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**Mainstreaming international biodiversity goals for the private sector:  
Main Report & Case Studies**

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**JNCC EQA Statement:**

This report is compliant with the JNCC Evidence Quality Assurance Policy  
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## Executive Summary

Five international goals for biodiversity, which encompass features of multiple Multilateral Environmental Agreements (such as the Convention on Biological Diversity) and the Sustainable Development Goals (SDGs), have been established to direct governments and inspire wider society to take steps towards the conservation of biodiversity. The goals represent clear statements about what aspects of biodiversity require immediate action to reverse the ongoing global decline of biodiversity and frame biodiversity not solely as a conservation issue by embedding biodiversity across multiple areas of social and economic development.

There is a clear role for the private sector to contribute to the international biodiversity goals, however these goals are perceived by many businesses as having been written by Governments for Governments and fail to resonate with and inspire action from the private sector. To address this issue, we:

- a) reframe the international biodiversity goals to illustrate their relevance to the private sector; and
- b) illustrate the various avenues of action that businesses can take for biodiversity using fourteen carefully selected case studies.

Appreciating that the SDGs have captured the attention of the private sector, we mapped the SDGs to the five international biodiversity goals to demonstrate the multiple crossovers. We then present a translation of the international biodiversity goals into 'corporate biodiversity goals', using language that aims to resonate with businesses and provide a comprehensive list of possible business actions for biodiversity in line with the corporate biodiversity goals.

We use fourteen case studies to illustrate these actions and translate them across different business sectors in relation to varying scales, locations, and forms of biodiversity. These cases illustrate a range of reasons why businesses are driven to undertake action that is beneficial to biodiversity, such as compliance with environmental regulation, operational, reputational and financial incentives; and highlight the co-benefits that biodiversity actions can deliver for the environment, society, and businesses themselves.

The ultimate aim of this work is to help the international biodiversity goals become significantly more visible and relevant to everyday business activities. This report is aimed at businesses who are already undertaking actions for biodiversity, helping make the links between their actions and international policy clearer; and for businesses commencing their journey in exploring relevant actions that they could undertake to address their impacts and dependencies on nature and contribute to the international biodiversity goals.

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## List of abbreviations and acronyms

BAP: Biodiversity Action Plan

BPI: Biodiversity Performance Indicator

BPSG: Boa and Python Specialist Group

BRC: Biodiversity Research Consortium

CBD: Convention on Biological Diversity

CITES: Convention on International Trade in Endangered Species of Wild Fauna and Flora

