

# **A COMPASS FOR NAVIGATING THE WORLD OF BIODIVERSITY FOOTPRINTING TOOLS:**

AN INTRODUCTION FOR  
COMPANIES AND POLICY  
MAKERS



A just world that values and conserves nature.

A Compass for navigating the world of biodiversity footprinting tools: an introduction for companies and policy makers

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### **Editorial content**

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### **About IUCN NL**

IUCN NL is the Dutch national committee of the International Union for Conservation of Nature, the world's largest and most diverse environmental network. IUCN harnesses the experience, resources and reach of its more than 1,400 member organisations, composed of both government and civil society organisations, and the input of more than 15,000 experts. IUCN is the global authority on the status of the natural world and the measures needed to safeguard it. IUCN is headquartered in Gland, Switzerland. Visit [IUCN.org](https://www.iucn.org) to learn more about IUCN's work.

In the Netherlands, IUCN NL forms the platform of the 38 Dutch IUCN member organisations, including large and small nature and environmental organisations, the Dutch Government and knowledge institutions.

## TABLE OF CONTENT

Executive Summary .....	5
Acronyms .....	6
Glossary .....	7
1. Introduction .....	9
1.1 About this Guide .....	9
1.2 A Sustainable Business Opportunity .....	9
1.3 A Promising International Agenda .....	10
1.4 Towards Better Measurement and Decision-Making .....	12
2. Biodiversity and Business .....	13
2.1 Why Biodiversity Matters to Your Business & Why Measure it? .....	13
2.2 Contributions by Dutch Actors in the Tool Development Space .....	15
3. Biodiversity Footprint Toolbox .....	21
3.1 Introducing Biodiversity Footprinting Tools .....	21
3.2 Business Applications .....	24
3.3 Which Tools are Available? .....	25
3.4 How do Tools Work? .....	28
3.5 Choosing a Suitable Tool .....	29
3.6 Hot Topics in Tool Development .....	30
3.7 Getting Involved .....	32
4. The Role of IUCN NL .....	34
4.1 Supporting Transformation to Sustainable Business .....	34
4.2 Supporting Your Business .....	37
5. Ways forwards .....	39
6. Further Reading .....	41
Endnotes .....	42

## FOREWORD

We are living in a time of unparalleled global change which brings with it uncharted territory. A time when we need to find our collective global compass to ensure a more sustainable and prosperous future. But what does this really mean in practice?

‘Insanity is doing the same thing over again and expecting a different result’, is an often-acclaimed quote of Albert Einstein. If we are to apply this thinking to today’s world, particularly when it comes to the environment, then this means that we need to start doing things differently. We need to break from business as usual. But what does this really mean in practice?

To get to the bottom of our current global sustainability issues, we need tackle root causes that generate and recreate economic, social, and environmental problems and not just the symptoms. Transformational change means effectively combining, innovation, with (government) policy that addresses those who are most vulnerable. Biodiversity is the basis of all life, yet we see that in many parts of the world GDP growth is paired with a reduction in natural capital - like forests, water, fish stocks, minerals, biodiversity and land. This poses a significant challenge to achieving poverty reduction and other sustainable development objectives.

Transformational change requires coherent and concerted action from all relevant stakeholders, and in particular from companies and financial institutions, as they are one of the core sources of impact on our natural capital, but they are also a key agent for change. In this guide we unpack one such pressing challenge; man-made environmental degradation and specifically that of ongoing global biodiversity loss.

According to the IPBES Global Assessment Report on Biodiversity and Ecosystem Services, around 1 million animal and plant species are currently threatened with extinction, many within decades, more than ever before in human history. Recalibration requires a swift, significant and coordinated response from all stakeholders so that we can reconcile human development and wellbeing within the natural limits of the Earth. The zero-draft of the post 2020 Global Biodiversity Framework<sup>1</sup> calls that by 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people. This means we have to bend the curve of biodiversity loss, and that greater target ambition levels, in line with scientific evidence, are needed.

The recent onset of the COVID-19 pandemic provides a striking example of the interconnectedness and sensitivity of our globalised world, and further highlights the need for transformative change to tackle key issues of our time; most notably our relationships with one another and with the natural world. This guide is written to inform practice leaders in companies, and policymakers about the current status of biodiversity footprinting. It provides them with practical steps and overviews of existing tools, but also platforms for exchange. This guide also assists them in making first steps in measuring their own biodiversity impact, or in the case of policymakers provides recommendations on how effective action could be promoted.

Navigating pathways for companies and policymakers to understand, explore and take steps to reduce their impact on nature has been a core of the long collaboration between the Dutch Ministry of Agriculture, Food Security and Nature and IUCN NL - the National Committee of the Netherlands of the International Union for the Conservation of Nature (IUCN NL). Over the past years, we have seen that nature increasingly

becomes valued both in monetary and non-monetary terms and that different approaches have emerged to measure the impact on biodiversity. We are also happy to see that Dutch actors – from tools developers, companies to financial institutions – have played a pioneering role in this debate. Now that different types of industry led initiatives start to fruition we will continue our role in connecting overlapping worlds, and translating ideas to reality.

We hope you will enjoy reading this guide – and we hope to continue our journey together with you.



**Caroline van Leenders**  
Ministry of Agriculture, Nature and Food Quality



**Romie Goedicke**  
IUCN NL



## EXECUTIVE SUMMARY

Today we are witness to a world that is undergoing unprecedented global change. The recent onset of the COVID-19 pandemic provides a striking example of the interconnectedness and sensitivity of our globalised world, further highlighting the need for transformative change to tackle such key issues of our time. One such pressing challenge, and the focus of this guide, is that of man-made environmental degradation and specifically that of ongoing global biodiversity loss. Often overlooked or undervalued in key decision-making processes, biodiversity forms a key natural resource base, which not just our economies and societies depend upon, but also many businesses. The need for more sustainable pathways not only calls for heightened efforts to put international biodiversity agreements and treaties into action but also looks to the private sector to step up and become a co-pilot in the transformative processes towards providing solutions, along with other key actors, such as governments.

Over the next couple of years, a strong international agenda will set the stage for renewed efforts to tackle persistent threats to our global biodiversity. In particular, the forthcoming UN Convention of Biological Diversity's conference in 2021 will provide a series of renewed goals and targets to conserve biodiversity which will need to be translated into policy and embedded into private sector initiatives. In parallel, the NGO community has come together to create the Science Based Targets Network (SBTN), which provides guidance on target setting for companies. Ultimately, the aim is that companies start to further develop these targets and integrate them into their own business models and trajectories and work towards a more sustainable path.

In order to achieve these biodiversity goals and targets, the importance of biodiversity impact measurement should be highlighted as a key strategy for improving transparency and accountability among the private sector. One effective and increasingly popular approach that can be used to measure and mitigate business pressures and impacts on biodiversity is biodiversity footprinting. In the Netherlands, large companies and SMEs alike have been pioneering the use of biodiversity footprinting tools through a range of initiatives, including the establishment of Leaders for Nature and the Platform Biodiversity, Ecosystems and Economy. This movement is partly thanks to an expanding realisation that measuring biodiversity impacts makes good business sense, including the potential to strengthen brand reputation as well as being able to manage supply chain risk more effectively.

Importantly, the Dutch government has played a key function in providing the enabling conditions for businesses to become more sustainable and to measure their impact, such as developing regulation and providing funding for research and tool development. To assist these efforts, IUCN NL has been promoting the uptake of biodiversity footprinting and reporting among Dutch businesses, scientists and government for over the last fifteen years.

This guide provides an introduction to biodiversity footprinting for companies and policymakers, including an overview of some of the most popular tools and case studies, demonstrating how companies have put these tools into use. It makes recommendations as to how companies can begin their biodiversity footprinting journey, how governments can build an enabling environment to foster this process and increase uptake, and specifically how the National Committee of the Netherlands of the International Union for the Conservation of Nature (IUCN NL) can support transformation towards sustainable business through its roles as positive watchdog, knowledge broker and convenor.

## ACRONYMS

ABMB	Aligning Biodiversity Measures for Business initiative
COVID-19	Coronavirus Disease 2019
CDB	Convention on Biological Diversity
CoP	Conference of the Parties
CREM	Consultancy and Research for Environmental Management
GHG	Greenhouse Gas
GRI	Global Reporting Initiative
Platform BEE	Platform Biodiversity, Ecosystems and Economy
IFC	International Finance Corporation
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IUCN	International Union for Conservation of Nature
IUCN NL	IUCN National Committee of the Netherlands
LCA	Life Cycle Assessment
LNV	Dutch Ministry of Agriculture, Nature and Food Quality
PBAF	Partnership Biodiversity Accounting Financials
PBL	Netherlands Environmental Assessment Agency
SBTN	Science Based Targets Network
SDGs	Sustainable Development Goals
SME	Small and Medium Enterprise
TEEB	The Economics of Ecosystems and Biodiversity
UNGC	United Nations Global Compact
UNEP	United Nations Environment Programme
UNEP-WCMC	UNEP World Conservation Monitoring Centre
VNO-NCW	Confederation of Netherlands Industry and Employers
WEF	World Economic Forum
WRI	World Resources Institute
WWF	World Wide Fund for Nature
WWF NL	World Wide Fund for Nature Netherlands

## GLOSSARY

### Biodiversity

The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.

### Ecosystem

According to the Agreement on Biological Diversity, an ecosystem is understood as a dynamic complex of vegetable, animal and microorganism communities and their nonliving environment that interact as a functional unit. Ecosystems may be small and simple, like an isolated pond, or large and complex, like a specific tropical rainforest or a coral reef in tropical seas.

### Ecosystem services

The goods and services provided by healthy ecosystems, including medicinal plants, clean water and air, and protection from extreme natural events.

### Natural capital

An economic metaphor for the limited stocks of physical and biological resources found on earth, like water, air and soil, and of the limited capacity of ecosystems to provide ecosystem services.



Photo 1: Pawel Dotio, Elephants in Indonesia



# 1. Introduction

## 2. Biodiversity & Business



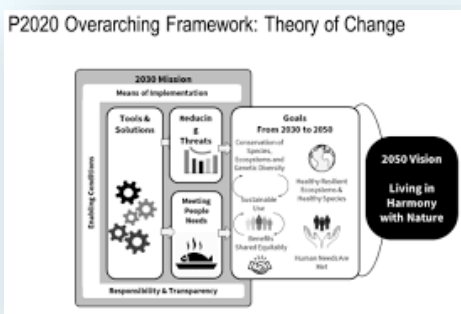
Photo 2 : Maxwell Ridgeway Mangrove forest

## 1. INTRODUCTION

### 1.1 About this Guide

This guide acts as a compass for private and public sector alike to help navigate through the terrain of biodiversity measurement, a growing area which is expected to become a core element of business and government action in the years to come. Through a series of questions, it guides and informs the reader around key questions, for example: *How can businesses measure their impact on biodiversity? And how can the government steer and promote business to report on their biodiversity impact in the light of the international agenda, especially the CBD CoP in Kunming, China? And how have developments in the Netherlands helped shape this global movement?*

The guide does not interpret the various biodiversity footprinting approaches for businesses in detail, nor does it explore the scientific knowledge and dilemmas behind them. Signposts to other relevant resources are provided frequently so that readers can follow up their specific interests. The primary intended audiences of this document are Dutch businesses interested in understanding biodiversity footprinting and its practical applications in company decision-making, as well as policymakers in the Netherlands interested in stimulating and accompanying this process. Tool developers may also find this a useful read to appreciate the wider scope of developments and how their work is relevant to business and governments.



Source: zero-draft of the Global Biodiversity Framework, page 7

### 1.2 A Sustainable Business Opportunity

The private sector can be considered as one of the primary engines for economic growth and development. This is evidenced by the fact that today 69 of the top 100 economic entities are corporations and not countries. Wal-Mart is richer than the Netherlands. The world's top 10 businesses – including Shell, Exxon Mobil, Apple and Volkswagen – have a combined revenue larger than the 180 'poorest' countries.<sup>2</sup> That said, and depending on the industry at hand, the corporate sector has typically been seen as a significant contributor to global GHG emissions, toxic waste and biodiversity loss. Today, however, business is beginning to realise its dependency on a healthy and resilient planet as well as its role of responsibility to take better care. Their innovation, power, resources, skill sets and drive are all essential in the creation of new solutions that could help to ensure that by 2050 the global population of 9 billion people can live well within the limits of the planet.<sup>3</sup>

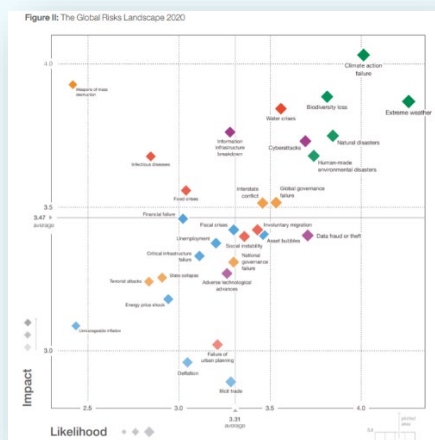
Environmental concerns dominate the top long-term risks by likelihood in the World Economic Forum's (WEF) Global Risk Report 2020.<sup>4</sup> Members of the WEF multi-stakeholder community rank 'biodiversity loss'



as the second most impactful and third most likely risk for the next decade. Many businesses and finance institutions are starting to rise up to addressing this challenge. Until recently, sustainability efforts have often aimed at decoupling economic growth from resource use and environmental impact, but the gains so far have been mostly of efficiency and in absolute numbers negative impacts continue to increase. As such, current efforts are not nearly enough to stay within planetary boundaries.

