Technical Workshop on Biodiversity Accounting Approaches for Business

26 - 27 March 2019, Brussels

An workshop of the European B@B Platform and Aligning Biodiversity Measures for Business Initiative
Workshop Objectives

Aims

• In-depth exploration of the methodologies behind a number of biodiversity accounting approaches for business
• Start to define common ground principles for biodiversity accounting approaches for business

Outcome

• A better understanding of the methodologies behind biodiversity accounting approaches
• An initial draft of common ground principles and associated process
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Responsibility</th>
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<tbody>
<tr>
<td>10:00</td>
<td>Welcome</td>
<td>Eva Mayerhofer, EIB</td>
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<td></td>
<td>Introduction</td>
<td>Lars Mueller, DG-Environment</td>
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<td></td>
<td>The Aligning Biodiversity Measures for business initiative</td>
<td>Annelisa Grigg, UNEP-WCMC, Anke Salzman, Boticario Foundation</td>
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<td></td>
<td>Biodiversity accounting approaches</td>
<td>Johan Lammerant, Arcadis, Joel Houdet, Endangered Wildlife Trust</td>
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<tr>
<td>11:25 – 11:45</td>
<td>Refreshment break</td>
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<td></td>
<td>Developing common ground principles for biodiversity indicators</td>
<td>Arjan Ruijs, Actiam</td>
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<td>Introduction to the sub groups</td>
<td>Johan Lammerant, Arcadis</td>
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<td>12:30 – 13:30</td>
<td>Lunch break</td>
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<td></td>
<td>Sub group 1: Business applications and targets</td>
<td>Johan Lammerant, Arcadis</td>
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<td></td>
<td>Plenary: Report back from discussion session 1</td>
<td>All facilitators</td>
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<tr>
<td>15:20 – 15:45</td>
<td>Refreshment break</td>
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<td>Sub group 2: Scope, Boundaries, Baselines</td>
<td>Marielle Canter Weikel, Conservation International</td>
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<td></td>
<td>Plenary: Report back from discussion session 2</td>
<td>All facilitators</td>
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<tr>
<td>17:35 – 18:00</td>
<td>Wrap up and close</td>
<td>Lars Mueller</td>
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<tr>
<td>19:30</td>
<td>Dinner (at participant’s expense)</td>
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Ground Rules

• Start with the end application and user
• Don’t push your own methodology
• Come with an open mind
• Every view is valid and everyone should have a voice
• If the topics don’t fit, change them, add to them
• Don’t mention Brexit
ALIGNING BIODIVERSITY MEASURES FOR BUSINESS
ANNELISA GRIGG, UNEP-WCMC
Aligning Biodiversity Measures for Business

Aims

• To form a common view among key stakeholders on the measurement, monitoring and disclosure of corporate biodiversity impact and dependence

• To build on this to help integrate more credible and comprehensive indicators of corporate contribution to global biodiversity goals into corporate reporting and global policy frameworks

Outcome

• A unified foundation for development and use of corporate biodiversity performance indicators
How Does It All Fit Together?

Policy (Science based targets, post 2020 policy framework etc)

Coordinating efforts (European Business & Biodiversity Platform, IUCN & Oxford University, CDC et al, Aligning measures)

Corporate networks

Biodiversity indicators for Extractives (CI, FFI, UNEP-WCMC)

Biodiversity return on investment measure (IUCN)

Biodiversity Footprint Financials (ASN)

Biodiversity Impact Metric (CISL)

Global Biodiversity Score (CDC)

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Actions and Outputs

**Phase 1: (Jan - March 19)**
Understanding existing indicator approaches

**Workshop 1:** to identify common ground

**Discussion paper 1 on common ground in methods**
**Draft common ground principles**

**Phase 2: (March – Nov 19)**
Developing a common approach

**Workshop 2:** to agree methodological issues and common ground

**Discussion paper 2 on suite of indicators for business and policy**
**Draft recommendations**

**Phase 3: (Nov 19 – Apr 20)**
Refining the approach with decision makers

**Workshop 3:** to review results of testing above and finalise recommendations

**Recommendations to policy makers and business on achieving common ground**
COMPANY NEEDS AND CHALLENGES

ANKE SALZMAN, BOTICARIO FOUNDATION
Grupo Boticário (Boticario Group)

Aligning biodiversity measures for business Initiative

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GRUPO BOTICÁRIO

*The business*

- Manufacture and marketing of cosmetics
- US$ 3.4 bi (2018)
- 13,000 direct jobs
- Brazil: 2 plants + 3 distribution centers
- 5 offices (Brazil, Colombia, Portugal, China)
- 6 business units
- > 4,000 points of sale in 1,750 cities
Grupo Boticário X Biodiversity
Voluntary actions with positive impact on biodiversity

Sustainable operations
• Specific criteria for supplier selection
• 30% water reuse
• 70% renewable energy (wind + hydropower + solar)
• Leadership in Energy and Environmental Design (plant certified in Northeast Brazil)

Boticario Group Foundation

Conducted with the generous support of:
Conducted with the generous support of:

BOTICARIO GROUP FOUNDATION

Created in 1990

1% of Grupo Boticario’s net revenue is directed to Private Social Investment Policy (Institute + Foundation + complementary projects)
Conducted with the generous support of:

WHAT WE DO

Nature Conservation

- 2 Private reserves (~11,000 ha)
- Support of nature conservation initiatives (+ 1,500)
- Influence on public policies

Biodiversity Conservation

Innovative Solutions

- Nature based solutions
- Business & biodiversity

Engagement

- Conservation communication
Examples of Positive Impact on Biodiversity (2014-2018) by Boticario Foundation’s influence

- +13.1 million ha of protected areas
- 35 National Action Plans for threatened species
- 67 described species
- >7,000 hectares protected through PES mechanisms
Connection to this Initiative
Business & Biodiversity Department

*What do we want?*
To develop and strengthen business conservation strategies

*How?*
• By influencing players of the impact investing field for nature conservation, and encouraging the development on conservation impact business
• By influencing the private sector on adoption of strategies for management of natural capital