CMS: Convention on Migratory Species

Defra: Department for Environment, Food & Rural Affairs

EAP: Environmental Action Plan

EILA: International Association of Violin and Bow Makers

EP&L: Environmental Profit and Loss

ESIA: Environmental and Social Impact Assessment

EU: European Union

GGP: Gatwick Greenspace Partnership

GRI: Global Reporting Initiative

HCS: High Carbon Stock

HCV: High Conservation Value

ICCS: Interdisciplinary Centre for Conservation Science

ICLF: Integrated Crop-Livestock-Forest (ICLF) systems

ICMM: International Council on Mining & Metals

IPIECA: International Petroleum Industry Environmental Conservation Association

IPCI: International Pernambuco Conservation Initiative

IFC: International Finance Corporation

ISO: International Organisation for Standardization

ITC: International Trade Centre

IUCN: International Union for the Conservation of Nature

JNCC: Joint Nature Conservation Committee

LiDAR: Light Detection and Ranging

LINI: Indonesian Nature Foundation

MEA: Multilateral Environmental Agreement

MST: Landless Workers Movement

NASA: National Aeronautics and Space Administration

NBSAP: National Biodiversity Strategy and Action Plan

NCC: Natural Capital Coalition

NFU: National Farmers Union

NGO: Non-Governmental Organisation  
NOK: Norwegian krone  
OATA: Ornamental Aquatic Trade Association  
PCP: Python Conservation Partnership  
PERHILTAN: Malaysian Department of Wildlife and National Parks  
QMS: Quarantine Management System  
Ramsar: The Convention on Wetlands  
RSPO: Roundtable on Sustainable Palm Oil  
SDG: Sustainable Development Goal  
SSC: Species Survival Commission  
TEEB: The Economics of Ecosystems and Biodiversity  
UNEP: United Nations Environment Programme  
VNP: Valuing Nature Programme  
WBCSD: World Business Council for Sustainable Development  
WCS: Wildlife Conservation Society  
WEF: World Economic Forum  
WFEN: Wildlife Friendly Enterprise Network  
WWF: World Wildlife Fund

## Glossary of Key Terms

Unless otherwise specified, the terms used in this report align with Article 2 of the Convention on Biological Diversity (CBD 2018a):

**“Biodiversity”**, or **“Biological diversity”**, means 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.

**“Biodiversity Mainstreaming”** is “the process of embedding biodiversity considerations into policies, strategies and practices of key public and private actors that impact or rely on biodiversity, so that biodiversity is conserved, and sustainably used, both locally and globally” (Huntley & Redford 2014).

**“CITES Appendix II”**, lists species that are not necessarily now threatened with extinction but that may become so unless trade is closely controlled. It also includes so-called “look-alike species”, i.e. species whose specimens in trade look like those of species listed for conservation reasons (see Article II, paragraph 2 of the CITES Convention; CITES 2018). International trade in specimens of Appendix-II species may be authorized by the granting of an export permit or re-export certificate.

**“Ecosystem”** means a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit.

**“Ecosystem services”** are the contributions that ecosystems make to human wellbeing (EEA 2018).

**“Genetic material”** means any material of plant, animal, microbial or other origin containing functional units of heredity.

**“Genetic resources”** means genetic material of actual or potential value.

**“Habitat”** means the place or type of site where an organism or population naturally occurs.

**“High Conservation Value” (HCV)** are “biological, ecological, social or cultural values considered outstandingly significant at the national, regional or global level.” (HCV 2018).

**“Invasive alien species”** (referred to as “invasive species” in this report) are plants, animals, pathogens and other organisms that are non-native to an ecosystem, and which may cause economic or environmental harm or adversely affect human health. In particular, they impact adversely upon biodiversity, including decline or elimination of native species - through competition, predation, or transmission of pathogens - and the disruption of local ecosystems and ecosystem functions (CBD 2002).

**“Native species”**: A species that has been observed in the form of a naturally occurring and self-sustaining population in historical times (European Union 1979).

**“Net Positive Impact”** on biodiversity is realised when the presence of a business (or organisation) in a region ultimately generates positive impacts on biodiversity – impacts that not only balance but are broadly accepted to outweigh, over a quantified timescale, the biodiversity disturbances and impacts associated with its activities. Implementing a Net Positive Impact approach entails the use of the Mitigation Hierarchy, a decision-making

framework for the systematic planning of actions to reduce biodiversity impacts (NPI Alliance 2015).

**“No Net Loss”**: The point at which the project-related impacts on biodiversity are balanced by measures taken to avoid and minimize the project's impacts, understand on site restoration measures and offset significant residual impacts, if any, on an appropriate geographic scale (e. g. local, landscape-level, national, regional) (IFC 2012).

The **“Mitigation Hierarchy”** designed to guide the prediction of negative impacts of a development on biodiversity are quantified, and then preferentially (i) avoided, (ii) minimised, (iii) remediated, and finally (iv) any residual adverse impacts are offset through commensurate biodiversity gains to achieve no net loss or net positive impact (BBOP 2012).

**“Protected area”** refers to a geographically defined area which is designated or regulated and managed to achieve specific conservation objectives.

**“Sustainable use”** means the use of components of biological diversity in a manner, and at a rate, that does not lead to the long-term decline of biodiversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.