Thankfully, however, there is a growing movement within the private sector towards the uptake of more sustainable practices, and increasingly businesses, in a wide variety of industries, are showing more interest in the multiple gains of adopting such approaches - from improving their environmental performance to reducing business input costs, driving innovation, and increasing their likelihood of regulatory approval. Not only is there an expanding realisation among businesses that sustainability makes good business sense but, we are also seeing that both legislators and financiers increasingly require companies to meet and report on sustainability criteria (e.g. the EU Green Deal<sup>5</sup>). This means that compliance to emerging sustainability norms and standards will also likely determine access to raw materials and markets for businesses moving forwards. At the same time, businesses are also starting to realise that, by not having a complete picture of the costs and benefits, the trade-offs, and alternative opportunities, their current business models can lead to 'inefficient', 'risky' and 'poor' decisions. For its part, the Convention on Biological Diversity (CBD) calls for the involvement of non-state actors in the realisation of global biodiversity goals.

Now we have the knowledge, tools and data to ensure that we evolve in a smarter and more sustainable way, business can no longer afford to not be forward thinking. It is time for companies to adapt their business models and prioritise long-term sustainability. One key way for companies to become more sustainable is through measuring and mitigating business pressures on biodiversity. Biodiversity footprinting tools are an effective and increasingly popular way of helping businesses achieve this.



Source: Global Risk Report 2020.

### 1.3 A Promising International Agenda

This guide is indeed timely. Not only in terms of reminding us of the need to address the unparalleled pace of biodiversity loss, but it also has the potential to feed into the various biodiversity-driven agendas that are currently being spearheaded by different actors across different sectors. For example:

- Governments along with the Secretariat for the CBD are preparing for the next global biodiversity summit in Kunming, China 2021, where major decisions will be made on biodiversity targets;
- Businesses are convening to demonstrate and share ambition, for example as part of Business for Nature<sup>6</sup> and One Planet Business for Biodiversity.<sup>7</sup> Businesses are also looking at proposed updates of biodiversity indicators for their performance disclosure under the Global Reporting Initiative (GRI);<sup>8</sup>
- Financial institutions, spearheaded by the Dutch ASN Bank, have recently established the Partnership Biodiversity Accounting Financials (PBAF).<sup>9</sup> The Biodiversity working group under the Sustainable Finance platform, which consists of a group of Dutch Financial Institutions, launched the report 'Biodiversity: opportunities and risk for the Financial Sector';<sup>10</sup>
- The NGO community has come together to create the Science Based Targets Network (SBTN) which is starting to provide guidance on target-setting for companies and cities;<sup>11</sup>
- The UN continues pushing ahead with the 2030 Agenda for Sustainable Development and encouraging member states to meet the 17 Sustainable Development Goals (SDGs) by 2030;<sup>12</sup>
- The launch of 'Safeguarding nature – the EU 2030 biodiversity strategy'<sup>13</sup> aims at curtailing biodiversity loss as well as preserving and restoring its ecosystems. Here, the EU has a leading role in global negotiations on halting biodiversity loss and safeguarding ecosystems.

Over the next couple of years, this strong international agenda will set the stage for renewed efforts to tackle persistent threats to our global biodiversity. Not only do these various initiatives help to form the backbone of this agenda, but so do key guiding framework reports such as the 2019 IPBES Global Assessment Report on Biodiversity and Ecosystem Services,<sup>14</sup> as well as the convening of numerous events for businesses and policymakers to discuss the future of our global natural capital,<sup>15</sup> such as the European Business and Nature Summit led by the European Commission<sup>16</sup> and the IUCN World Congress<sup>17</sup> and the Natural Capital Symposium.<sup>18</sup>

In particular, the postponed 2020<sup>19</sup> global biodiversity summit (CBD CoP15) convened by the Secretariat for the Convention of Biological Diversity, now set to take place in 2021, will be a key moment, as world leaders will gather to discuss and agree on how we can conserve biodiversity and guarantee the viability of our planet. The goal is to adopt 'A New Deal for Nature and People' that, taking the Paris Climate Agreement as an example, sets concrete goals and targets to conserve global biodiversity. The current targets, the so-called Aichi targets<sup>20</sup>, will end in 2020. Once the new biodiversity targets have been set, they need to be translated into policy and embedded in the initiatives that are taken by non-state actors.<sup>21</sup> To achieve this at scale will require informed decision-making and alignment of action, based on a collective knowledge base.

Alongside this promising international agenda, it is expected that there will be a peak of activity related to the testing of biodiversity measuring tools across various key sectors, most notably finance, agriculture and mining, owing to their high impact and dependency on biodiversity. Crucial actors, such as tool developers and companies, involved in tool development will be leading this process. This all points to a strategic opportunity for businesses to get involved and start measuring their biodiversity impacts, which would not only be an important but also a complementary step towards further strengthening this global biodiversity agenda.

## 1.4 Towards Better Measurement and Decision-Making

By presenting an overview of the various biodiversity footprinting tools that have been developed in recent years, this guide looks at how businesses can start to understand, assess and measure their impacts on biodiversity and how this can assist in improved business decision-making. While the guide is inspired by numerous ongoing initiatives, particular attention is paid to the contributions from Dutch actors, who have often played a pioneering role in this realm. Over the last 15 years, the IUCN NL has helped to shape this global movement with support from the Dutch government and other national players.

Companies greatly influence how we, as humanity, use and value natural resources. Through how they source materials, how they run their operations and how they design their products and services for use and disposal. Many companies are eager to change their current practices, but they cannot do this alone. Governments need to create the right business environment, initially with stimulating measures and eventually with laws. Financial markets need to integrate different risks related to biodiversity loss in how they assess companies, and rewarding those that integrate biodiversity in their operations effectively with more favourable ratings and conditions. The scientific community are developing models and methodologies to support their biodiversity footprinting journey.



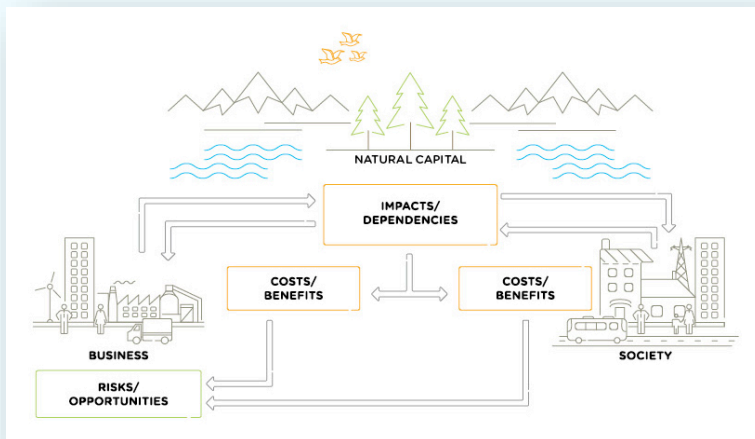
Source: Leaders for Nature forum organized by IUCN NL in 2015.



## 2. BIODIVERSITY AND BUSINESS

### 2.1 Why Biodiversity Matters to Your Business & Why Measure it?

Biodiversity is fundamental for sustaining living conditions on Earth. Not only does it contribute to the maintenance and delivery of critical ecosystem services but it also forms a key natural resource base upon which our economies, societies and indeed many businesses depend.



Source: Natural Capital Protocol.

Oftentimes, the value of biodiversity and the ecosystem services it provides, collectively also known as natural capital, has not been fully captured or recognised or indeed reflected in key decision-making processes.<sup>22</sup> This 'undervaluation' means that biodiversity continues to suffer from overexploitation and degradation, where a range of indirect and direct drivers or causes - from extensive changes in land use, direct exploitation of organisms, climate change, and pollution, among others - which are mainly underpinned by unsustainable economic activities, remain the key culprits.<sup>23</sup> In order to halt this ongoing loss and destruction, it is fundamental that we appreciate the importance of measuring it and how this can help companies to deliver positive contributions to its maintenance and protection.

Biodiversity is particularly important for sectors that rely more heavily on natural resources. Some sectors are directly dependent on biodiversity such as the agriculture, forestry and fishing sectors. This dependency can extend to industrial sectors such as textiles, leather and apparel and to a lesser extent other industries such as tourism and pharmaceuticals. The activities of these sectors often result in negative impacts for biodiversity. Other sectors have lower direct dependencies on biodiversity, such as retail or services. Extractive industries are associated with high levels of impact to biodiversity.

Worthy of noting here also is the finance sector, which has a unique leverage to change the behaviour of companies through sustainable financing decisions. Financial institutions can use corporate biodiversity performance to identify which companies to prioritise through their investment and lending portfolios. Today, forward-looking financial institutions are actively exploring how to measure the biodiversity impact of their portfolios and, in this way, are increasingly aware of the material impact of biodiversity loss, and how they can potentially have a positive impact. This can further encourage resource dependent businesses to level up their sustainability efforts in order to improve their investability. It is these companies and

industries/sectors who need to pay particular attention as to how they manage their biodiversity dependencies and risks, as without biodiversity they would simply go out of business.

Measuring and accounting for biodiversity impact, therefore, as well as sustainability impact more broadly, not only makes good business sense, but it can also help to:

- **Strengthen brand reputation:** Strong sustainability credentials can reinforce brand values and can help businesses stand out in crowded markets. Such credentials not only provide a story to tell to loyal customers, but they also allow for premiums to be charged on products or services, and gain access to ethical consumer markets, thereby increasing profits. Brand reputation is also important to attract committed shareholders. As an example, in 1994 the carpet company, Interface, changed its operational model from petroleum intensive to one that seeks to eliminate negative impacts on the environment. Along the way, the Interface brand has grown and strengthened its reputation as an agent of restoring the earth.<sup>24</sup> Worthy of noting here is that brands that do not work in a responsible and sustainable way could lose their (social) license to operate and thus taint their reputation.
- **Manage risk more effectively:** Understanding business impacts and dependencies on biodiversity and the environment more broadly helps to identify regulatory, supply and brand risks, such as looming scarcities in supply chains, and how these risks can be mitigated. It also helps to ensure more efficient resource utilisation throughout these supply chains. For example, Olam International, which relies on 2.7 billion bees to pollinate its almond orchards in the United States, adopts bee-friendly farming techniques, such as avoiding the use of any insecticide products during the pollination period.<sup>25</sup>
- **Transition risk:** In particular, for the financial sector, the risk of future decisions that can negatively impact (finance) decision is important to consider. For example, if an investment is made into an area, which then becomes a protected area, corporate activity needs to be moved or cancelled, which brings with it a considerable risk to the investments already made.
- **Attract investors and grow your business:** Becoming a greener and more sustainable business can make business prospects more attractive to the rapidly growing market of impact investing - lenders who focus also on the social and environmental performance of businesses. For example, the Dutch energy company Eneco has set pioneering sustainability ambitions as part of the One Planet programme. The company was recently purchased by the Mitsubishi Corporation, which has pledged to continue investing in sustainable assets.<sup>26</sup>
- **Engage and retain employees:** Putting environmental and social values at the heart of business operations helps to attract, retain and motivate employees for longer.
- **Do more with less:** Analysing business operational inputs and outputs to reduce energy and material use and wastage ('eco-efficiency') helps to improve competitiveness, an approach which is promoted by the circularity and cradle-to-cradle movements.<sup>27</sup> For example, EcoShape was set up under Dutch law as a foundation by a group of organisations to manage the public-private innovation programme Building with Nature.<sup>28</sup> This has led to the Sand Motor Delfland Coast project, which by creating a new coastal zone is providing new areas for nature and leisure.
- **Nurture innovation:** Driving sustainability in business can instil a creative culture of environmental problem solving and product development through innovation. For example, Ptthee is on a mission to have a positive impact on biodiversity, whilst creating high quality tea. The company plants

herbal mixtures on the unused edges of the fields and meadows of the farmers. This way, together with farmers, Ptthee contributes to restoring biodiversity in the Netherlands.

There is increasing evidence that ongoing ecosystem degradation has a material impact on companies – undermining performance, profits, their license to operate and access to new markets. However, new opportunities are emerging that are linked, in some way, to restoring and managing ecosystems. For example, according to WBCSD’s Vision 2050 project,<sup>29</sup> sustainability-related global business opportunities in natural resources may be in the order of US\$2-6 trillion per annum by 2050. Communities, NGOs, customers, consumers and shareholders are becoming increasingly conscious of the interrelationship between business operations and the state of ecosystems, and are demanding that these issues are addressed, reported and accounted for. Meanwhile, in many parts of the world, the regulatory and legal requirements for companies to minimise and mitigate their ecosystem impacts, and to fully compensate any damages caused, are becoming more stringent.