**Important:** to comprehend the biodiversity accounting approaches for business, to best engage Brazilian companies in effective management of natural capital
Challenge
Connecting business’ dependencies to positive impact on biodiversity

Goal
To transform the socioeconomic and environmental reality of the Miringuava Basin, through actions that contribute to water security.
Life Methodology
Engaging business in promoting sustainability with Biodiversity Management

Boticario’s experience and outcomes regarding LIFE Methodology:

• Quantifies, monitors and discloses our biodiversity conservation actions with concrete and scientific indicators
• Measures impacts on natural resources
• Provides guidance for supply chain
• Recognizes our efforts in voluntary biodiversity conservation actions
INDICATOR METHODOLOGIES – ALIGNMENT & DIVERGANCE

Johan Lammerant, Arcadis
**EU Business @ Biodiversity Platform Assessment**

2018: first assessment of 10 biodiversity accounting approaches for businesses and FIs which rely on quantitative indicators that provide information on the significance of impacts on biodiversity, and which are not case-specific

<table>
<thead>
<tr>
<th>Developer</th>
<th>Name of tool</th>
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<tbody>
<tr>
<td>1</td>
<td>CDC Biodiversité</td>
</tr>
<tr>
<td>2</td>
<td>Cambridge Institute for Sustainable Leadership (CISL)</td>
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<tr>
<td>3</td>
<td>UNEP-WCMC</td>
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<td>4</td>
<td>I CARE - Sayari</td>
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<td>5</td>
<td>ASN Bank</td>
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<td>6</td>
<td>Biodiversity International</td>
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<tr>
<td>7</td>
<td>Plans Up</td>
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<tr>
<td>8</td>
<td>LIFE Institute</td>
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<tr>
<td>9</td>
<td>Platform BEE (Dutch Ministry)</td>
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<tr>
<td>10</td>
<td>IUCN</td>
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</tbody>
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Assessment Elements

- Type of business applications (inspired by Natural Capital Protocol)
- NCP criteria: relevance, rigor, replicability and consistency
- Methodology and metrics
- Impact drivers
- Input data and level of detail / real data or modeling
- User friendliness
- Which sectors
- Development phase and involved stakeholders
Findings

• Most methodologies are developed via collaboration between academics and business (including finance)

• Results from road-testing are scarce at this moment. Crucial to integrate case study findings in the next phase of this assessment exercise

• All sectors are covered, including the Finance sector. Some approaches are sector specific.

• Often applied metric principles: meaningful, measurable and comparable, practical, possible to aggregate, responsive, replicable and credible

• Use of modelled data and/or real data. Critical attitude is key!

• Most approaches rely on one comprehensive metric. MSA and PDF are prevailing

• Ecosystem services only in LIFE approach

Conducted with the generous support of:

[Images and logos]
Findings

• Approaches generally follow the same logic:
  ➢ Step 1: scoping (economic activities, products)
  ➢ Step 2: linking economic activities to pressures
  ➢ Step 3: linking pressures to biodiversity impacts (coefficients for linking pressures to impacts, data on biodiversity in the affected area)

• Steps 2 and 3 often rely on the same underpinning models or data sources:
  ➢ For Step 2: Exiobase matrix-based input-output model
  ➢ For Step 3: GLOBIO and ReCiPe (LCA) for linking pressures to impacts; GLOBIO (global estimates of biodiversity abundance), IUCN Red Lists and IBAT for assessing biodiversity values

=> strengths and weaknesses of approaches to a large extent defined by intrinsic strengths and weaknesses of these models/data sources.
Findings

• All parts of the value chain are covered by one or more of the approaches. None of the approaches covers the whole value chain.

• 6 different types of business applications are covered by one or more approaches:
  • Assessing biodiversity performance
  • Comparing options
  • Going for No Net Loss or Biodiversity Net Gain
  • Communicating internally or externally
  • Assessing RoI of investments in biodiversity restoration
  • Offering financial products based on high biodiversity performance

• Most methods are not particularly aligned with other NCA approaches
18 Sept Workshop EIB, Brussels

• It’s worth looking at company specific approaches too
• Many approaches are high level and serve as a compass to identify biodiversity hotspots (in the sense of focus areas for the company to work on).
• A stepwise approach from ‘Shine a light’ to ‘Deep dive’ and ‘Focus action’ is preferred.
• Need for maximum complementarity between high level scale and local scale and data.
• Need for better alignment macro- and micro scale approaches (tiered approach)
• Ideas for additional business applications (all captured now by new proposal – see Subgroup 1)
18 Sept workshop EIB, Brussels

There was broad consensus on the following:

- Need for guidance on which tools to choose for which company needs (business applications)
- Need for better alignment business tools and FI tools
- Complementarities between tools need to be better articulated
- Need for guidance on how to connect to other NCA approaches (e.g. carbon footprinting, water footprinting) or tools that are aligned with other NCA approaches
- Need for tools that connect to global biodiversity objectives such as the SDGs or Planetary Boundaries in order to set and achieve more science-based targets
- Need for guidance on how to integrate dependencies, positive impact and ES, and as such connect to social issues as well (e.g. health)
- Need for tools that allow integration of real data
- Need for more data and more detailed data
- Need for alignment on data requirements at business level and national level.

