

• The taxon is legally protected;
• The taxon is recognised as a threatened species (e.g. IUCN red list);
• Your business impacts on the taxon are likely to result in a change in its overall population or viability;
• The effective management (or lack thereof) of the taxon generates significant financial revenues (or receivables) and/or expenses (or liabilities);
• The taxon plays a critical role in the ecosystem, and can thus be defined as a keystone, umbrella or engineer species;
• The taxon plays a significant cultural or economic role (e.g. hunting, harvesting) for your stakeholders.
Biodiversity accounting framework based on adaptations to Double-Entry BookKeeping (DEBK)

**Statement of Biodiversity Position** (or Biodiversity Balance Sheet):

*Biodiversity assets* (ecosystem extent accounts in hectares) \( (A) = \)

- **accumulated positive impacts** (condition-adjusted ecosystem extent accounts in hectares equivalent) \( (B) + \)

- **accumulated negative impacts** (condition-adjusted ecosystem extent accounts in hectares equivalent) \( (C) \)

or

\[ A = B + C \]

**Statement of Biodiversity Performance** (or Biodiversity Net Impact statement):

*Net biodiversity impacts* (hectares equivalent) \( (X) = \)

- **periodic Positive Impacts / Gains** (condition-adjusted ecosystem extent accounts in hectares equivalent) \( (Y) \) –

- **periodic Negative Impacts / Losses** (condition-adjusted ecosystem extent accounts in hectares equivalent)

or

\[ X = Y - Z \]
Case studies (from Houdet et al., to be published soon)

Nimes-Manduel-Redessan train station

Land artificialized:
• Fallow land: 4.04 Ha;
• \textit{Brachypodium phoenicoides} grasslands: 2.15 Ha;
• Agricultural lands: 4.76 Ha;
• Diverse land uses with no or very low ecological value (e.g., built areas): 7.11 Ha.

Offset areas (27.00 Ha) purchased (habitats used as proxy for species occurrence)

Cossure ‘habitat banking’ project

Basic restoration activities (e.g., exotic tree species and infrastructure removal) for 357.00 ha

3 additional measures tested to further accelerate the return of the Coussoul steppe:
• The seeding of various species (60.00 Ha);
• The spreading of hay obtained from other Coussoul properties (24.00 Ha);
• The addition of mycorrhizae and vegetative parts to seed mixes (3.00 Ha).
## Statement of Biodiversity Position

### Ecosystem accounts

<table>
<thead>
<tr>
<th>Assets (A)</th>
<th>Accumulated negative impacts (C)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ecosystem accounts</td>
</tr>
<tr>
<td></td>
<td>Hectares (Ha)</td>
</tr>
<tr>
<td></td>
<td>Percentage (%)</td>
</tr>
<tr>
<td>Garrigue-type condition 0</td>
<td>26.11</td>
</tr>
<tr>
<td>Garrigue-type condition 1</td>
<td>21.60</td>
</tr>
</tbody>
</table>

### Accumulated positive impacts (B)

| Garrigue-type condition 0 | 26.11 | 49% |
| Garrigue-type condition 1 | 27.00 | 51% |

### Total

| Total | 53.11 | 100% |

## Statement of Biodiversity Performance

### Journal entries

<table>
<thead>
<tr>
<th>Journal entries</th>
<th>Periodic gains (¥)</th>
<th>Hectares equivalents (Ha eq.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Accounting for reference state of ecosystem assets to be developed, which underpins the subsequent condition scoring</td>
<td>Garrigue-type condition 1</td>
</tr>
<tr>
<td>3</td>
<td>Before development, recording gains associated to existing ecosystem asset condition scores</td>
<td>Garrigue-type condition 1</td>
</tr>
<tr>
<td>6</td>
<td>Accounting for reference state of new ecosystem assets purchased as part of offset measures, which underpins the subsequent condition scoring</td>
<td>Garrigue-type condition 5</td>
</tr>
<tr>
<td>a</td>
<td>After offset measures, recording condition adjusted gains associated to new ecosystem asset condition scores</td>
<td>Garrigue-type condition 1</td>
</tr>
</tbody>
</table>

**Sub-total periodic gains (¥)** 60.70

### Journal entries

<table>
<thead>
<tr>
<th>Journal entries</th>
<th>Periodic losses (¥)</th>
<th>Hectares equivalents (Ha eq.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Before development, recording losses associated to existing ecosystem asset condition scores</td>
<td>Garrigue-type condition 1</td>
</tr>
<tr>
<td>5</td>
<td>After development, recording condition adjusted losses associated to changes in ecosystem asset condition scores</td>
<td>Garrigue-type condition 1</td>
</tr>
<tr>
<td>a</td>
<td>After offset measures, recording condition adjusted losses associated to new ecosystem asset condition scores</td>
<td>Garrigue-type condition 1</td>
</tr>
</tbody>
</table>