There is a growing awareness among many of these industries/sectors around the importance of accounting for sustainability impacts including impacts on biodiversity. Today many companies - big and small - are starting to track their performance to halt biodiversity loss, and looking into how they can make a positive contribution to restoration. There is a global movement taking shape which can inspire those businesses not yet involved to get on board, share lessons learned and best practices and start being more innovative in this realm. Lagging behind will ultimately cost time and money and the regulatory environment will catch latecomers out. It’s time to position your company now, it’s time to become more sustainable, and it’s time to start accounting for your company’s biodiversity impacts.

IUCN NL calls on the business community to unleash its innovation and investment capabilities to scale-up biodiversity impact measurement as a vehicle for achieving more sustainable business and better environmental protection. There are existing tools available to facilitate this, which are already being taken up by a range of companies across different sectors. The ongoing development and refinement of these tools will benefit from greater testing, uptake and feedback from business in order to improve usability and relevance. An overview of the most relevant tools for businesses is provided in section 3 of this guide, and includes some pointers as to how the private sector can take up a more predominant role in biodiversity footprinting moving forwards.

## **2.2 Contributions by Dutch Actors in the Tool Development Space**

The Dutch government wants to preserve and strengthen the Netherlands’ natural environment and biodiversity. Following the establishment of Leaders for Nature and the Platform Biodiversity, Ecosystems and Economy<sup>30</sup> (BEE) in the mid-2000s, the Netherlands has played an active role in the emerging field of sustainability, including biodiversity footprinting, as part of its ‘polder-mentaliteit’ (consensus decision-making based on the acclaimed Dutch version of consensus-based economic and social policy making in the 1980s and 1990) which requires decisions to be taken by gathering input from all relevant stakeholders such as government authorities, NGOs and companies alike. This interest reflects developments in the policy fields of nature, environment, spatial planning and sustainability, as well as in corporate social responsibility. Importantly the Dutch government has played a key role in providing the enabling conditions for businesses to become more sustainable and to measure their impact. For example, through Platform BEE, the government has supported more than fifty Dutch companies that have initiated natural

capital projects (see box 1 below). Through the so-called Green Deals it has supported the development of regulation that improves the implementation of biodiversity footprinting, and has also supported important tool development by increasing funding for research.



Source: Over 70 companies signed the Den Haag Business Akkoord about natural capital in 2016 at the end of Platform BEE.

<https://www.greendeals.nl/sites/default/files/downloads/Natuurlijk-Kapitaal-verslag-eindconferentie.pdf>

To assist these efforts, IUCN NL has been promoting the uptake of biodiversity reporting among Dutch businesses, scientists and government over the past 15 years. For example, IUCN NL's participation has supported the creation of various TEEB<sup>31</sup> studies, and in the development of the Natural Capital Protocol,<sup>32</sup> as well as the exploration of corporate approaches for operating within the planetary boundaries as part of the One Planet Thinking programme, together with WWF NL.<sup>33</sup> IUCN NL has also contributed to the development of various biodiversity footprinting tools (see section 3.3). Today, IUCN NL receives support from the Dutch Ministry of Agriculture, Nature and Food Quality to continue this important work.



Source: One Planet Thinking session at Springtij Forum 2018.



### **Box 1: Example 'Natural Capital' Projects from the Netherlands**

With support from the Dutch government and from IUCN NL, many Dutch companies - including SMEs - have started projects to understand their biodiversity impacts and to invest in natural capital on and around their own company site, as well as in extraction or production areas.<sup>34</sup>

#### **Green Harbour - the Port of Amsterdam**

The Port of Amsterdam has made natural capital part of its business strategy, based on a clear economic rationale: 'We want companies to establish their business premises in the port area, and be able to find staff easily. A pleasant, green environment helps with this.' Throughout the Port of Amsterdam, one can find green spaces. With the support of Platform BEE and IUCN NL, the port has developed its own nature policy, with the aim of becoming one of the most sustainable ports in Europe. The Port of Amsterdam is creating ecological corridors along the banks of ditches that are used for drainage in the area. This is just one of many nature projects taking place in the port area.

#### **FrieslandCampina**

How great is the impact of dairy farming on the natural environment? And can investing in natural capital be profitable for dairy farmers? In order to find out, FrieslandCampina developed a new measurement model, which it is currently testing. The Dutch branch of the World Wide Fund for Nature - WWF NL - and Rabobank are partners in this project. IUCN NL has worked with FrieslandCampina as part of the Leaders for Nature platform.

#### **Desso Note that Desso is now Tarkett**

Carpet manufacturer Desso wants to significantly reduce its impact on natural capital. Research revealed that switching to Norwegian instead of English wool has the biggest effect, as the sheep in Norway graze a more natural area. This was a surprise given that wool makes up only 2% of raw materials purchased. The researchers concluded that relatively simple measures can result in substantial impact reduction. IUCN NL has worked with Desso as part of the Leaders for Nature platform.

#### **REDD+ Business Initiative - RBI**

In 2013, four companies based in the Netherlands - Essent, Eneco, Desso and Dutch Development Bank FMO - launched a unique programme to reduce tropical deforestation in an effort to tackle climate change. Since then the membership has grown and a secretariat has been set up at CSR Netherlands/MVO Nederland. IUCN NL has been closely connected to the REDD+ Business Initiative as part of the Platform BEE. For example, IUCN NL has supported, through its Small Grants for the Purchase for Nature Programme, the Tambopata Biodiversity Reserve and Agroforestry project along with a local partner, AIDER, before the RBI even started. IUCN NL has also connected corporate partners to impact investor Althelia Ecospherend has been part of initial field studies and visits.

#### **CoP FINC**

The Community of Practice Financial Institutions and Natural Capital (CoP FINC), was formed by a group of 15 financial organisations, motivated to share and learn from each other, and is an instrument to accelerate the transition to third critical mass phase that met for a series of events over the course of 2 years. Based on their experience the ebook Finance For One Planet was published<sup>35</sup>. Their engagement, and the trust that was built between participants, also paved the way for the setup of the Partnership Carbon Accounting Financials, which enables financial institutions to assess and disclose greenhouse gas emissions of loans and investments - with now 64 members, and 4.5 trillion total assets<sup>36</sup>. And more recently, Partnership Biodiversity Accounting Financials is being developed, which focuses on impact measurement of investments with a positive effect on biodiversity.

One of the most prominent players in the Netherlands has been the Dutch Environmental Assessment Agency<sup>37</sup> (PBL) which has been a key contributor to a milestone effort in global biodiversity modelling through the creation of GLOBIO,<sup>38</sup> a dataset that links environmental drivers and biodiversity impacts. A sectoral footprint analysis has scaled the global results down to the level where companies are active. Indeed, this database is used by both businesses and governments alike. At the same time, other biodiversity footprinting tools also draw off this database. IUCN NL has supported the development of a company footprint tool based on the GLOBIO model as part of Platform BEE, and has worked on the integration of this framework with other relevant tools.

Another important Dutch-inspired milestone was achieved in the realm of Life Cycle Assessments (LCA)<sup>39</sup> by the ReCiPe initiative. The ReCiPe method was first published in 2008 through cooperation between RIVM, Radboud University Nijmegen, Leiden University and PRé Consultants. Since then it has continued to build on important discoveries, with the 2016 version providing greater accuracy in quantifying the environmental impact of goods, services and processes.<sup>40</sup> Today, the datasets and tools that underpin GLOBIO and ReCiPe are widely used by many biodiversity assessment approaches.

These Dutch experiences shine a light on the importance of multi-stakeholder collaboration as well as the need for governments to provide the right conditions that ultimately encourage business uptake when it comes to biodiversity footprinting. It also highlights the importance of private sector leadership and investment when it comes to stimulating innovation and nudging sustainability efforts in the right direction.

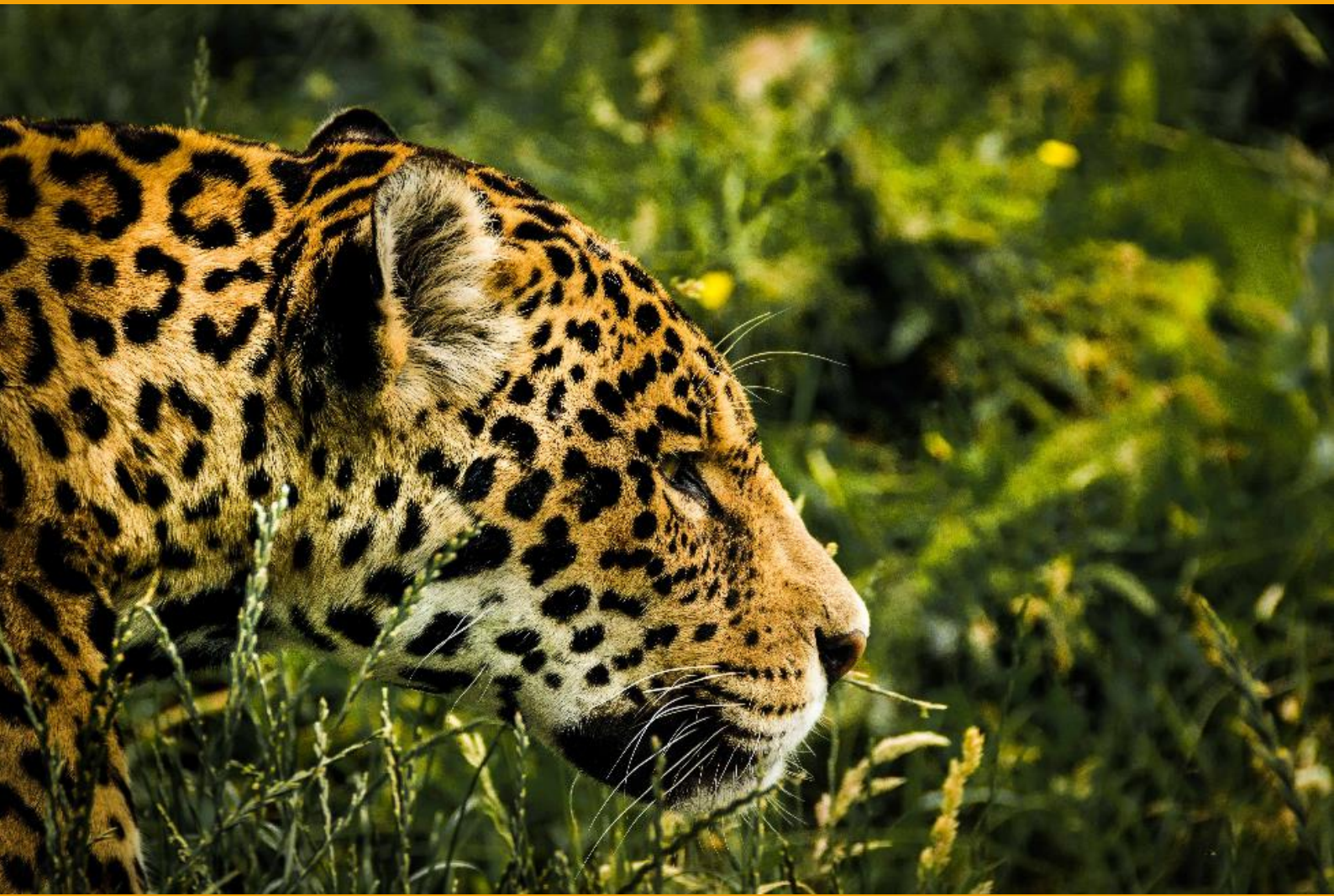


Photo 3: Mekong river, Cambodia



# **3. Biodiversity Footprint Toolbox**

## **4. Role of IUCN NL**



### 3. BIODIVERSITY FOOTPRINT TOOLBOX

#### 3.1 Introducing Biodiversity Footprinting Tools

Biodiversity footprinting tools act like a compass. For business, these tools can highlight where a company can take measures in its operations in order to reduce any negative environmental impacts that may be incurred, such as habitat and species loss, overexploitation, pollution and water use. These tools help businesses understand environmental pressures. They also help to monitor how these pressures change as a result of business activities. Often tools quantify the impact with a score or indicator, as a number enables a company to easily show whether improvement has been made. Addressing biodiversity impacts is a complex endeavour, and requires a learning process for companies. First steps can help companies acquire general knowledge and identify priority areas, to later on take more targeted action. In this way, biodiversity footprinting tools can support companies in an ongoing fashion, right from developing a baseline to setting targets, through to monitoring, assessing and disclosing outcomes.

Biodiversity footprinting tools use 'proxy approaches' that consider biodiversity impacts as they relate to air quality, water or land use (among others). However, these aspects are not necessarily considered fit for purpose in all circumstances. For this reason, calls are being made for advanced methods that can capture biodiversity related impacts and dependencies more accurately. Most of the tools that are available can be considered a work-in-progress, with many of them subject to ongoing revision, testing and refinement, often with the participation of companies. Also, the application of more precise and accurate sector specific tools depends on the phase companies are in, and the maturity of their understanding around the relevance of biodiversity.