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This In-depth Exploration Will Be a Major Step Forward To Clarify and Define:

• The range of business applications and which BAA can support them
• Defining ambitions on biodiversity performance and how BAA can help tracking progress towards targets
• The fundamentals of credible biodiversity performance assessment, such as defining scope, baseline and boundaries
• Data requirements
• Metrics for clear internal reporting and external disclosure
• And about common ground principles for each of the above, which all together will form the basic requirements for credible BAA
BIODIVERSITY INDICATORS FOR MANAGEMENT & DISCLOSURE

JOEL HOUDET, ENDANGERED WILDLIFE TRUST
Biodiversity Mainstreaming in Business - Indicator Needs at Each Step of the Journey

Conducted with the generous support of:
### Key Questions for Indicator Design/Selection for Biodiversity Mainstreaming in Business

<table>
<thead>
<tr>
<th>Biodiversity Mainstreaming Steps</th>
<th>Key Questions</th>
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<tbody>
<tr>
<td>1 Why?</td>
<td>Why biodiversity matters to my business?</td>
</tr>
<tr>
<td>2 What?</td>
<td>What dependencies and impacts on biodiversity my business has?</td>
</tr>
<tr>
<td>3 How much?</td>
<td>How can my business measure its biodiversity dependencies and impacts?</td>
</tr>
<tr>
<td>4 What is material?</td>
<td>How can my business value its biodiversity dependencies and impacts?</td>
</tr>
<tr>
<td>5 What decision?</td>
<td>How can my business improve its decision-making about biodiversity?</td>
</tr>
<tr>
<td>6 What strategy?</td>
<td>What strategy can my business design to manage its biodiversity dependencies and impacts?</td>
</tr>
<tr>
<td>7 What action plan?</td>
<td>What action plan does my business need to effectively manage its biodiversity dependencies and impacts?</td>
</tr>
<tr>
<td>8 What disclosure?</td>
<td>How can my business disclose its biodiversity risks and performance?</td>
</tr>
<tr>
<td>9 What governance, monitoring + improvement?</td>
<td>How can my business monitor its progress and improve its performance?</td>
</tr>
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</table>
Key Elements to Consider for Indicator Selection / Design

- **Objective(s):** e.g., convince someone or merely communicate information
- **Target audience(s):** internal versus external
- **Business application:** project impact assessment, investment appraisal, comparing options, group reporting / disclosure
- **Organisational focus:** product, service, site, project, group, etc.
- **Value chain boundary:** direct operations, upstream, downstream
- **Biodiversity dimensions:** impacts/dependencies, land cover, taxa, genetic diversity
- **Value perspective:** business vs. society
- **Value types:** qualitative (e.g. IUCN red listing), quantitative (e.g. % share of population/habitat impacted) and monetary (financial valuation versus externality valuation)
- **Materiality analysis**
What Is Your Indicator Showing?
Processes/Performance, Measures or Values?

Natural capital impact drivers
INPUTS
E.g. Fresh water, land use

Production of raw materials
E.g. Oil extraction

Natural capital impact drivers
OUTPUTS
E.g. Non-hazardous waste, air pollution, discharges to water

Processing of raw materials
E.g. Refining and cracking, polymerization

Manufacturing
E.g. Extrusion molding

Natural capital dependencies
E.g. Fresh water, land, flood protection, climate control, waste assimilation

Business activities at a chemical manufacturing plant produce air emissions, which are an impact driver
Step 05: Measure impact drivers
Impact drivers lead to changes in natural capital, in this case reduced air quality
Step 06: Measure changes in natural capital

Changes in natural capital result in impacts, in this case health problems
Step 07: Value impacts

Conducted with the generous support of:
The Importance of the Biodiversity Impact / Dependency Pathway: Impact/Dependency Drivers, Changes in Biodiversity, Values of Impact
DEVELOPING COMMON GROUND PRINCIPLES FOR BIODIVERSITY INDICATORS
ARJAN RUIJS, ACTIAM
Common Ground in Biodiversity Footprinting

Objectives:
• Share experiences in biodiversity footprinting
• Explore common ground between methodologies
• Search for common rules or concepts for footprinting
Why Consider Biodiversity Footprints?

**RED ZONE**
- Most companies exposed to risks
- Risks likely to be significant

- Construction & building materials
- Electricity
- Food & drug retailers
- Food producers & processors
- Forestry & paper
- Leisure & hotels
- Mining
- Oil & gas
- Utilities

**AMBER ZONE**
- Some companies exposed to risks
- Risks may be significant

- Beverages
- Chemicals
- Financial services
- General retailers
- Household goods & textiles
- Personal care & household products
- Pharmaceuticals & biotech
- Support services
- Tobacco
- Transport

**GREEN ZONE**
- Fewer companies exposed to risk
- Risk significance harder to identify

- Aerospace & defence
- Automobiles & parts
- Diversified industrials
- Electronic & electrical equipment
- Engineering & machinery
- Health
- Information technology hardware
- Media & entertainment
- Software & computer services
- Steel & other metals
- Telecom services

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Why Do Financials Use Biodiversity Footprints?

1) Public policy
2) Corporate/portfolio
3) Supply chain
4) Product or service
5) Project or site
Examples of Biodiversity Footprint Initiatives

Conducted with the generous support of:
Common Ground on Metrics

Desired characteristics:

• Measure biodiversity as a whole

• Use a common metric across industries

• Use a common metric across countries
Common Ground on Methodology

**DATA**
- COMPANY REPORTS AND PUBLIC DATA
- FI’S OWN DATA:
  - CARBON FOOTPRINT
  - WATER FOOTPRINT
  - LAND USE AND LAND USE CHANGE

**METHODS**
- LCA, E.G. ECOINVENT (ENVIRONMENTAL DATA)
- INPUT-OUTPUT MODELS, E.G. EXIOBASE (ENVIRONMENTAL DATA, TRADE FLOWS)
- PRESSURE-IMPACT RELATIONSHIPS, E.G. RECIPE OR GLOBIO

**STEP 1**
Perimeter / focus of the investment

**STEP 2**
Analysis of pressures

**STEP 3**
Assessment of impacts

**STEP 4**
Interpretation of footprint results

**STEP 6**
Influence FI policy
- ESG risks and opportunities
- Exclusion
- Voting

**STEP 5**
Comparison to references
- Planetary boundaries
- Government policies
- FI’s own biodiversity objectives and policies

Conducted with the generous support of:
Common Ground on Scope

Desired characteristics: cover the entire value chain
Common Ground on Attribution

• Follow the money as far as possible to understand and account for the impact on the real economy
• In principle, include Scopes 1, 2, and components of Scope 3 relevant to the investee
• Include all financial flows (i.e. equity and debt) to the investee as much as possible

\[ \text{Attribution factor} = \frac{\text{Investment Value}}{\text{Enterprise Value}} \]
Common Ground on **Pressures on Biodiversity**