# 1. Introduction

Biodiversity – the diversity within species, between species and of ecosystems – underpins functioning ecosystems, societies and economies (Rockström *et al* 2009; Duffy *et al* 2017). International biodiversity goals and targets have been established to direct governments and inspire wider society to take steps towards strengthening conservation of biodiversity, in the broader context of global sustainable development. These goals and targets are embedded within different Multilateral Environmental Agreements (MEAs), such as the Convention on Biological Diversity (CBD), Conservation of Migratory Species of Wild Animals (CMS), the Convention on International Trade of Endangered Species of Fauna and Flora (CITES), and the Ramsar Convention on Wetlands of International Importance (European Commission 2018b).

The United Nations Sustainable Development Goals (SDGs) draw on the MEAs, particularly the CBD 2010-2020 Biodiversity Strategy and Aichi targets, to include specific goals for the conservation and sustainable use of biodiversity (CBD 2016; United Nations 2016). These include SDG 14 Life On Land, and SDG 15 Life Below Water, yet many SDGs have notable cross over with the CBD Aichi targets (as is illustrated by our analysis in Technical Appendix Section A).

The CBD’s five strategic goals for biodiversity (hereafter the “international biodiversity goals”) are a unifying feature by which all MEAs and the SDGs align (CBD 2011). They represent clear statements about what aspects of biodiversity require immediate action to reverse the ongoing decline of biodiversity around the globe (Table 1). Collectively the international biodiversity goals frame biodiversity not just as a conservation issue, but rather embed biodiversity in multiple areas of social and economic development, from tackling hunger and water scarcity, to improving infrastructure and creating sustainable livelihoods.

**Table 1.** The five international biodiversity goals (CBD 2011).

A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society
B: Reduce the direct pressures on biodiversity and promote sustainable use
C: Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity
D: Enhance the benefits to all from biodiversity and ecosystem services
E: Enhance implementation through participatory planning, knowledge management and capacity building

Governments have mobilized and are working to achieve the international biodiversity goals, however these efforts are falling short of the magnitude of action required to “bend the curve” of biodiversity loss (Mace *et al* 2018). What is becoming increasingly clear is that there is a role for the private sector to play in managing their impacts and dependencies on biodiversity as a way to mitigate risks (World Economic Forum 2018), with potential actions creating opportunities for biodiversity that align with the international biodiversity goals.

Forward thinking businesses have begun to recognise the business case for biodiversity action at both organisational and sectoral levels, which commonly is being driven by corporate responsibility and risk management (Dempsey 2013; Hanson *et al* 2012; World Economic Forum 2010). For a range of regulatory, financial, operational, and reputational reasons, leading businesses are beginning to take positive action on biodiversity and account for their impacts and dependencies on the natural world (Rainey *et al* 2015; Addison *et al* 2018). However, for many businesses biodiversity still remains a marginal issue in comparison to other environmental issues like climate change and water, which receive greater attention (KPMG 2015; Addison *et al* 2018).

Despite attempts to clarify the business case for biodiversity over the last two decades (e.g. F&C 2004; WBCSD and IUCN 1997; Hanson *et al* 2012; TEEB 2010; World Economic Forum 2010) uptake of private sector action on biodiversity remains low due to difficulties in translating good practice for integrating biodiversity into business management strategies and operations across different businesses, sectors and locations (but see these important business case study collations: Natural Capital Coalition 2018; CBD 2018b; WBCSD 2010). Furthermore, there remains a need to demonstrate how private sector action on biodiversity can contribute towards achieving the ambitions of the international community to reverse the loss of biodiversity, as reflected in the international biodiversity goals.

Unlike the unifying international climate commitment (the Paris Agreement), the MEAs have collectively failed to inspire action from the private sector on biodiversity as they are typically perceived as having been written by Governments for Governments. For example, a recent study by Oxford University of the corporate biodiversity disclosures of the top 100 Fortune 500 companies identified that a mere 49 of these companies were disclosing action on biodiversity in their corporate sustainability reports (Addison *et al* 2018). However, only 6 of these 49 mentioned MEAs like the CBD when describing their actions on biodiversity. By contrast, 24 mentioned the SDGs. This supports the suggestion that the MEAs are having much less traction with the private sector than other societal goals like the SDGs.