At the same time, there is growing awareness that biodiversity provides critical resources on which industrial and commercial processes and products depend. Investors are increasingly concerned with the rapid rate of decline in biodiversity, which is already depriving businesses from essential resources. In this context, the need to better understand the complex causal relations around businesses' exposure to biodiversity risks is driving demand for enhanced methods and metrics in these areas. By providing this insight, tools such as ENCORE and steps 4 and 5 of the Natural Capital Protocol can help companies manage their risks more effectively.

The table below provides an overview for companies looking for a suitable biodiversity footprinting tool. It features the main tools currently available and being used by companies across diverse sectors, as well as a selection of tools due for release soon in 2020/2021. The overview table provides a short description of the main purpose and features of each tool, to help companies understand which ones could be relevant for their sector and intended use.

## Biodiversity Footprinting Tools

Tool & Developer	Description	Where to learn more
<b>Biodiversity Footprint for Financial Institutions developed by ASN Bank, PRé Consultants and CREM</b>	Used by ASN Bank since 2014 to assess both the negative and the positive impacts of its investment portfolios on biodiversity.	<a href="https://www.asnbank.nl/over-asn-bank/duurzaamheid/biodiversiteit/biodiversity-in-2030.html">https://www.asnbank.nl/over-asn-bank/duurzaamheid/biodiversiteit/biodiversity-in-2030.html</a>
<b>Biodiversity Impact Metric developed by the Natural Capital Impact Group at the University of Cambridge</b>	A practical risk-screening tool for supply chain businesses that source agricultural commodities. The approach allows businesses to proactively manage risks relating to the degradation of biodiversity and its wider societal impacts. By highlighting potential high-risk commodities, contexts or practices, businesses can prioritise where to act.	<a href="https://www.cisl.cam.ac.uk/resources/natural-resource-security-publications/measuring-business-impacts-on-nature">https://www.cisl.cam.ac.uk/resources/natural-resource-security-publications/measuring-business-impacts-on-nature</a>
<b>Biodiversity Monitoring System elaborated within the EU LIFE Initiative</b>	Allows food standards and companies to monitor the biodiversity performance of certified farms and/or supplying farmers.	<a href="https://www.biodiversity-performance.eu/">https://www.biodiversity-performance.eu/</a>
<b>Biodiversity Performance Tool for Food Sector elaborated within the EU LIFE Initiative</b>	Supports farmers and farm assessors to identify the current situation regarding biodiversity on the farm, to operationalize biodiversity criteria and to select effective measures for a Biodiversity Action Plan.	<a href="https://www.biodiversity-performance.eu/">https://www.biodiversity-performance.eu/</a>
<b>LIFE Key developed by the LIFE Institute</b>	Provides an evaluation of the organization's impacts on biodiversity and subsequent mitigation, compensation and conservation options based on priority. Regionally important in South America, with extensive testing across a variety of sectors in Brazil and Paraguay, its EU adaptation process is under analysis.	<a href="https://institutolife.org/o-que-fazemos/software-de-gestao-life-key/?lang=en">https://institutolife.org/o-que-fazemos/software-de-gestao-life-key/?lang=en</a>
<b>Product Biodiversity Footprint developed by I Care &amp; Consult</b>	The baseline principle of the PBF project is to co-develop a method and a tool crossing biodiversity studies and companies' data to quantify the impacts of a product on biodiversity all along the product's life cycle stages in order to provide recommendations for changes. This approach is being tested in food, textile and cosmetic industries, as well as the energy, extraction & construction materials sectors.	<a href="http://www.productbiodiversityfootprint.com/">http://www.productbiodiversityfootprint.com/</a>
<b>Species Threat Abatement and Recovery Metric (STAR) developed by IUCN</b>	The STAR measures the contribution that investments can make to reducing species extinction risk. It can help national and subnational governments, cities, civil society, the finance industry, investors and companies to target their investments and activities to achieve conservation outcomes and contribute to global policy aims.	<a href="https://www.iucn.org/regions/washington-dc-office/our-work/species-threat-abatement-and-recovery-star-metric#:~:text=The%20STAR*%20measures%20the%20contribution,outcomes%20and%20contribute%20to%20global">https://www.iucn.org/regions/washington-dc-office/our-work/species-threat-abatement-and-recovery-star-metric#:~:text=The%20STAR*%20measures%20the%20contribution,outcomes%20and%20contribute%20to%20global</a>
<b>Cool Farm Tool from the Cool Farm Alliance</b>	An online greenhouse gas, water and biodiversity calculator for farming that covers virtually all crops and livestock globally.	<a href="https://coolfarmtool.org/">https://coolfarmtool.org/</a>
<b>Biodiversity Input-Output for Supply Chain &amp; Operations Evaluation (Bioscope) developed by Platform BEE, PRé Sustainability, Arcadis and CODE</b>	This free access web tool provides a simple and fast indication of the most important impacts on biodiversity arising from supply chains, visualised on a world map.	<a href="https://www.pre-sustainability.com/customer-cases/bioscope-tool-for-easily-determining-biodiversity-impact">https://www.pre-sustainability.com/customer-cases/bioscope-tool-for-easily-determining-biodiversity-impact</a>
<b>Biodiversity Indicator and Reporting System (BIRS) developed by IUCN</b>	Guides companies in the cement and aggregates sector in adopting a standardized system for monitoring biodiversity at their extractive operations, and to encourage regular reporting on biodiversity attributes at the company level.	<a href="https://www.iucn.org/content/biodiversity-management-cement-and-aggregates-sector-biodiversity-indicator-and-reporting-system-birs">https://www.iucn.org/content/biodiversity-management-cement-and-aggregates-sector-biodiversity-indicator-and-reporting-system-birs</a>



<b>Global Biodiversity Model for Policy Support (GLOBIO) developed by the Netherlands PBL</b>	GLOBIO can be used for quantifying biodiversity footprints associated with the production of goods or the delivery of societal services in specific countries or regions. The biodiversity changes induced by production can be linked up with the consumption based on international trade data.	<a href="https://www.globio.info/">https://www.globio.info/</a>
<b>Biodiversity Footprint developed by Plansup, Wageningen Environmental Research (Alterra), Netherlands (PBL), CREM and JSScience</b>	Assesses both current and future biodiversity footprint of a company's product at the landscape level. Has been tested for a wide range of products from carpets to coffee, chocolate, natural plastics, paper and dairy. A free web tool offers access to a simplified version of the methodology.	<a href="http://www.plansup.nl/expertise/biodiversity-footprint/">http://www.plansup.nl/expertise/biodiversity-footprint/</a>
<b>Global Biodiversity Score developed by Mission Économie de la Biodiversité and CDC Biodiversité</b>	Due for launch in May 2020, this tool seeks to make it possible to audit entire companies or financial assets to evaluate their impact on biodiversity.	<a href="http://www.mission-economie-biodiversite.com/actualites/30-april-2019-side-event-ipbes-introduction-to-the-gbs-a-tool-to-assess-the-biodiversity-footprint-of-businesses-and-financial-assets">http://www.mission-economie-biodiversite.com/actualites/30-april-2019-side-event-ipbes-introduction-to-the-gbs-a-tool-to-assess-the-biodiversity-footprint-of-businesses-and-financial-assets</a>
<b>Biological Diversity Protocol from the Biodiversity Disclosure Project</b>	Aligned to the Natural Capital Protocol, the BDP aims to enable any organisation to identify, measure, manage and report on their impacts on biodiversity in a standardised, comparable, credible and unbiased manner. Due for release before the CBD CoP. Companies are being invited to pilot test the tool and to contribute to the consultation process.	<a href="http://www.bdprotocol.org">http://www.bdprotocol.org</a>
<b>Biodiversity Indicators for Extractives from UNEP WCMC, Conservation International and Fauna &amp; Flora International</b>	The Biodiversity Indicators for Extractives methodology aims to provide an approach that can meet the needs of extractives companies across both corporate and site-level decision-making in order to adaptively manage performance, and communicate results. Currently being piloted with a number of energy and mining companies.	Katie Leach, UNEP-WCMC : <a href="mailto:katie.leach@unep-wcmc.org">katie.leach@unep-wcmc.org</a> Leo Viana, Conservation International: <a href="mailto:lviana@conservation.org">lviana@conservation.org</a> Pippa Howard, Fauna & Flora International: <a href="mailto:pippa.howard@fauna-flora.org">pippa.howard@fauna-flora.org</a>
<b>Agrobiodiversity Index from Biodiversity International</b>	Helps decision-makers – including governments, companies and investors – measure the status of agricultural biodiversity and assess to what extent their commitments and actions are contributing to its sustainable use and conservation.	<a href="https://www.agrobiodiversityindex.org/">https://www.agrobiodiversityindex.org/</a>
<b>Kering's Environmental Profit &amp; Loss Approach</b>	A tool developed for measuring and quantifying the environmental impact of Kering's activities, the EP&L measures carbon emissions, water consumption, air and water pollution, land use, and waste production along the entire supply chain. These impacts are then converted into monetary values to quantify the use of natural resources.	<a href="https://www.kering.com/en/sustainability/environmental-profit-loss/what-is-an-ep-l/">https://www.kering.com/en/sustainability/environmental-profit-loss/what-is-an-ep-l/</a>
<b>Integrated Biodiversity Assessment Tool (IBAT) developed by IUCN, Birdlife International, Conservation International and UNEP WCMC</b>	IBAT offers a 'one-stop shop' data search service for those seeking authoritative global biodiversity information. Described by our users as "a must for any project on biodiversity conservation", IBAT provides fast, easy, and integrated access to three of the world's most authoritative global biodiversity datasets: the IUCN Red List of Threatened Species, the World Database of Key Biodiversity Areas and the World Database on Protected Areas.  IBAT is a subscription-based service providing open and free access to biodiversity maps as well as added-value paid-for services such as reports, packaged data downloads, and web services.  IBAT was developed and is maintained by the IBAT Alliance: Birdlife International, Conservation International, IUCN and UN Environment World Conservation Monitoring Centre.	<a href="https://ibat-alliance.org/">https://ibat-alliance.org/</a>

### 3.2 Business Applications

Biodiversity footprinting can help companies assess and improve the performance of their operations in multiple ways. Most initiatives that deal with biodiversity footprinting (see section 3.7) work closely with companies to understand the decisions they want to take and how the tools can enable them to do this better. For example, through workshops and discussions with tools developers, the Aligning Biodiversity Measures for Business (ABMB) initiative identified 8 business applications, which provide a useful overview.<sup>41</sup> Here we provide a selection of business applications drawn from the literature:

- Understand current performance and/or developing a baseline;
- Carrying out a risk and opportunity assessment (for a product, supply chain, investment portfolio etc.) to identify the most pressing biodiversity issues both impacts and dependencies - or 'hotspots' - to address;
- Undertaking due diligence to assess the likely impacts of specific decisions or activities (e.g. mergers or acquisitions) and to understand how these could affect overall performance;
- Planning and comparing interventions such as mitigation or restoration options or investment choices, for example through a cost-benefit analysis of ecological and economic gains and losses;
- Targeting investment and lending portfolios, for example by understanding which companies within a sector are performing best or to inform pricing credit based on biodiversity risk assessment;
- Progressively tracking the impact of company performance over time against key targets such as the SDGs and the post-Aichi biodiversity targets;
- Setting scientifically-based targets for reducing biodiversity impact, and reporting upon these impacts;
- Internal accounting and reporting, for example in the context of a specific framework such as Natural Capital Accounting, or for company sustainability reporting for shareholders and market regulators;
- Participating in a voluntary disclosure, auditing, reporting, certification or labelling initiatives such as the Global Reporting Initiative, the Natural Capital Protocol, the Roundtable on Sustainable Palm Oil<sup>42</sup> or EU Ecolabel;<sup>43</sup>
- Ranking and benchmarking, including comparisons with other companies and financial institutions to identify good practice;
- Meeting financial lending requirements;
- Leveraging investments from impact investors.

Many tool developers publish case studies showing how their tools have been used by businesses. For example, the Species Threat Abatement and Recovery Metric (STAR) developed by IUCN, The Biodiversity Consultancy, Newcastle University, Birdlife and Vulcan, has been used to assess the potential for reducing the likelihood of species extinction on coffee farms in El Salvador.<sup>44</sup>

The Biodiversity Footprint Calculator, developed by Dutch consultancy, Plansup, based on the GLOBIO method, has been tested on various Dutch companies to analyse the biodiversity footprints of their products, ranging from wood (Foreco), coffee (Moyee), chocolate (Tony's Chocolonely), paper (Schut Papier), carpets (Desso), health foods and materials (DSM) as well as products from recycled materials

(Better Future Factory).<sup>45</sup> Identifying which business area(s) or action(s) are of interest to your company will be fundamental for selecting an appropriate footprinting tool. Reading up on other companies' experiences and contacting tool developers direct can provide guidance in this sense, as will asking a few basic questions about tool selection (more on this in section 3.5 below).