- The footprint should cover the most important pressures on biodiversity: habitat change, overexploitation, invasive alien species, pollution and climate change
- The footprint should be susceptible to changes in the activity
- The information, data and methods used should be technically robust, transparent and fit for purpose
- The use of the footprint methodology should enable a comparison of footprinting results over time and between different datasets
Common Ground on the Analysis of Impacts

• Quantitative link between pressures and impact
• The spatial and time dimensions should be part of the biodiversity metric
• No single assessment tool can cover the variety of needs of all stakeholders
The Road Ahead

Different objectives lead to different requirements:

• Measure deforestation using Satelligence data

• Link primary production from deforested areas to supply chains using the TRASE database

• Include biodiversity in ACTIAM sustainable and impact funds

• Measure link to planetary boundaries
The Road Ahead: Broaden the Group

• Are these common ground principles recognizable?
• Are there specific topics on which you would like to collaborate?
• How to come to a broadly accepted suite of approaches for a broad range of possible uses?
INTRODUCTION TO THE SUB-GROUPS

JOHAN LAMMERANT, ARCADIS
The Sub groups

• Five issues will be explored during the meeting through discussion in sub-groups based around 6 dummy cases:
  1. Business applications and targets
  2. Scope, boundaries and baselines
  3. Data sets for impact assessments
  4. Metrics and midpoint characterisation factors
  5. Disclosure

• Other issues could be the subject of more detailed discussions in subsequent meetings e.g. materiality, link to global policy targets
Mode of Working

• Sub-groups will drive the work forward during and between meetings through e.g. emails, calls and additional meetings

• Objectives of each sub-group will be set, mode of working agreed and membership established over the next 2 days.

• Going forward sub-groups would report on progress to the initiative during plenaries and through reports summarising their conclusions and area of convergence

• It is anticipated that participants will opt to work on specific sub-groups (rather than all sub-groups) between meetings and at the next meeting in Brazil.

• Each sub-group would be chaired by one person, who would be responsible for ensuring its objectives are met, and its summary reports are produced and reflect the view of all the group’s members.
The Dummy Cases

• Seven dummy cases have been prepared to enable people to work through different corporate use scenarios
• These include
  1. Airport company
  2. Manufacturing company
  3. Energy company
  4. Golf club
  5. Cosmetics company
  6. Financial services
  7. Agri business
• These are in Annex 1 of your pre-read, copies are available
• We will use these in sub-groups to ensure our conversations focus on real situations
Dummy Case 1: The Airport Company

- **BA**: Estimating, measuring and valuing biodiversity performance at site and project level // Communication
- **Targets**: legal, SDGs, ISO 14001, local Green Deal
- **Data**: Detailed surveys of invertebrates on extensively managed grasslands (Red List species, surface), proportion of sealed/non-sealed surface, bird surveys
- ** Disclosure**: narrative, no hard metrics
Dummy Case 2: The Aluminium Company

- **Business application:** Estimating, measuring and valuing biodiversity performance at site and project level // Communication

- **Targets:** sector standard which requires risk screening, defining a biodiversity action plan and NNL as a minimum goal

- **Metric:** NNL calculation metric requiring data on species and habitat values at site and project level
Dummy Case 3: The Energy Company

- **Business application**: Estimating, measuring and valuing corporate biodiversity performance // Option appraisal wind energy: mainly location of sites // Communication

- **Targets**: Planetary Boundaries, Legal (e.g. Natura 2000)

- **Data**: pre-construction Environmental impact assessment (estimated mortalities and disturbance of birds, bats, sea mammals), post-monitoring surveys

- **Disclosure**: planetary boundary metric at corporate level (aggregation of site level performance: ‘Overshoot of Planetary Boundaries’, i.e. the degree of overshoot of the carrying capacity of the affected biodiversity values)
Dummy Case 4: The Golf Club Course

- **Business application:** Estimating, measuring and valuing biodiversity performance at site and project level // Third party certification // Communication

- **Targets:** legal (Natura 2000, permitting conditions), Sustainable Golf certificate

- **Data:** Detailed surveys of plants, birds, amphibians, invertebrates on extensively managed grasslands (Red List species, surface) // continuous measurement of pressures (groundwater extraction, use of pesticides) and state

- **Disclosure:** narrative, no hard metrics
Dummy Case 5: The Cosmetics Company

- **Business application**: Estimating, measuring and valuing biodiversity performance at corporate level // Third party certification (LIFE) // Communication
- **Targets**: Legislative frameworks, Commitment to a voluntary sustainability strategy, GRI
- **Measurement of actions and their effectivity**
- **Metrics**: Biodiversity Impact Index (LIFE)
- **Disclosure**: narrative (description of actions), GRI
Dummy Case 6: The financial Company

• **Business application:**
  - **Assessment / rating of biodiversity performance by third parties, using external data:** rating the companies the portfolio invests in, including to engage these companies in order to reduce their impacts on biodiversity
  - **Estimating, measuring and valuing biodiversity performance - Commitment to targets:** setting biodiversity impact reduction targets for the portfolio

• **Targets:** voluntary corporate policy

• **Available data:** Amount invested in the shares of each company, Main industry and country of each company, Turnover and total enterprise value of each company.

• **Metrics:** Environmental, social, governance (ESG) performance indicators
 Dummy Case 7: The Agri-business Company

• **Business application:** Estimating, measuring and valuing biodiversity performance at corporate level // Comparing options: assess which geographical regions can produce the crops with the least impacts, identify risks of impacts on biodiversity and screen suppliers

• **Targets:** Commitment to a voluntary sustainability strategy

• **Data:**
  • Tons of agri-commodities bought by country, and in some cases associated yields.
  • Additional data on location, land uses and greenhouse gas emissions of the suppliers are being collected
SUB-GROUP 1: BUSINESS APPLICATIONS AND TARGETS

JOHAN LAMMERANT, ARCADIS
Objectives

• Discuss and agree on a typology of business applications that is relevant for selecting an appropriate biodiversity accounting approach (BAA)
• Discuss the need and feasibility of developing a decision tree for BAA selection based on typology of business applications
• Discuss and agree on a typology of targets that BAA could address
• Mapping the BAA to the business applications and targets
• Determine the implications for emerging science based targets and similar initiatives on the measurement approaches and vice versa (this discussion will form the focus of the second workshop in Brazil)
• Identify Common Ground Principles related to the use of the concepts ‘business application’, ‘and targets in biodiversity accounting approaches for business
• Agree on membership and objectives of subgroup
Common Ground Principles

• Business applications vary in terms of their organisational focus and where relevant in terms of their targets. Targets are voluntary or regulatory and will define the type of stakeholders.