**Sub-total periodic losses (¥)** 55.30

**Net ecosystem impacts (X - Y - Z)** 5.40
## Cossure Offset Project

### Statement of Biodiversity Position

<table>
<thead>
<tr>
<th>Ecosystem accounts</th>
<th>Hectares (Ha)</th>
<th>Percentage (%)</th>
<th>Accumulated negative impacts (C)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hectares equivalents (Ha eq.)</td>
</tr>
<tr>
<td>Cossoul condition 2</td>
<td>163,80</td>
<td>46%</td>
<td></td>
</tr>
<tr>
<td>Cossoul condition 3</td>
<td>33,60</td>
<td>9%</td>
<td></td>
</tr>
</tbody>
</table>

### Statement of Biodiversity Performance

<table>
<thead>
<tr>
<th>Journal entries</th>
<th>Periodic gains (Y)</th>
<th>Hectares equivalents (Ha (eq.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Accounting for reference state of ecosystem assets on purchase, which underpins their subsequent condition scoring</td>
<td>Cossoul condition 5</td>
</tr>
<tr>
<td>5</td>
<td>After restoration measures, recording condition-adjusted gains associated to new ecosystem asset condition scores</td>
<td>Cossoul condition 2</td>
</tr>
<tr>
<td>5</td>
<td>After restoration measures, recording condition-adjusted gains associated to new ecosystem asset condition scores</td>
<td>Cossoul condition 3</td>
</tr>
</tbody>
</table>

Sub-total periodic gains (Y) 516,60

<table>
<thead>
<tr>
<th>Journal entries</th>
<th>Periodic losses (Z)</th>
<th>Hectares equivalents (Ha (eq.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>On purchase of a ecosystem assets, recording condition-adjusted losses associated to existing ecosystem asset condition scores</td>
<td>Cossoul condition 5</td>
</tr>
</tbody>
</table>

Sub-total periodic losses (Z) 357,00

Net ecosystem impacts (X = Y - Z) 159,60
Consolidated accounts for both case studies

Key points

Consolidation of impact data at group level possible through:

- Impact inventory for each biodiversity asset;
- Adherence to the equivalency principle (like-for-like);
- New conventions applied to DEBK.

NB: Adaptation of DEBK enables true net impact assessment, as other methods focus on annual net changes with no balance sheet contra-accounts.

<table>
<thead>
<tr>
<th>Assets (A)</th>
<th>Accumulated negative impacts (C)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ecosystem accounts</td>
</tr>
<tr>
<td>Ecosystem accounts</td>
<td>Hectares</td>
</tr>
<tr>
<td>Garrigue-type condition 0</td>
<td>26,11</td>
</tr>
<tr>
<td>Garrigue-type condition 1</td>
<td>21,60</td>
</tr>
<tr>
<td>Coussoul condition 2</td>
<td>163,80</td>
</tr>
<tr>
<td>Coussoul condition 3</td>
<td>33,60</td>
</tr>
<tr>
<td>Accumulated positive impacts (B)</td>
<td></td>
</tr>
<tr>
<td>Coussoul condition 2</td>
<td>273</td>
</tr>
<tr>
<td>Coussoul condition 3</td>
<td>84,00</td>
</tr>
<tr>
<td>Total</td>
<td>410,11</td>
</tr>
</tbody>
</table>
Future work & issues to consider

Expansion of adapted DEBK

- To other Natural Capital Impacts & Dependencies, from stock extent & condition to benefits (CICES, FEGS-CS, NESCS, and NESCS Plus) so as to build comprehensive NC statements of position and performance in non-monetary values

- Externality-based statements of position and performance, separate from financial statements, also based on adapted DEBK (building contra-accounts for existing work/ e.g. Kering);

- Accounting frameworks and methods that would link non-monetary quantitative, financial and externalities values for different accounts, from an integrated accounting and reporting perspective

Key risks with jumping to the monetary values for total / net impact

Importance of stocks and condition

Confusion between monetary and financial values

Importance of net impact through adapted DEBK

Aligned financial and NC reporting does not necessarily mean using monetary values for everything (IPBES 2017)

Using only monetary values: weak sustainability which

(a) Fails to disclose the changes in the status and condition of NC,

(b) Will lead to the over-valuation of NC assets without any understanding of whether they are sustainably managed /restored,

(c) Would wrongly convey the impression that only some NC I&D externalities matter (e.g., GHG emissions versus biodiversity loss)

⇒ Our proposed approach: integrated set of accounts (non-monetary quantitative, financial values, externality accounts) that are integrated using adaptations of DEBK
Any question?

Joël Houdet, PhD
joelh-consultant@ewt.org.za