### 3.3 Which Tools are Available?

The development of approaches, indicators and tools to understand and measure private sector impact on biodiversity is directly related to scientific advancements in breaking down biodiversity data. Especially from the early 2000s onwards, international consortia of specialists and institutes have been providing international bodies, like the United Nations Environment Programme (UNEP) and the CBD with biodiversity impact analysis, the most noteworthy being the Global Biodiversity Outlooks<sup>46</sup> and Millennium Ecosystem Assessments,<sup>47</sup> which have been used to set the global agenda for biodiversity.

Over recent years, these tools have undergone significant development and testing to expand their applicability and usefulness to businesses. Today, a range of biodiversity footprinting tools are available for different business sectors, including agriculture, food and beverage, apparel, cosmetics and pharmaceuticals, forest-based industries, finance, cement and aggregates, renewable energy, graphics, office and industrial printing and extractives.

Other tools are still at prototype stage and their developers are actively calling on companies to get involved in pilot testing - such as the Biological Diversity Protocol<sup>48</sup> - and the recently launched Global Biodiversity Score<sup>49</sup> - which aims to make it possible to audit entire companies or financial assets.

The main distinctions between the different biodiversity footprinting tools are shown in the box 2 below.

#### Box 2: Main Distinctions Between Biodiversity Footprinting Tools

- **Target sector and specificity:** Such as mining companies, farms, banks, standard organisation/label, or cross-sectoral;
- **User interface:** Can vary from computer models through more workbook-like Excel spread sheets, or a set of structured questions;
- **Business application:** Intended use ranges from assessing risks and opportunities to comparing options, quantifying impacts, setting targets and communicating internally or externally (see section 3.2 Business Applications);
- **Primary focus:** Product or commodity, entire supply chain, financial portfolio or specific site (e.g. farm or mine), business unit, sector etc.;
- **Data input requirements:** From intensively demanding of many operation phases (turnover, resource inputs, production processes) to general use of preloaded databases;
- **Type of insight:** Can include detailed and summary reports, maps, a score against a selected (biodiversity) indicator, identification of impact 'hotspots', a qualitative analysis of risks and opportunities;
- **Complementary data:** extracted from different datasets e.g. global trade sets, IUCN Red List of Threatened Species;<sup>50</sup>
- **Methods for linking pressures with impacts:** e.g. Life Cycle Assessment versus scoring/calculating indexes.

Over the past 15 years, IUCN and IUCN NL have participated in the development of various important tools, metrics and databases linked to biodiversity footprinting.

- **The Species Threat Abatement and Recovery Metric (STAR)** (formerly known as the 'Biodiversity Return on Investment Metric' or BRIM) developed by IUCN and partners, measures the contribution that investments and activities can make to reducing species extinction risk. STAR assesses the relative contribution of different pressures to each threatened species' extinction risk (based on IUCN's Red List) and is applicable to all sectors with potential or actual spatial impacts on biodiversity (such as land use). STAR shows the potential for reducing extinction risk before investment activities start (ex-ante measure), or can measure the actual impact of conservation measures on extinction risk over time (ex-post measure).
- **Biodiversity Input-Output for Supply Chain & Operations Evaluation (BioScope)** commissioned by the Platform Biodiversity, Ecosystems and Economy (BEE); a collaboration between IUCN NL and the Confederation of Netherlands Industry and Employers (VNO-NCW) and financed by the Dutch Ministry of Economic Affairs. Bioscope provides businesses with a simple and fast indication of the most important impacts on biodiversity arising from their supply chain. The results from BioScope are intended to help companies to formulate meaningful actions to further assess and reduce the impact of their business on biodiversity. It not only indicates the potential impact of the commodities purchased, but also of the upstream supply chains of these commodities. BioScope makes use of Exiobase v 2.2,<sup>51</sup> giving tool users the ability to select commodities and resources purchased from 170 sectors in 43 countries (27 EU countries and all large economies outside the EU), covering a large part of global economic activities. The resulting impacts on biodiversity are calculated with the ReCiPe method.
- **Biodiversity Indicator and Reporting System (BIRS)** developed by IUCN and is intended to guide companies in the cement and aggregates sector towards adopting a standardised system for monitoring biodiversity at their extractive operations, and to encourage regular reporting on biodiversity attributes at the company level.
- **The Global Biodiversity Model (GLOBIO)** is designed to inform and support policymakers by quantifying global human impacts on biodiversity and ecosystems. The model is tightly connected to the IMAGE model on global climate and land use change.<sup>52</sup> Over the past years, the IMAGE-GLOBIO framework has been extensively used for global environmental assessments, for example for the CBD and the IPBES. IUCN NL has supported the development of GLOBIO as part of Platform BEE, and has worked on the integration of this framework with other relevant tools such as BioScope.
- **The Integrated Biodiversity Assessment Tool (IBAT)**. Despite its name, the IBAT is not so much a tool to assess biodiversity impacts but rather a spatial information tool that compiles different (spatial) data layers on biodiversity areas (e.g. threatened species, key biodiversity spots, birdlife hubs, protected areas, etc.). The tool allows companies to quickly (and in a single place) identify whether their operations overlap with biodiversity-sensitive areas. IBAT is a multi-institutional programme of work involving IUCN, BirdLife International, Conservation International, and UNEP-

WCMC. IBAT draws on globally recognised biodiversity information from a number of IUCN's Knowledge Products, including its Red List, Key Biodiversity Area (priority sites for conservation) and Protected Planet/The World Database on Protected Areas.<sup>53</sup>

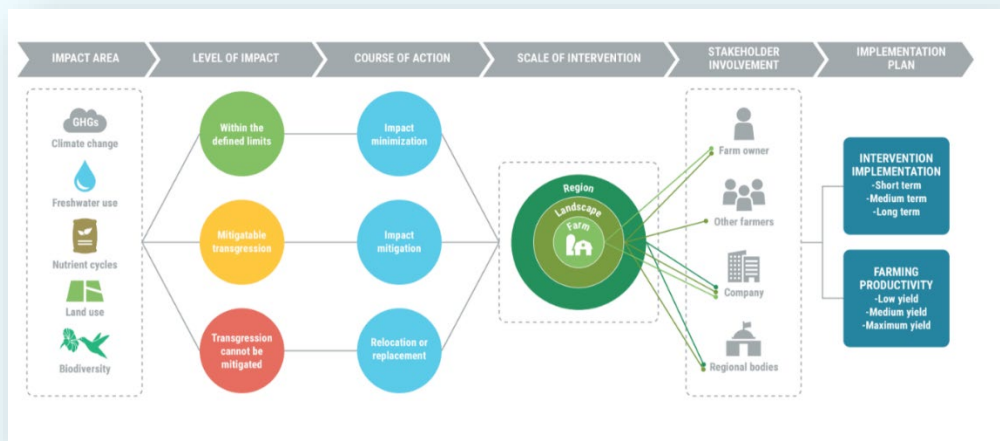
- **IBIS, the Integral Biodiversity Impact Assessment System**, commissioned by the Dutch government in 1999 and developed by consultancy firm CREM (Consultancy and Research for Environmental Management), IUCN NL, the Central Luzon State University in the Philippines and Ambio Fundación in Costa Rica. The objective of the method is to provide a tool for procurement officers, marketers and those involved in production processes to incorporate biodiversity aspects into their decision-making processes.<sup>54</sup>

In the Netherlands, various Dutch businesses are taking a pioneering role in integrating biodiversity footprinting into their strategies and operations.

One example is the partnership between the Dutch ASN Bank and the consultancy firms CREM and PRé Sustainability, to develop the **Biodiversity Footprint for Financial Institutions** (BFFI) tool that has been used annually by ASN Bank since 2014 to understand the biodiversity impacts of its investments. The ASN Bank has set out to achieve a net positive effect on biodiversity as a result of all of its loans and investments by 2030.<sup>55</sup> As well as working to reduce ecological damage caused by its portfolio, the bank will invest in wildlife conservation, sustainable energy and the circular economy. In 2019 ASN Bank, CREM and PRé Sustainability further developed their research on the topic of positive impacts on biodiversity and the financial sector. The research was financed by the Dutch Ministry of Agriculture, Nature and Food Quality and includes three case studies to calculate the positive impact on biodiversity for three different types of investment opportunities: (re-)forestry, shade grown coffee, and offshore wind energy.<sup>56</sup> IUCN NL has been supporting the development of the BFFI tool as a stakeholder in this process.

**Alpro-Danone**, based in Belgium, has been working with WWF NL and IUCN NL through the One Planet programme. The company engaged in a one-year pilot to develop and test potential tools and methods to evaluate biodiversity and other environmental impacts of its operations, with the intention to quantify these in relation to the carrying capacity of the landscape (inspired by the planetary boundaries framework). Among other tools, Alpro-Danone's exercise piloted the used the Biodiversity Footprint method, developed by Dutch organisations Wageningen University and Plansup, to calculate its impacts. This method makes use of the GLOBIO database. The company focused on its footprint in its soy fields in France and almond orchards in Spain<sup>57</sup> and to set roadmaps to reduce water use, fertilizer and carbon emissions. This joint effort generated valuable knowledge regarding the economic valuing of natural capital and applying a holistic approach. In September 2019, Alpro-Danone launched a business-led coalition called "One Planet Business for Biodiversity",<sup>58</sup> together with 18 other companies.



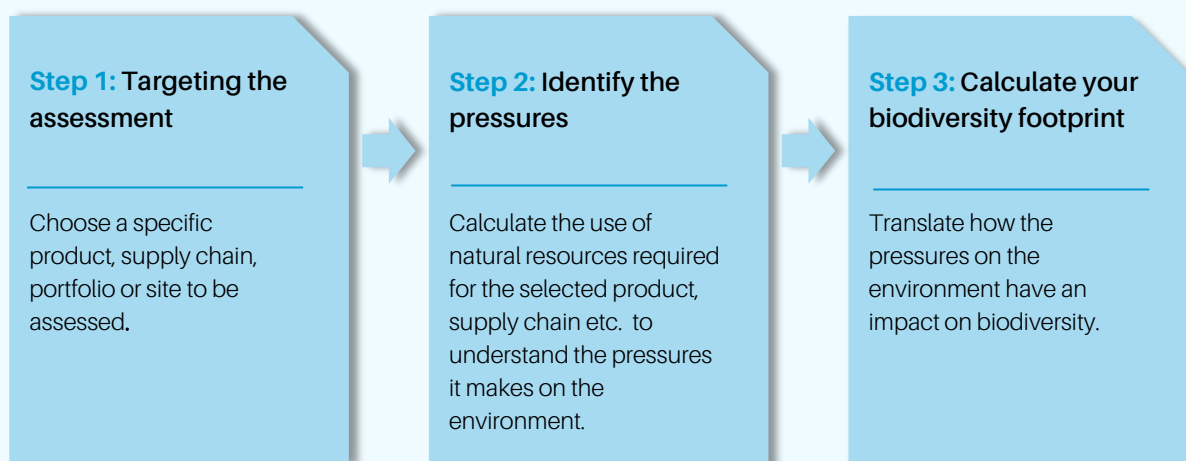


Source: Setting Science Based Targets for Nature study by Metabolic.

### 3.4 How do Tools Work?

In general, biodiversity footprinting tools take company data (whether financial or value chain data) and estimate a biodiversity impact based on it, using different databases and models to make these calculations. Some take into account geographical or ecosystem context, but most of them use generalized relationships/proxies, retrieved from scientific literature. In general, tools can mix and match different types of databases and models to fill out gaps in company data.

The approach of most biodiversity footprinting tools follows the same 3-step logic.



### Step 1: Targeting the assessment

The biodiversity footprint can be calculated for a certain product (e.g. a soy drink), financial portfolio (e.g. equities), site (e.g. a mine or farm), supply chain (including upstream and/or downstream effects), business unit, group of companies, sector, and soon entire companies or financial assets.<sup>59</sup>

### Step 2: Identify the pressures

By identifying what resources are needed (input) for the product/site/supply chain etc., and what it produces (output), the inputs and outputs can be mapped to identify what 'damages' the environment, or in other words, what the pressures are. For example, for an agribusiness producing soy drinks, it is likely that data would need to be known about the size and type of natural habitat or vegetation of a piece of land that has been converted into agricultural land to grow soy. Other input data such as fertilizer, pesticide and water use may also be required. Most tools also draw on third party data - such as Exiobase, global trade data sets or the IUCN Red List of Threatened Species<sup>60</sup> - to complement company specific data.

### Step 3: Calculate your biodiversity footprint

Once the types of pressures that your operation has on the environment have been identified, the third and final phase involves converting this data to show impact on biodiversity. Depending on the context (area, species occurrence and abundance, among others), certain pressures might have more direct negative impact on biodiversity than others. In a rainforest for example, land conversion for agriculture has a greater impact on biodiversity than CO2 emissions from a fossil-fuelled power plant. Methods for linking pressures with impacts vary between tools and the resulting biodiversity footprint is usually expressed in units, or as an indicator or a score – examples of databases used include GLOBIO and ReCiPe.