• Biodiversity accounting approaches (BAA), including their metrics, should be appropriate for the type of business application they aim to support, and should be clear about it.

• Different business applications will often require different BAA. As a consequence, one company might need to rely on several BAA dependant on the type of business application the company is interested in.

• BAA should always be considered as supportive tools to facilitate business applications in the field of biodiversity and not as a goal on its own.

• Other??

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What It Could Look Like

<table>
<thead>
<tr>
<th>PUBLIC POLICY</th>
<th>CORPORATE &amp; PORTFOLIO</th>
<th>SUPPLY OPTIONS</th>
<th>PRODUCT &amp; SERVICE</th>
<th>PROJECT / SITE</th>
<th>Business application supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country footprint (IUCN)</td>
<td>BFFI (ASN Bank)</td>
<td>GRS (CDC-B)</td>
<td>BF (Piansup)</td>
<td>Mining footprint (BHP+C1)</td>
<td>A - Assessment / rating by and for third parties with external data</td>
</tr>
<tr>
<td>BRIM (IUCN)</td>
<td>LIFE Index (LIFE Institute)</td>
<td>Extractive (WCMI)</td>
<td>BRIM (IUCN)</td>
<td>BRT (Solagro)</td>
<td>B - Internal communication and external disclosure</td>
</tr>
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<td>LPI (WWF)</td>
<td>Bioscope (Platform BEE)</td>
<td>BRIM (IUCN)</td>
<td>PBF (I Care + Sayari)</td>
<td>BRIM (IUCN)</td>
<td>C - Biodiversity management &amp; performance</td>
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<td>GLOBIO (PBL)</td>
<td>EPGL (Heritage)</td>
<td>BRIM (IUCN)</td>
<td>BRIM (IUCN)</td>
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Assess the impacts on charismatic (in particular endangered) species
Assess the impacts on biodiversity as a whole
Do not fall in any of these categories

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Instructions for Sub-group Discussions

- **Sub groups**: four sub groups (see dots)
- **Time allowed**: 80 minutes until 15:00
- **Reporting**:
  - there is a template for your group to populate for each component of each sub-group
  - Someone in your group will be designated to fill out the template
  - At the end of the break-out session, a group member will verbally report to the plenary on the group discussion – 5 mins only
- **Materials**: business application table
Discussion Questions

1. Do we agree that the ‘business application’ concept forms a good starting point for business to select appropriate biodiversity accounting approaches and related metrics?
2. Are the measurement approaches clear about the business applications that they can support?
3. How are corporate policy commitments being linked into the measurement approaches? Can lessons be learned across methodologies?
   1. What policy commitments are being reflected within the measurement approaches?
   2. Can we articulate a typology of targets that are addressed?
   3. Are any under-represented?
   4. What are the implications of the discussions on science based targets for the measurement approaches for their design?
4. Can we define a number of common ground principles?
5. Common understanding of deliverables and further work required.
PLENARY: REPORT BACK FROM DISCUSSION SESSION 1
Objectives

• Determine how scope, biodiversity focus, boundaries and baselines are treated within current measurement approaches and the implications of any differences

• Agree a common vocabulary for boundaries addressing issues such as scope 1, 2 and 3 impacts, area of influence, baseline and cumulative impacts

• Identify common ground in setting boundaries (scope, issue focus, baselines, area of influence) between measurement approaches and align them with business applications.
A company’s impact will differ considerably depending on the boundaries drawn around its operations.

This boundary could be in terms of:

- issue coverage (biodiversity and/or ecosystem services)
- organisational focus (corporate versus product or project)
- value chain (upstream/downstream/direct)
- Area of influence or impact (direct, indirect, cumulative)

Establishing appropriate baselines/frame of reference is another area of challenge

Currently definitions are unclear, different terms used and different boundaries employed
Choosing a Counterfactual/Baseline as a Reference:

- e.g. NNL compared to a trend of biodiversity decline
- e.g. NNL compared to ‘NOW’
<table>
<thead>
<tr>
<th>Indicator Approach</th>
<th>Scope</th>
<th>Baseline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global Biodiversity Score (CDC B)</td>
<td>Scope 1 + 2 + upstream 3</td>
<td>Not specified</td>
</tr>
<tr>
<td>Biodiversity Impact Metric (CISL)</td>
<td>Scope 1</td>
<td>Not specified</td>
</tr>
<tr>
<td>Biodiversity Indicators for Extractives (UNEP-WCMC, FFI and CI)</td>
<td>Direct, indirect and cumulative impacts with a 50km area of influence specified for initial screening. Adjusted following validation with site managers</td>
<td>Pre-project baseline specified aligned with EIA regulations.</td>
</tr>
<tr>
<td>Product Biodiversity Footprint (I Care + Sayari)</td>
<td>Not specified</td>
<td>Not specified</td>
</tr>
<tr>
<td>Biodiversity Footprint for Financial Institutions (ASN Bank)</td>
<td>Scope 1 &amp; Scope 3 upstream</td>
<td>Not specified</td>
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<tr>
<td>Biodiversity Return on Investment (IUCN)</td>
<td>Not specified</td>
<td>Multiple including: current state baseline and pre-project state baseline.</td>
</tr>
<tr>
<td>Agrobiodiversity Index (Biodiversity International)</td>
<td>Not specified</td>
<td>Current state baseline</td>
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<tr>
<td>Biodiversity Footprint Calculator (Plansup)</td>
<td>Not specified</td>
<td>Current footprint baseline</td>
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<tr>
<td>LIFE Impact Index (LIFE Institute)</td>
<td>Scope 1 + 2 +3</td>
<td>Counterfactual – Business as usual</td>
</tr>
<tr>
<td>Bioscope (Platform BEE)</td>
<td>Scope 2+ 3</td>
<td>Not specified</td>
</tr>
</tbody>
</table>
Conservation International – BHP Alliance