The SDGs have captured the attention of the private sector, and many businesses perceive the SDGs as highly relevant to their operations (GRI *et al* 2015). A 2015 survey revealed that 92% of businesses are aware of the SDGs, with 71% planning to form a strategy regarding the SDGs within the succeeding five years (PwC 2015). That enthusiasm is reflected in initiatives by many businesses and sectors to map out how best to contribute to the SDGs (e.g. Sonesson *et al* 2016; IPIECA *et al* 2017).

The questions remains – how do we make international biodiversity goals relevant to businesses? To date, there has been no systematic analysis of the avenues of action that businesses can take to manage their own biodiversity impacts and dependencies in the context of contributing to the international strategic goals for biodiversity. The University of Oxford and the Joint Nature Conservation Committee (JNCC), with the support of the Valuing Nature Placement scheme, undertook this project to address this issue.

Here we:

- a) reframe the international biodiversity goals to illustrate their relevance to the private sector; and
- b) illustrate the various avenues of action that businesses can take for biodiversity using fourteen carefully selected case studies.

## **1.1. Mapping business actions onto the international biodiversity goals and targets**

Using a coding methodology outlined in the Technical Appendix Section A we mapped the SDGs to the five international strategic biodiversity goals to demonstrate how the SDGs, which are deemed relevant to businesses, have multiple crossovers with the strategic goals. We then translated the strategic goals into ‘corporate biodiversity goals’, using language that will resonate with business. Then we defined specific business actions in line with the corporate biodiversity goals, which cut across the SDGs, and international biodiversity targets and applied these to business case studies, to illustrate the range of possible business actions and how these can be translated across business sectors, scales, locations, and forms of biodiversity. Details of this process are outlined in the Technical Appendix Section A (pp 2 – 12). A summary of the translation of the five international biodiversity goals is presented in Table 2.

**Table 2:** Translating the international biodiversity goals into corporate biodiversity goals with example business actions.

	<b>International Biodiversity Goal</b>	<b>Corporate Biodiversity Goal</b>	<b>Example business actions</b>
<b>A</b>	Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society	Embed biodiversity into decision-making	<ul style="list-style-type: none"> <li>• Raise awareness about biodiversity internally, e.g. amongst employees</li> <li>• Biodiversity embedded in corporate strategy</li> <li>• Adopt and implement voluntary certification schemes and industry standards</li> </ul> <p style="text-align: right;"><i>For full list of actions and relevant MEA targets &amp; SDGs see p 9</i></p>
<b>B</b>	Reduce the direct pressures on biodiversity and promote sustainable use	Reduce impacts and promote sustainable use in operations and/ or supply chain	<ul style="list-style-type: none"> <li>• Reduce or eliminate impacts on species and habitats directly affected by operations and/ or supply chain</li> <li>• Adopt measures to ensure sustainable use of natural resources</li> <li>• Prevent the introduction or spread of invasive species</li> </ul> <p style="text-align: right;"><i>For full list of actions and relevant MEA targets &amp; SDGs see p 16</i></p>
<b>C</b>	Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity	Improve the status of biodiversity	<ul style="list-style-type: none"> <li>• Establish private protected areas, or support establishment or management of public protected areas</li> <li>• Implement ecosystem restoration actions</li> <li>• Invest in solutions that work with nature, such as natural infrastructure</li> </ul> <p style="text-align: right;"><i>For full list of actions and relevant MEA targets &amp; SDGs see p 27</i></p>
<b>D</b>	Enhance the benefits to all from biodiversity and ecosystem services	Enhance the benefits society draws from biodiversity	<ul style="list-style-type: none"> <li>• Account for the needs of indigenous groups, women, the poor, marginalised and vulnerable groups and individuals in business actions</li> <li>• Ensure access to, and benefit sharing from, natural resources while operating within sustainable limits</li> <li>• Adhere to or incorporate international, regional and/ or national rules that relate to biodiversity</li> </ul> <p style="text-align: right;"><i>For full list of actions and relevant MEA targets &amp; SDGs see p 34</i></p>
<b>E</b>	Enhance implementation through participatory planning, knowledge management and capacity building	Stakeholder engagement, support and knowledge sharing	<ul style="list-style-type: none"> <li>• Engage in multi-stakeholder dialogue to manage impacts on biodiversity</li> <li>• Incorporate traditional knowledge into strategic planning for sustainable management of biodiversity</li> <li>• Share biodiversity monitoring data to assist decision-making and adaptive management</li> </ul> <p style="text-align: right;"><i>For full list of actions and relevant MEA targets &amp; SDGs see p 43</i></p>