## 3.5 Choosing a Suitable Tool

A few key questions can be posed to help you to choose the right tool. The following list draws from the draft decision tree produced by the EU Business @ Biodiversity Platform,<sup>61</sup> which is expected to be broadened through further consultations with companies. These questions are also being further developed by the Aligning Measures initiative.

- *What is the business decision that you are trying to inform i.e. what is the business application?*  
Here it is important to distinguish between sectors, companies and financial institutions, since some tools are specific in this sense.
- *What is the organisational focus area* (from product level to sector level)?
- *What are the objectives of your assessment?* E.g. voluntary disclosure (e.g. against Aichi, SDGs, RSPO, EU Ecolabel, the Global Reporting Initiative) or regulatory commitments (e.g. EMAS).
- *What data is available for your assessment? And how does this compare to the data requirements of the tools you are interested in?*
- *In what phase of knowledge building and biodiversity awareness is your organisation?*

Additional questions that can be taken into account are:

- *Does the measurement approach cover the impact groups (e.g. marine biodiversity) relevant for my business activities?*
- *How much time (human resource) and/or budget is available for this work?*

### **3.6 Hot Topics in Tool Development**

In 2019, IUCN NL received support from the Dutch Ministry of Agriculture, Nature and Food Quality to explore, with tool developers, current progress and challenges relating to biodiversity footprinting. Here we summarise some of the findings from our interviews,<sup>62</sup> which we believe could be of interest to companies and policymakers.

#### **Tools are not as diverse as they seem, but each serves a specific purpose**

While at first glance, there is a large number of tools available, taking a deeper look shows that they are actually not as diverse as they might seem because they build on a handful of core systems, particularly shared databases. Nevertheless, the tools do serve different purposes, as they are designed to meet different needs.

#### **There is a need for greater alignment between tools and metrics**

Different approaches used by companies makes it difficult to benchmark and compare businesses against common indicators or metrics. There is a general desire to bring greater alignment between the different tools and to understand whether there are ways to mix and match different approaches that complement existing gaps. One overarching challenge with biodiversity metrics is that they are not always fit for purpose. Instead of focusing on solving a part of the puzzle, they try to find a silver bullet which can do everything for anyone. In reality, no number can do that and the data isn't there.

#### **Comparisons between 'natural capital' and 'biodiversity accounting' approaches**

Historically, at least in the Netherlands, company efforts to reduce their impact on nature and/or improving their contributions to it, have changed and shifted over the years. Engagement and action frameworks have, for example, emphasised Corporate Social Responsibility, Natural Capital, Nature, Biodiversity, Science-Based Targets, among others. While there is overlap on the topics they deal with, the underlying approach between the two 'schools' is somewhat different. Natural capital thinking, and natural capital approaches, generally emphasises both the impacts and dependencies for companies to take into account, with a role for (economic) value assessment. In the tools for biodiversity accounting, the focus is more restricted to impact, and there's a heavier role for ecologists and technical developers. In many ways, experts are observing a clear 'progression' towards more sophisticated, accurate, or integral approaches. However, the differences are blurry to companies and the continued change in the discourse has resulted in reluctance to act, as it has been so far unclear to business how to interpret the different approaches, what is new or what is better.

#### **Innovation has been very slow on tool development**

Existing dialogues have not led to many changes or innovations in the types of tools used or proposed. Some ideas have been under discussion for at least 20 years now. At the same time, however, it is also true that, year after year, existing tools are becoming more refined. What was once a theoretical proposition has now become applicable in practice. Databases for impact evaluation are becoming more comprehensive and precise, and with ongoing advances from companies towards improving data gathering through traceability and transparency efforts, results are also more credible.

### **Tool development faces some technical challenges**

Despite the constant advances in these tools, some issues remain out of grasp. For example, there is, on the side of companies, demand for tools that allow for understanding of both positive contributions as well as negative impacts. This is required, for example, to measure net impacts or calculate offsets. However, existing tools are unable to make these quantifications. Another challenge is spatially mapping actions and impacts. Impacts on biodiversity are context dependent, hence accurate assessments should be geographically specific. Several tools are developing – albeit slowly – in this direction, but data availability hinders this. Often companies do not have full supply chain data (and hence are partially blind to where their impacts are occurring). As for the tool developers, the complexity of the assessment requires a large amount of ecological information and a considerable investment of resources.

### **There's little dialogue between platforms, resulting in slow progress**

There are several platforms that are generating discussions on how these tools work and should develop. These platforms have slightly different focuses and objectives, but overall there is a big overlap in their scope and work. Membership to each platform is different, although some organisations and individuals participate in several of them. While they intend to serve as information bridges, participants also report that in practice communication between these platforms is scarce; sometimes limited to the external publications they make and to one-on-one dialogues between participants. This has resulted in a lot of repetition in the discussions and slow progress.

### **Companies' preference for quantitative tools might be an obstacle for action**

Companies have repeatedly expressed their interest in quantitative tools, such that their output can be used to measure and report on progress. Companies have also expressed that transparency and simplicity are important factors for them to favour a tool. On the other hand, some developers have countered that delivering meaningful answers, while keeping metrics and indicators simple and easy to understand, is an ongoing challenge. To date, there has been no one acceptable metric to measure biodiversity in a simple way. Furthermore, some developers argue that the current attention on getting quantitative results is distracting from the actual work and hindering company action.

### **There is a need for greater use of materiality assessments**

According to GRI Standards, a materiality assessment is the process of identifying, refining, and assessing potential environmental, social and governance issues that could affect your business, and/or your stakeholders.<sup>63</sup> This is an essential step, and can help a company identify which factors are the most important to focus on, and which can be ignored (for now), without losing on the quality of the results. Not all environmental pressures will be equally damaging to biodiversity. One company might need to focus on greenhouse gas emissions while another focuses on land use change, depending on their different contexts. This is especially useful for companies with complex value chains that provide a lot of data points that can otherwise hinder or overwhelm the assessment process. Materiality assessments should receive more attention, as a first step in defining biodiversity impact, and raise awareness of finance risks. They can keep biodiversity footprinting manageable despite the ecological complexities of biodiversity impact and ensure results are valid and insightful to take action where it is most needed and/or most effective.



### 3.7 Getting Involved

By reading this guide, as a company, you are already well underway in taking a first step towards understanding the biodiversity footprint of your company; by understanding why this is important for your company, by learning what tools have been developed to help you and to get inspired by the journey of others. Once you have internal support and buy-in to explore your corporate impact on biodiversity the next step is selecting a tool that suits the needs of the company in question. Then the more difficult part starts in testing it and applying it to the company business model, operations and supply chains, where appropriate. This means that you need to gather data, as well as input and share your results both internally and externally. Keep in mind, your participation, testing and feedback is vital if biodiversity footprinting tools are to be able to support transition among the private sector towards more sustainable practices, so please also share your experiences with the tool developers and the wider community.

There are various platforms pushing for greater involvement of the private sector in tools development and testing. These platforms provide a go-to place for companies interested in improving their understanding around biodiversity, they provide access to guidance and support and can connect you with other companies and actors involved in these processes.

Some of the more proactive European initiatives are:

- The **EU Business @ Biodiversity (B@B) Platform**<sup>64</sup> set up as a forum for dialogue and policy interface at EU-level, with the aim to work with and help businesses integrate natural capital and biodiversity considerations into their practices. The platform partners with companies to develop tools and approaches, provides news and insights, runs an annual conference and disseminates a range of practical resources in its Innovation Toolbox.<sup>65</sup> IUCN NL has participated in meetings on this platform.
- The **Aligning Biodiversity Measures for Business** (ABMB) UN Environment Programme World Conservation Monitoring Centre<sup>66</sup> (UNEP-WCMC) supports the biodiversity information needs of decision makers across a variety of sectors with particular expertise in data management, standards and analysis, policy analysis and advice, spatial planning and environmental safeguards. Runs the Aligning Biodiversity Measures for Business initiative (ABMB). IUCN NL has been in contact with the WCMC over the past years.
- Established through a collaboration between CDP, the United Nations Global Compact (UNGC), World Resources Institute (WRI), and the World Wide Fund for Nature (WWF) and one of the We Mean Business Coalition commitments, the **Based Targets Initiative**<sup>67</sup> showcases companies that set science-based targets and promotes replication through a series of events and resources. The initiative also independently assesses and approves companies' targets. IUCN is a member of SBTN. IUCN NL is an active member of both the land-use and biodiversity hub under the SBTN.
- The **Coalition for Private Investment in Conservation**<sup>68</sup> (CPIC) is a global multi-stakeholder initiative focused on enabling conditions that support a material increase in private, return-seeking investment in conservation. CPIC consists of a group of leading civil society organisations, private and public sector financial institutions and academia. CPIC aims to facilitate the scaling of conservation investment by creating models ('blueprints') for the successful delivery of investable priority conservation projects, connect pipeline providers of such projects with deal structuring support, and convene conservation project delivery parties with investors to execute investable deals. IUCN is one of the four founding members of CPIC and IUCN NL has been playing an active role in this initiative since 2018 and is co-lead of the Landscape and Seascape Working Group.

- **The Capitals Coalition**<sup>69</sup> launched in January 2020, hosts over 370 leading organisations to accelerate the use of capitals thinking. Originally established in 2012 as the TEEB For Business Coalition, the Natural Capital Coalition became a leader in mainstreaming natural capital approaches in the private sector, and released the internationally recognised Natural Capital Protocol<sup>70</sup> in 2016. The coalition is currently working on Biodiversity Guidance to accompany the Protocol (May 2020). Together with IUCN, IUCN NL has actively worked together with the Capitals Coalition and its precursor the Natural Capitals Coalition since its inception, including contributing to development of the Natural Capital Protocol.
- **Business4Nature**<sup>71</sup> is a global coalition bringing together influential organisations and businesses in order to demonstrate business action and amplify a powerful business voice calling for governments to reverse nature loss.
- **Product and Organisational Environmental Footprint.**<sup>72</sup> The commission has developed a Product Environmental Footprint (PEF) and Organisational Environmental Footprint methodology to streamline and align the various LCA approaches. One of the aims is to create a level playing field for companies that want to communicate the environmental impact of their product against a benchmark. The approach has been tested in two-dozen pilot projects for certain product categories. The PEF method has been designated to be the tool to assess the Circular Economy Package. Currently a working group has been installed to improve on the way Biodiversity was assessed in this method.

## 4. THE ROLE OF IUCN NL

### 4.1 Supporting Transformation to Sustainable Business

IUCN NL has over 15 years' experience engaging with business and financial institutions around biodiversity, natural capital and corporate sustainability. We started in 2005 with inspirational sessions for (young) professionals at the largest Dutch companies about how nature and biodiversity are connected with their business bottom line. In 2006, this resulted in an open letter by 85 CEOs of companies and CSOs in the Netherlands, in which they asked the new government to pay more attention to nature and environmental policy in the new government policy.

Via programmes such as Platform BEE and Leaders for Nature this has led to more and more companies in the Netherlands taking into account their impact on and dependence on nature. This has contributed to the development of many Green Deals in the Netherlands and a number of indispensable tools such as the Natural Capital Protocol, and tools that help companies understand their impact on biodiversity and natural capital, such as the first version of the Quickscan and the Biodiversity Footprint Calculator GLOBIO.

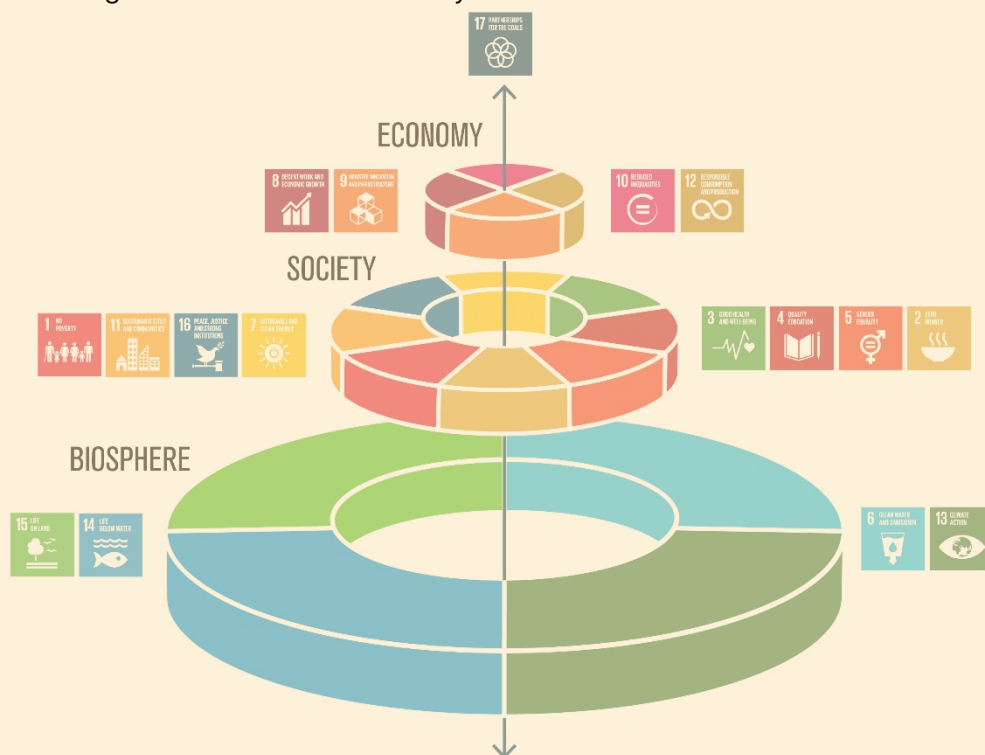
Over the past two years, IUCN NL has worked under the Natural Capital programmes led by the Dutch Ministry of Agriculture, Nature and Food Quality in a broad coalition to anchor natural capital in the agro, construction and chemical sectors, with support from the Ministry of Agriculture, Nature and Food Quality and the Ministry of Economic Affairs. The Societal Programme of Natural Capital (Maatschappelijk Programma Natuurlijk Kapitaal in Dutch) (MPNK) has helped IUCN NL to participate in sectoral dialogues, in the agro, chemical and construction sectors, to advocate that natural capital is a factor in decision-making. Together with our partners, we have helped determine future ambitions and action plans for each group.