- The Alliance helps to:
  - Inform BHP’s corporate requirements, including ‘Our Requirements for Environment & Climate Change’
  - Support BHP in meeting its commitment to contributing to lasting environmental benefits across the regions where we operate
BHP FY17-FY22 HSEC Targets

Biodiversity is an element of BHP’s public HSEC targets

Environment

- Zero significant environment incidents.
- Water: reduce FY2022 freshwater withdrawal by 15 percent from FY2017 levels.
- Climate Change: maintain FY2022 total (Scope 1 + Scope 2) greenhouse gas (GHG) emissions at or below the FY2017 levels while we continue to grow our business (includes the use of carbon offsets, as required).

Biodiversity: improve marine and terrestrial biodiversity outcomes by:
- developing a framework to evaluate and verify the benefits of our actions, in collaboration with others; and
- contributing to the management of areas of national or international conservation significance exceeding our disturbed land footprint.

Conducted with the generous support of:
BHP and Area of Influence

- BHP Biodiversity Framework Pilot
  - Aligned with Biodiversity Indicators for Extractives Initiative methodology
- Overarching observations
  - AOI – adjacency & buffers
- Recommendations
  - Clarifying ‘Area of Influence’
  - Setting appropriate buffers
Key Definitions

- **Issue focus** – the extent of the biodiversity focus included in the approach, e.g. species, habitats and ecosystem services.

- **Organisational focus** – the component of a business to be included in a natural capital assessment, i.e. on site, indirect and supply chain.

- **Scope** – the issue and organisational focus of the assessment.

- **Boundary** – the extent of an organisation’s impact, which can vary widely depending upon the context of the assessments, e.g. site level or company level.

- **Baseline** – a frame of reference against which indicator methodologies can measure progress.

- **Cumulative impacts** – result from the incremental impact on areas or resources used or directly impacted by the project from other existing, planned or reasonably defined developments at the time the risks and impacts identification process is conducted.
Discussion Questions

1. Review and discussion of the different definitions of issue and organisational focus, area of influence, scope and baselines and their implications for decision making.

2. With regards to organisational focus, does the scope 1-3 approach resonate?

3. With regards to baselines, should the baselines used be set on a similar basis across methodologies? If so, which is most appropriate to adopt?

4. With regards to boundaries, is there a need to reflect decisions around area of influence at site level into portfolio level approaches?

5. What Common Ground principles for Corporate Biodiversity Accounting could promote alignment?

6. Common understanding of deliverables and further work required.
PLENARY: REPORT BACK FROM DISCUSSION SESSION 2
## Agenda – Day 2

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Responsibility</th>
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</thead>
<tbody>
<tr>
<td>09:00</td>
<td>Welcome</td>
<td>Annelisa Grigg &amp; Johan Lammerant</td>
</tr>
<tr>
<td></td>
<td>Exploring commonly used data sets underpinning indicators</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- IUCN Red List</td>
<td>Frank Hawkins, IUCN</td>
</tr>
<tr>
<td></td>
<td>- Globio</td>
<td>Mark Van Oorschot, PBL</td>
</tr>
<tr>
<td></td>
<td>- ReCipe</td>
<td>Mark Geodkoop, PRÉ</td>
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<tr>
<td></td>
<td>Sub-group 3: Data sets for impact assessments</td>
<td>Joshua Berger, CDC</td>
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<tr>
<td>10:30-11:00</td>
<td>Refreshment break</td>
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<tr>
<td></td>
<td>Sub group 3 continued</td>
<td>Joshua Berger, CDC</td>
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<tr>
<td></td>
<td>Plenary: report back from Sub group 3</td>
<td>All facilitators</td>
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<td>12:35 – 13:30</td>
<td>Lunch break</td>
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<td></td>
<td>Sub-group 4: Metrics</td>
<td>Wijnand Broer, CREM</td>
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<td></td>
<td>Plenary: Report back from discussion session 5</td>
<td>All facilitators</td>
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<td>15:35 – 16:00</td>
<td>Refreshment break</td>
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<td></td>
<td>Plenary discussion session: Disclosure</td>
<td>Joel Houdet, Endangered Wildlife Trust</td>
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<tr>
<td></td>
<td>Plenary: Next steps</td>
<td>Annelisa Grigg &amp; Johan Lammerant</td>
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<tr>
<td>17:15-17:30</td>
<td>Wrap up and close</td>
<td>Lars Mueller</td>
</tr>
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EXPLORING COMMONLY USED DATA SETS UNDERPINNING INDICATORS
Red List of Species

• Governed by the Red List Partnership and Committee
**Underlying Dataset**

- 98,512 species assessed across the whole world to date [http://www.iucnredlist.org](http://www.iucnredlist.org)
- The most comprehensive data set for biodiversity in existence
- Includes 33,136 species in comprehensively assessed groups
- Includes 24,097 species in groups that have been assessed multiple times
- About 27,000 species are threatened with extinction
- $35m + 200 volunteer years investment to date; $5m annual investment
- Barometer of Life target of 160,000 species by 2020
Assessment Process

- Scientifically-based assessment methodology focused on extinction risk
- Extensively peer-reviewed and published
- Proposals developed by taxon specialists (more than 8,000 scientists in 140 specialist groups) using objective and consistent criteria
- Reviewed by IUCN SSC assessment experts
- Formalised petitions process

Conducted with the generous support of:
Comprehensively Assessed Taxa

<table>
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<tr>
<th>Terrestrial</th>
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<th>Marine</th>
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<td>Mammals</td>
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<td>Cyclads</td>
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<td>Wrasses &amp; Parrotfishs</td>
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<td>Crocodiles &amp; Alligators</td>
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<td>Surgeonfishes</td>
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<td>Cacti</td>
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<td>Picarelts</td>
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<td>Mangrove Plants</td>
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<td>Sturgeons</td>
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<td>Gnetums, Ephedras, etc.</td>
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<td>Tarpons &amp; Ladyfishes</td>
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<td>Syngnathiform Fishes</td>
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<td>Lobsters</td>
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<td>Cone Snails</td>
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<td>Cephalopods</td>
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<td>Reef-building Corals</td>
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<td>Total</td>
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11,000 reptiles will be added to this total by the end of 2019
Data Attached to Each Reviewed Species