Within the MPNK programme, IUCN NL has also worked closely with WWF NL on the One Planet Thinking programme. One Planet Thinking developed sustainability goals and strategies based on the ability of landscapes to replenish natural capital and to improve and set goals based on planetary capacity and connecting different types of impacts with the ultimate goal of operating businesses within the carrying capacity of the earth. Within this programme, WWF NL with support from IUCN NL conducted a pilot with Alpro-Danone, described in section 3.3 above.

Through our activities in the second phase of MPNK, we strengthen the added value of IUCN NL and continue to relate this work to the global agenda for sustainable development. The United Nations' SDGs is the most complete compass with political support worldwide, including that of the Dutch government. Our activities to integrate natural capital into business practices and policies are in line with SDGs 6, 12, 13, 14 and 15.

## Towards the achievement of the Sustainable Development Goals: IUCN NL and sustainable business

- **Goal 6:** Ensure availability and sustainable management of water and sanitation for all
- **Goal 12:** Ensure sustainable consumption and production patterns
- **Goal 13:** Take urgent action to combat climate change and its impacts
- **Goal 14:** Conserve and sustainably use the oceans, seas and marine resources for sustainable development
- **Goal 15:** Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss



IUCN NL is actively committed to converting the degradation of the living environment into an improvement in natural capital, in order to ultimately achieve a net positive impact. We work to create harmony between the ecosystem and the economy. For example in the agro-food sector, IUCN NL works to make the connection between the food industry and nature, for example through certification. A healthy living environment offers economic, functional advantages such as pollination, soil fertility and disease and pest control for agriculture, but also provides more habitat for all kinds of animals and a more attractive landscape. A combination of a chain approach and an area-oriented approach is appropriate to achieve social, economic and ecological goals.

IUCN NL facilitates dialogue with its members and connects it to the work of governments and business. With support from the Dutch Ministry of Agriculture, Nature and Food Quality (LNV), IUCN NL is compiling and catalysing pledges of existing and new initiatives for biodiversity to develop the Dutch Action Agenda for Nature and People. During the biodiversity summit in 2021, world leaders will gather to discuss and



agree how we can conserve biodiversity and guarantee the viability of our planet. The Netherlands is one of the countries that signed the biodiversity treaty, and will therefore be present at the summit. In preparation for this, the Action Agenda will be formally presented to the Dutch Government and will also be shared internationally.

Within this context, IUCN NL plays **three interconnected roles**:

### Positive Watchdog



IUCN NL can act as a positive watchdog, following trends and new developments in the field of green economy in particular. As a scientifically driven organisation, IUCN (NL) plays an important role in verifying and presenting facts and ensures that a link is made with the international arena and the global agenda. IUCN NL also plays a key role in setting standards and targets, and ensures that these are achieved. IUCN NL monitors cooperation to comply with the regulations to protect ecosystems that are being damaged, by establishing the correct measures and general conditions on the one hand, and monitoring compliance on the other.



### Knowledge Broker

IUCN NL transforms science into practical tools that can help companies act sustainably. In our role as a knowledge broker, we create standards, tools and guidance, and establish connections between various stakeholders, including companies, civil society organisations and other members of the scientific community. We are also expanding our bilateral cooperation with other partners, such as the Natural Capital Coalition and MVO NL.



### Convenor

Bringing together the right partners is essential for the success of a multi-stakeholder partnership. As a long-term partner of the green economy movement in the Netherlands, IUCN NL can help safeguard the interests and objectives of all partners. IUCN NL has a large international network that helps to connect the right stakeholders in different fields, such as soy, water and agro-food. IUCN NL also seeks cooperation with other ongoing activities to achieve synergy. This enables communication about the objectives and ensures that the interests of the partners are coordinated.

In our role as a convenor, we invite members of the scientific community to participate in “science dialogues”. Here, IUCN NL and members of the scientific community exchange examples of their work and discuss the latest developments on relevant topics. These dialogues act as a platform for discussion and help us validate our ideas (for example, in the area of One Planet Thinking). For example, together we

analyse assessment tools that can be used to integrate biodiversity into sustainability targets in companies. The science dialogues also stimulate new, additional cooperation between the participants.

## 4.2 Supporting Your Business

### *What does IUCN NL have to offer your business?*

- IUCN NL provides you with the latest insights, scientific dialogues and practical resources that can help your business to be well informed on developments in the wider sustainability landscape.
- We can introduce Dutch organisations (companies and research institutions) into national and international processes, and we form a bridge between national and international experiences that can facilitate the transition to sustainable, circular business.
- We can support financial institutions and businesses to adopt and implement stronger sustainability policies and practices relating to key commodities.



Source: IUCN NL website - <https://www.iucn.nl/en/updates/one-planet-thinking-reimagining-entrepreneurship-within-the-planetary-boundaries>

# **5. Ways forwards**

## **6. Further reading**



## 5. WAYS FORWARDS

- ✓ 2021 is a key moment for global biodiversity. At the biodiversity summit in Kunming China, a new agreement will be made to set concrete targets. Dutch companies can contribute to this by making a pledge to the Dutch Action Agenda for Nature and People. With support from the Dutch Ministry of Agriculture, Nature and Food Quality (LNV), IUCN NL is compiling and catalysing pledges of existing and new initiatives for biodiversity to develop the Dutch Action Agenda for Nature and People.<sup>73</sup> Each pledge for the Dutch Action Agenda contributes to the goals of the Biodiversity Convention and pledges may support recovery of species, conservation and restoration of nature in some way, reduce threats to biodiversity, raise awareness, or inspire others to act. Contributions can include large-scale actions like restoring degraded ecosystems or setting aside protected areas to individual actions such as planting pollen and nectar plants.
- ✓ Businesses are encouraged to test, uptake and feedback on their experiences of applying biodiversity footprinting tools to their specific company. A good range of resources and initiatives have been signposted in this document that can enable a company to take its first steps towards incorporating biodiversity and sustainability considerations into business strategy and planning. At the same time, a good number of national, regional and global initiatives offer spaces where businesses can increase their understanding and capacity to apply biodiversity footprinting tools (as well as other approaches), as well as interact with other players in this field.
- ✓ Like every other business, financial institutions generate direct impacts on biodiversity through their own activities. Yet the finance sector has unique leverage to steer 'pro-biodiversity' business through sustainable financing decisions and incentives. Greater dialogue and collaboration between financial institutions, data providers and tool developers (as well as other key stakeholders) will help to improve the relevance and utility of biodiversity footprinting tools to the specific needs of the finance sector, thereby supporting the development of a longer-term vision and commitments, as well as the scaling-up of larger investments into biodiversity. As part of our IUCN NL 2020-2024 strategy - Safeguarding Nature as the Basis of All Life<sup>74</sup> - priority number 2 is to decrease the biodiversity footprint of the Dutch economy. Here, IUCN NL works with Dutch financial institutions to adopt and implement stronger sustainability policies and practices in the production and extraction of key commodities. Engaging the (Dutch) financial sector is an important component of our work under priority 6 to secure large-scale finance for conservation and restoration. IUCN NL works with large Dutch financial institutions to strengthen their policies, and engages with relevant partners such as the Dutch Central Bank and Dutch Association of Investors for Sustainable Development (VBDO).
- ✓ IUCN NL encourages companies and financial institutions to:
  - Set ambitious goals and create a clear agenda for achieving them;
  - Follow the current scientific debate and try to develop goals that are science-based;
  - Work together with peers to share successes and failures;
  - Develop capacity and build support at all levels of the organisation.
- ✓ Assessing and understanding your biodiversity footprint is a first step towards better decision-making. After this initial assessment, companies can choose different alternatives, including further



analysis, target setting, and changes in sourcing, technology, or operational practices. The IUCN - and other organisations and initiatives - offer a range of resources that can help businesses along this journey, many of which are signposted throughout this guide and in the further reading section.

- ✓ Governments should set ambitious, binding biodiversity targets and take steps to report on their progress against those targets and other related treaties such as the Paris Agreement and the SDGs. Business for Nature - a global coalition of forward-thinking businesses and influential organisations, including IUCN - calls for concrete action from governments to deliver a new deal for nature and people.<sup>75</sup>
  - Provide direction and ambition by adopting global targets informed by science to reverse nature loss by 2030 and recognise a planetary emergency;
  - Align, integrate and enforce policies for nature, people and climate: bring greater coherence to UN governance, make nature part of mainstream government policy and ensure effective enforcement of environmental laws.
  - Go beyond short-term profit and GDP value and embed nature in decision-making and disclosure so that governments, companies and financial organisations can make better long-term decisions. For example, in 2019 the Dutch government compiled its SDG monitor that includes supplementary indicators gathered from the private sector;<sup>76</sup>
  - Finance a socially fair transformation: reform subsidies and incentives to reward positive action on nature alongside innovative and circular business models and; promote financial solutions that support nature;
  - Engage, enable and collaborate: join forces for nature so that the public and private sector can implement solutions and empower society to act;
  - Voluntary and mandatory practices can go hand in hand, especially if legislation creates a level playing field. Dutch and EU legislation, such as the EU directive on non-financial reporting, provide regulation and incentives to mobilise business and finance towards more sustainable decisions.
  - Encourage further adoption of materiality assessments as best practice for biodiversity impact evaluations. Governments can work with sector platforms and industry initiatives to demonstrate the added value of materiality assessments and identify sector-specific gaps and challenges.

The Dutch Government, with a strong track record in engaging with business, among others, through Green Deals, is well positioned to take a leadership role. A mix of different instruments is required, including setting strict environmental regulations and norms, pricing negative impacts (tax on resource use), financial rewards/incentives for good (business) performance, and supporting networks for innovation.

## 6. FURTHER READING

- The Natural Capital Protocol Toolkit, from the Natural Capital Coalition - <https://naturalcapitalcoalition.org/protocol-toolkit/>
- Integrated Biodiversity Assessment Tool (IBAT) for Business, from IUCN - <https://www.iucn.org/theme/business-and-biodiversity/our-work/business-approaches-and-tools/integrated-biodiversity-assessment-tool-ibat-business>
- The Development and Use of Biodiversity Indicators in Business, from IUCN - <https://portals.iucn.org/library/node/47919>
- Species Threat Abatement and Recovery (STAR) Metric, from IUCN - <https://www.iucn.org/regions/washington-dc-office/our-work/species-threat-abatement-and-recovery-star-metric#:~:text=Using%20the%20STAR,on%20investment%20across%20a%20portfolio>
- Corporate Biodiversity Indicators, from the UNEP-WCMC - <https://www.unep-wcmc.org/featured-projects/corporate-biodiversity-indicators>
- Assessment of Biodiversity Measurement Approaches for Businesses and Financial Institutions, from the EU B@B Platform and the UNEP-WCMC under the Aligning Biodiversity Measures for Business initiative - <https://www.wavespartnership.org/en/knowledge-center/assessment-biodiversity-measurement-approaches-businesses-and-financial>
- Developing a Corporate Biodiversity Strategy: A primer for the fashion industry, from the Institute for Sustainability Leadership, University of Cambridge - <https://www.cisl.cam.ac.uk/resources/publication-pdfs/developing-a-corporate-biodiversity-strategy.pdf>
- Global Biodiversity Score: a tool to establish and measure corporate and financial commitments for biodiversity 2018 technical update, from Club B4B+ (Mission Économie de la Biodiversité and CDC Biodiversité) - <http://www.mission-economie-biodiversite.com/wp-content/uploads/2019/05/N14-TRAVAUX-DU-CLUB-B4B-GBS-UK-WEB.pdf>
- Assessment of Biodiversity Measurement Approaches for Business and Financial Institutions, from the EU B@B Platform and the UNEP-WCMC under the Aligning Biodiversity Measures for Business initiative - [https://ec.europa.eu/environment/biodiversity/business/assets/pdf/European\\_B@B\\_platform\\_report\\_biodiversity\\_assessment\\_2019\\_FINAL\\_5Dec2019.pdf](https://ec.europa.eu/environment/biodiversity/business/assets/pdf/European_B@B_platform_report_biodiversity_assessment_2019_FINAL_5Dec2019.pdf)
- Biodiversity Assessment Initiatives: Guide for Decision Makers, from the One Planet Programme - [https://ec.europa.eu/environment/biodiversity/business/assets/pdf/10YFP-Biodiversity\\_Assessment\\_Initiatives-Guide\\_for\\_decision\\_makers.pdf](https://ec.europa.eu/environment/biodiversity/business/assets/pdf/10YFP-Biodiversity_Assessment_Initiatives-Guide_for_decision_makers.pdf)
- Finance for One Planet: CoP Financial Institutions and Natural Capital from the Netherlands Enterprise Agency and AMBOR creatie - <https://www.oecd.org/water/OECD-GIZ-Conference-Background-Document-Finance-for-One-Planet.pdf>