• Species
• Population size and trends
• Range map (point data for some plants and poorly known vertebrates)
• Habitat and Ecology
• Use of the species by people
• Threat assessment- with scope and severity data for birds and some other vertebrates
• Species threat status, justified by detailed review of the above
• Conservation measures in place and needed
Application

- Threatened species range maps are key component of World Bank/IFC Equator Bank PS/ESS 6 Critical Habitat screening. Accessible through Integrated Biodiversity Assessment Tool (IBAT)
- Input for identification of Key Biodiversity Areas
- Red List Index key metric for SDGs - for example 14 and 15
- Metric for UN System of Experimental Ecosystem Accounts (UN SEEA)
“Bending the curve”

- Biodiversity decline continues, ........ despite repeated policy commitments
- Non-state actors commitment to CBD post-2020 targets
- Exploring alternative pathways for the future with models and scenarios
  - “Sharing, sparing and caring”
- Using complementary indicators
  - Extinction risk (Red List Index)
  - Population abundances (LPI)
  - Ecosystem integrity (BII, MSA)
  - Coverage of unique hot-spots
Environmental Cause-effect Chain (DPSIR)

Conducted with the generous support of:
GLOBIO Model

- Pressure based approach
  - Coupled to models of environmental change (IMAGE)
  - Direct and indirect drivers of loss
- GLOBIO family
  - Terrestrial <=
  - Aquatic
  - Ecosystem services
- Policy relevance
  - Exploring future scenarios
  - CBD, OECD, FAO, UNEP, GLO outlooks
  - Business applications

Conducted with the generous support of:
MSA Indicator

- Mean Species Abundance (MSA) of originally occurring species
- Comparison between populations of human-disturbed habitats and undisturbed natural habitats
- A measure of Naturalness (Ecosystem integrity)
- Dimensions:
  - Index (0 – 1) or
  - Quality weighted areas (MSA* km²)

Conducted with the generous support of:
GLOBIO Data (v4)

Spatial data
• ESA Land cover 2010
• GRIP roads database
• Protected Areas (WCMC data)
• Future PA coverage (no-go areas)

Knowledge on impacts
• Dose-response relations
  • Land-use
  • Climate change
  • Fragmentation by infrastructure
  • Encroachment & hunting
  • N-deposition

• Land-use impacts database (n= ... )
High-priority Nature Areas & CBD Targets

Figure 4.A1. Overlapping global biodiversity priority schemes

Protected areas for preserving biodiversity

Legend
- Situation 2010
- Expansion to 17% of each ecoregion

Note: The higher the number of overlapping schemes, the higher the consensus on the globally important areas for biodiversity conservation (Kapos et al., 2008).

Conducted with the generous support of:
Conducted with the generous support of:
Multi-level & Multi-actor

GLOBO/MFA applications (strategic to operational)

<= Global outlooks

<= Sector footprints

<= Production landscapes

<= Business models

Conducted with the generous support of:

Global governance
UNEP - CBD - FAO - UNCCD

Global Supply-chain governance
OECD guidelines - Market standards

Production landscapes
Multi stakeholder initiatives

Corporate Societal Responsibility
Business communities
Use of data and metric in a global context

- “Business”-as-usual baseline
- Scenarios: “Sharing, sparing and caring”
- Maps can be used to assess future risk exposure
  - Production locations
  - Supply-chains
Linking GLOBIO Outcomes to Footprint Models

Environmentally-Extended Multi-Regional Input-Output models (a.o. Wilting, 2014)

Footprints: land, carbon, water, materials

GLOBIO3
(Alkemade et al., 2009)

biodiversity

Conducted with the generous support of:
Use of GLOBIO Outcomes at the Sector Level

• Based on global MSA results
• Linked to footprint analysis by I/O modelling
• Supply-chain effects included
Use of Knowledge and Metric in a Company Context

• Comparing alternative business activities and products
• Drivers at company level
• Use generic dose-response relations
• Trade-offs explored
• LCA approach (ReCiPe and PDF) shows similar results

Figure 8 Terrestrial footprint 1000 kg pure and milk chocolate for two scenarios in which cacao is produced by low and high productive farmers (pr)
Conducted with the generous support of:

More info at GLOBIO.info
Conducted with the generous support of:

ReCipe
MARK GOEDKOOP, PRÉ
ASN Bank—Three Step Approach Using ReCipe

Mark Goedkoop (Pré)
Wijnand Broer (CREM)
Three Steps

1. Analyse which activities and supply chains a company is engaged in; ESG data

2. Use Exiobase EE-IO, to determine land-use, water-use and 50+ emissions

3. Use ReCiPe 2016 to convert these impacts in the biodiversity metric
Step 2: Exiobase Environmental Data

- Worldwide model of 90% of all economic activities and their impact: 170 sectors in 43 countries and 5 ‘rest of the world’ regions

- All trade flows between these sectors and countries (a few million)
- Most important emissions, land use and social data per sector, per Euro
- Developed in 10 years' time in three EU research projects
From Environmental Data to Impact
Example: Climate

From 1 kg CO2, to temperature increase
• Meta review of climate models provides as result every kilo has a temperature effect of $65e^{-15} \degree C \cdot yr/kg$

From temp. increase to species loss
• Meta review in Nature, assessing several ecosystems, gives $0.05$ species per m$^2$ per °C which means over the entire globe $5e12$ Species.m$^2$ are lost per °C
Example: Land Use (1)

Assumptions
• Nature is the reference
• The actor that converts land is burdened with the restauration
• The actor that uses (converted) land is only burdened, by the fact that the land cannot yet restore to nature

5 april 2019
Example: Land Use (2)

Level of detail

• Biodiversity on arable land is weakly correlated with the crop, but strongly with the intensity.
• For forestry this is also true
• This allows for distinguishing different practices, but Exiobase does not provide insights in such details

Conducted with the generous support of:
Key Messages on Data

• Three types of data
  • The main activities the company is in: ESG data
  • The emissions, land use, water use etc. that are a consequence of these activities (LCA data and EE-IO)
  • Data and science needed to model the cause-effect mechanism (ReCiPe, Globio, LC-Impact etc.)

• ReCiPe has a broad coverage, but many mechanisms can only be described qualitatively: additional consideration needed.

• Different questions need different tools and solutions but should be based on the same common ground.
SUB-GROUP 3: DATA SETS FOR IMPACT ASSESSMENTS

JOSHUA BERGER, CDC BIODIVERSITÉ
Objectives

- Map the datasets required by each methodology as assessment inputs and briefly describe them (public or private, modelled or real data, geographic coverage, etc.)
- Identify common input datasets and agree on a limited set of input indicators and formats (including granularity) which companies could collect to feed most assessment methodologies.

Conducted with the generous support of:
Context

• The subgroup is **not** about the underlying data of models but about corporate data input

• **Databases and models containing impact factors** to translate pressures or economic data into biodiversity impacts are also required but are **out of the scope** of this subgroup ➔ covered by subgroup 4

• Unlike climate change, biodiversity cannot be approached with global impact factors

• Data required for impact assessments include spatially explicit data on:
  1. the state of biodiversity
  2. pressures on biodiversity
  3. an economic quantification of human activities
Discussion questions

1. What datasets are used by each methodology and how can they be used by others?
2. What common data types are shared by several methodologies?
3. What data types could be required from companies for use by multiple methodologies? What should be the format (or unit) of data? (e.g. GHG expressed in CO2 eq.)
4. What are the implications of using different data sets for different measurement approaches for decision making and uptake?
5. What Common Ground principles for Corporate Biodiversity Accounting could promote alignment?
6. Common understanding of deliverables and further work required
PLENARY
REPORT BACK FROM DISCUSSION 3
SUB-GROUP 4: METRICS
WIJNAND BROER, CREM
Objectives

• Explore the differences between metrics and midpoint calculations and the reasons for the current divergence

• Propose bridges between metrics (e.g. conversion factors or translation of characterisation factors in different metrics) and propose common midpoint characterisation factors

• Others?
Key Definitions

- **Metric** – a system or standard of measurement, e.g. MSA.km²

- **Midpoint** – conversion factors or translation of characterisation factors in different metrics. The global mean temperature increase (GMTI), for example, is usually used to go from GHG emissions to the impact of climate on biodiversity.

- **Time integration** - how the approaches deal with long-lasting impacts, such as the impact of GHG emissions on climate change. Tools using the PDF unit [BFFI, PBF] deal with this question by integrating impacts over time.
What is This Session About?

**Metric**

- Mean species abundance (GBS, BIM, BF)
- Potentially disappeared fraction (BFFI, PBF)
- Risk of extinction (BRIM)
- Natural capital value (monetary e.g. EUR) (EP&L)
- etc
What is This Session About?

• Different metrics....
  • Because of different goals or applications?
  • Just different ways of assessing the same impact?
  • Are the different metrics proxies for impacts on ecosystem quality?
  • Do we need to build bridges? Why? Can we?
  • How to explain to stakeholders? How to offer guidance?

• Different midpoints....
  • What drivers of biodiversity loss are included? Why differences?
  • Should this be the same?
  • Do we use the same pressure – impact knowledge? Should we?
  • (How) do we deal with the time dimension of pressures/impacts?
What is This Session About?

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  • Because of different goals or applications?
  • Just different ways of assessing the same impact?
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• Different midpoints....
  • What drivers of biodiversity loss are included? Why differences?
  • Should this be the same?
  • Do we use the same pressure – impact knowledge? Should we?
  • (How) do we deal with the time dimension of pressures/impacts?
Discussion Questions

1. What are the reasons for the differences between the metrics and midpoint characterisation factors used?
2. What are the decision implications of these differences?
3. If alignment is not feasible/practical how can this be communicated to stakeholders to avoid confusion or are translations/conversions between metrics possible?
4. What common approaches and midpoint characterisation factor values can be agreed on?
5. What Common Ground principles for Corporate Biodiversity Accounting could promote alignment?
6. Common understanding of deliverables and next steps
PLENARY
REPORT BACK FROM DISCUSSION 4
Objectives

• To determine intention regarding internal and external disclosure of measurement approaches and communication of methodology and limitations (transparency)

• To determine required narrative around measurement approaches and bring in lessons learned from financial reporting and accounting

• To create clarity on how different measurement approaches meet disclosure requirements

• Other?
Key Aspects for Organisational Disclosure

- Accounting and reporting principles
- Organisational & value chain boundaries
- Narratives / Management approach (e.g. policy, risk, actions, impact identification, impact mitigation hierarchy, applicable legislations, etc.)
- Validation & verification / audit trail
- Key performance indicators
  - Targets
  - Process
  - Impacts
  - Value type (qualitative, quantitative, financial, externality)
  - Uncertainty / assumptions
- Accounting for changes in biodiversity (gains, losses) over time
  - Periodic performance
  - Balance sheet / accumulated changes
The State of Corporate Sustainability Disclosure Under the EU Non-Financial Reporting Directive

Conducted with the generous support of:


(Addison et al., 2018)
Discussion Questions

1. What narrative is required to complement the indicator approaches?
2. How do they relate to and link to broader corporate disclosure initiatives?
3. How do they relate to government requirements for corporate disclosure?
4. What additional actions are required by measurement approaches to meet disclosure requirements (if appropriate)?
5. What Common Ground principles for Corporate Biodiversity Accounting could promote alignment
NEXT STEPS
Next Steps

• How can we move forward to more clearly define areas of common ground? (structure of recommendations, process for delivering, communication of end result)

• What barriers do we see to their uptake and how can we overcome them?

• Workshop 2 in Brazil – objectives, scope, date
THANK YOU