## ENDNOTES

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- <sup>1</sup> See: <https://www.cbd.int/doc/c/efb0/1f84/a892b98d2982a829962b6371/wg2020-02-03-en.pdf>
- <sup>2</sup> See: <https://www.globaljustice.org.uk/news/2018/oct/17/69-richest-100-entities-planet-are-corporations-not-governments-figures-show>
- <sup>3</sup> See: <https://www.wbcsd.org/Overview/About-us/Vision2050>
- <sup>4</sup> See: <https://www.weforum.org/reports/the-global-risks-report-2020>
- <sup>5</sup> See: [https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal\\_en](https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en)
- <sup>6</sup> Business for Nature is a global coalition bringing together influential organisations and forward-thinking businesses.
- <sup>7</sup> One Planet Business for Biodiversity (OP2B) is a unique international cross-sectorial, action-oriented business coalition on biodiversity with a specific focus on agriculture, initiated within French President Macron's One Planet Lab framework, launched at the United Nations Climate Action Summit in New York on 23 September 2019.
- <sup>8</sup> See: <https://www.globalreporting.org/standards/work-program-and-standards-review/>
- <sup>9</sup> The aim of PBAF is to investigate how a bank or investor could contribute to the protection and sustainable use of biodiversity and how the impact of these investments could be calculated or measured. Financial institutions could use this knowledge to formulate investment policies that consider biodiversity.
- <sup>10</sup> See: [https://www.dnb.nl/binaries/Biodiversity%20opportunities%20risks%20for%20the%20financial%20sector\\_tcm46-389029.pdf](https://www.dnb.nl/binaries/Biodiversity%20opportunities%20risks%20for%20the%20financial%20sector_tcm46-389029.pdf)
- <sup>11</sup> See: <https://sciencebasedtargetsnetwork.org/get-started.html>
- <sup>12</sup> See: <https://sustainabledevelopment.un.org/post2015/transformingourworld>
- <sup>13</sup> See: <https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12096-EU-2030-Biodiversity-Strategy>
- <sup>14</sup> See: <https://ipbes.net/global-assessment>
- <sup>15</sup> Natural capital is the foundation of our economy and our wellbeing. It provides us with food, clean water, fresh air, energy, medicine and a roof over our head: See: [https://www.iucn.nl/files/publicaties/bridging\\_financial\\_and\\_natural\\_capital.pdf](https://www.iucn.nl/files/publicaties/bridging_financial_and_natural_capital.pdf)
- <sup>16</sup> See: [https://ec.europa.eu/environment/biodiversity/business/annual-conference/annual-conference-2019/index\\_en.htm](https://ec.europa.eu/environment/biodiversity/business/annual-conference/annual-conference-2019/index_en.htm)
- <sup>17</sup> See: <https://www.iucncongress2020.org/>
- <sup>18</sup> See: <https://naturalcapitalproject.stanford.edu/events/2020-natural-capital-symposium-postponed>
- <sup>19</sup> Owing to the Covid-19 outbreak of 2020.
- <sup>20</sup> See: <https://www.cbd.int/sp/targets/>
- <sup>21</sup> See: [https://ec.europa.eu/environment/biodiversity/business/assets/pdf/European\\_B@B\\_platform\\_report\\_biodiversity\\_assessment\\_2019\\_FINAL\\_5Dec2019.pdf](https://ec.europa.eu/environment/biodiversity/business/assets/pdf/European_B@B_platform_report_biodiversity_assessment_2019_FINAL_5Dec2019.pdf)
- <sup>22</sup> TEEB For Local and Regional Policymakers (2010). See: [http://www.teebweb.org/media/2010/09/TEEB\\_D2\\_Local\\_Policy-Makers\\_Report-Eng.pdf](http://www.teebweb.org/media/2010/09/TEEB_D2_Local_Policy-Makers_Report-Eng.pdf)
- <sup>23</sup> UN SEEA (2020). Natural Capital Accounting for Integrated Biodiversity Policies. UN Statistics Division, Department of Economic and Social Affairs. New York. *Forthcoming*.
- <sup>24</sup> See: <https://www.interface.com/US/en-US/about/mission>
- <sup>25</sup> See: <https://www.olamgroup.com/sustainability.html>
- <sup>26</sup> See: <https://news.eneco.com/acquisition-of-eneco-by-consortium-of-mitsubishi-corporation-and-chubu-electric-power-completed/>
- <sup>27</sup> See: <https://www.ellenmacarthurfoundation.org/circular-economy/concept/schools-of-thought>
- <sup>28</sup> See: <https://www.ecoshape.org/en/>
- <sup>29</sup> See: <https://www.wbcsd.org/Programs/Redefining-Value/Business-Decision-Making/Assess-and-Manage-Performance/Resources/Guide-to-Corporate-Ecosystem-Valuation>
- <sup>30</sup> See: [https://www.iucn.org/sites/dev/files/import/downloads/brochure\\_platform\\_bee.pdf](https://www.iucn.org/sites/dev/files/import/downloads/brochure_platform_bee.pdf)
- <sup>31</sup> See: <http://www.teebweb.org/>
- <sup>32</sup> See: <https://naturalcapitalcoalition.org/natural-capital-protocol/>
- <sup>33</sup> See: <https://www.oneplanetthinking.org/home.htm>
- <sup>34</sup> See: [https://www.iucn.nl/files/publicaties/natural\\_capital\\_brochure.pdf](https://www.iucn.nl/files/publicaties/natural_capital_brochure.pdf)
- <sup>35</sup> Finance for One Planet, see: [https://nextgreen.nl/wp-content/uploads/2016/11/CoP\\_FINC\\_2016\\_Finance\\_for\\_One\\_Planet.pdf](https://nextgreen.nl/wp-content/uploads/2016/11/CoP_FINC_2016_Finance_for_One_Planet.pdf)
- <sup>36</sup> As of 2 July 2020: <https://carbonaccountingfinancials.com/>
- <sup>37</sup> See: <https://www.pbl.nl/en>
- <sup>38</sup> <https://www.globio.info/>
- <sup>39</sup> LCA enables the assessment of the pressure - a certain production process or product - on the environment.

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<sup>40</sup> See: <https://www.pre-sustainability.com/news/recipe-2016-improves-accuracy-quantifying-impacts-human-health-environment>

<sup>41</sup> See p. 20:  
[https://ec.europa.eu/environment/biodiversity/business/assets/pdf/European\\_B@B\\_platform\\_report\\_biodiversity\\_assessment\\_2019\\_FINAL\\_5Dec2019.pdf](https://ec.europa.eu/environment/biodiversity/business/assets/pdf/European_B@B_platform_report_biodiversity_assessment_2019_FINAL_5Dec2019.pdf)

<sup>42</sup> See: <https://rspo.org/>

<sup>43</sup> See: <https://ec.europa.eu/environment/ecolabel/>

<sup>44</sup> See:  
[https://www.iucn.org/sites/dev/files/content/documents/iucn\\_biodiversity\\_return\\_on\\_investment\\_metric\\_el\\_salvador\\_coffee\\_final.pdf](https://www.iucn.org/sites/dev/files/content/documents/iucn_biodiversity_return_on_investment_metric_el_salvador_coffee_final.pdf)

<sup>45</sup> See: <http://www.plansup.nl/expertise/biodiversity-footprint/>

<sup>46</sup> See: <https://www.cbd.int/gbo/>

<sup>47</sup> See: <https://www.millenniumassessment.org/en/index.html>

<sup>48</sup> See: <http://www.bdprotocol.org/register/>

<sup>49</sup> See: <http://www.mission-economie-biodiversite.com/actualites/30-april-2019-side-event-ipbes-introduction-to-the-gbs-a-tool-to-assess-the-biodiversity-footprint-of-businesses-and-financial-assets>

<sup>50</sup> The global standard for documenting species' conservation status. See: <https://www.iucnredlist.org/>

<sup>51</sup> EXIOBASE is a global, detailed Multi-Regional Environmentally Extended Supply-Use Table (MR-SUT) and Input-Output Table (MR-IOT). It was developed by harmonising and detailing supply-use tables for a large number of countries, estimating emissions and resource extractions by industry. See: <https://www.exiobase.eu/>

<sup>52</sup> An integrated assessment model that simulates the global environmental consequences of human activities. See: [https://models.pbl.nl/image/index.php/Welcome\\_to\\_IMAGE\\_3.0\\_Documentation](https://models.pbl.nl/image/index.php/Welcome_to_IMAGE_3.0_Documentation)

<sup>53</sup> See: <https://www.iucn.org/resources/conservation-tools/world-database-on-key-biodiversity-areas>

<sup>54</sup> See: [https://eva.udelar.edu.uy/pluginfile.php/511449/mod\\_folder/content/0/CREM%202000.pdf?forcedownload=1](https://eva.udelar.edu.uy/pluginfile.php/511449/mod_folder/content/0/CREM%202000.pdf?forcedownload=1)

<sup>55</sup> See: <https://www.asnbank.nl/over-asn-bank/duurzaamheid/biodiversiteit/biodiversiteit-in-2030.html>

<sup>56</sup> See: Positive impacts of Financial Institutions on Biodiversity and Case Study Report Biodiversity-positive investments in the Biodiversity Footprint Financial Institutions (BFFI)

<sup>57</sup> See: <https://www.alpro.com/uk/news/one-planet-thinking/>

<sup>58</sup> See: [https://www.danone.com/content/dam/danone-corp/danone-com/medias/media-othernews-en/2019/corporatepressreleases/PR\\_One\\_Planet\\_Business\\_for\\_Biodiversity\\_23092019.pdf](https://www.danone.com/content/dam/danone-corp/danone-com/medias/media-othernews-en/2019/corporatepressreleases/PR_One_Planet_Business_for_Biodiversity_23092019.pdf)

<sup>59</sup> The Global Biodiversity Score aims to make it possible to audit entire companies or financial assets and is due for launch in May 2020.

<sup>60</sup> See: <https://www.iucnredlist.org/>

<sup>61</sup> See:  
[https://ec.europa.eu/environment/biodiversity/business/assets/pdf/European\\_B@B\\_platform\\_report\\_biodiversity\\_assessment\\_2019\\_FINAL\\_5Dec2019.pdf](https://ec.europa.eu/environment/biodiversity/business/assets/pdf/European_B@B_platform_report_biodiversity_assessment_2019_FINAL_5Dec2019.pdf)

<sup>62</sup> A complete list of interviewees can be found in the Annex 1.

<sup>63</sup> See: <https://www.globalreporting.org/standards/questions-and-feedback/materiality-and-topic-boundary/>

<sup>64</sup> See: [https://ec.europa.eu/environment/biodiversity/business/index\\_en.htm](https://ec.europa.eu/environment/biodiversity/business/index_en.htm)

<sup>65</sup> See: [https://ec.europa.eu/environment/biodiversity/business/resources/index\\_en.htm](https://ec.europa.eu/environment/biodiversity/business/resources/index_en.htm)

<sup>66</sup> See: <https://www.unep-wcmc.org/>

<sup>67</sup> See: <https://sciencebasedtargets.org/>

<sup>68</sup> See: <http://cpicfinance.com/>

<sup>69</sup> See: <https://naturalcapitalcoalition.org/projects/biodiversity/>

<sup>70</sup> See: <https://naturalcapitalcoalition.org/natural-capital-protocol/>

<sup>71</sup> See: <https://www.businessfornature.org/>

<sup>72</sup> See: <https://ec.europa.eu/environment/eussd/smgp/index.htm>

<sup>73</sup> See: <https://www.iucn.nl/en/updates/contribute-to-the-dutch-action-agenda-for-nature-and-people>

<sup>74</sup> See: [https://www.iucn.nl/files/algemeen/jaarverslagen\\_en\\_beleidsstukken/iucn\\_nl\\_strategy\\_2020-2024.pdf](https://www.iucn.nl/files/algemeen/jaarverslagen_en_beleidsstukken/iucn_nl_strategy_2020-2024.pdf)

<sup>75</sup> See: <https://www.iucn.org/news/business-and-biodiversity/202001/global-businesses-call-governments-adopt-bold-actions-nature>

<sup>76</sup> See: <https://www.cbs.nl/en-gb/publication/2019/20/the-sustainable-development-goals-in-the-dutch-context>