## 1.2. Business case studies

This report outlines fourteen case studies to demonstrate the translatability of business actions on biodiversity across multiple contexts. The examples are drawn from information that is freely available, or that was volunteered to the project through a call for examples (see Technical Appendix Section B). Some of the longer-running and/ or larger-scale projects have more material associated with them and therefore greater detail is provided.

Over 70 business case studies were received following a call for businesses to share examples of business action on biodiversity. The case studies were screened against set criteria to inform selection of the final fourteen presented in this report (for full details, see Technical Appendix Section B). Each business case outline is primarily based on what the business (and in some instances project partners) state as the motivations for, and benefits from, action. The business case has been further substantiated by framing actions in terms of biodiversity risks and opportunities. The source material used to outline the cases is listed in the References at the end of this report.

The fourteen business case studies represent companies from various sectors (e.g. Agriculture, Mining, Utilities), locations (e.g. Australia, Mongolia, UK), working with various partners (e.g. local stakeholders and NGOs), and focussed on different aspects of biodiversity (e.g. from locally important, invasive, or threatened species through to specific ecosystems such as peatland, grasslands, or forests) (see Table 3). The case studies include actions that address at least one of the five international biodiversity goals. The case studies are categorised based on the authors' interpretation of the main underlying corporate biodiversity goal being achieved. Projects often cross-cut these goals and consequently additional sub-themes are included in the detailed business actions.

The fourteen case studies summarised in Table 3 represent a small cross section of what businesses can do to account for their dependencies with and impacts on biodiversity. Table 4 provides links to twelve further publicly available cases drawn from databases and compendiums hosted on other websites and grouped under one of the biodiversity goals. See Technical Appendix B for further links to tools and resources developed to assist businesses in acting on biodiversity.

**Table 3.** Summary of the business case studies.

Corporate Biodiversity Goal	Case study	Business	Sector	Location	Biodiversity focus	Page
A: Embed biodiversity into decision-making	1: Rangeland restoration and monitoring of supply chain impacts	Kering & Oyu Tolgoi	Apparel, Mining, Agriculture	Mongolia	Rangeland	10
	2: Integrating biodiversity into a corporate environmental plan	Toshiba	Electronics	Global	Multiple species and ecosystems	13
B: Reduce impacts and promote sustainable use in operations and/ or supply chain	3. Sustainable python skin trade	Kering	Wildlife trade, Apparel	Global	Reticulated python	17
	4. Implementing a Quarantine Management System	Chevron	Oil and gas	Australia	Multiple invasive and endemic species	20
	5. Adopting certification standards for sustainable resource use	Olam	Agriculture	Gabon	Tropical forest	23
	6. Reducing the impact of new road infrastructure on local habitats	Skanska	Construction	United Kingdom	Multiple species and ecosystems	25
C: Improve the status of biodiversity	7. Implementing a Biodiversity Action Plan for an airport	Gatwick Airport	Transport	United Kingdom	Multiple species and ecosystems	28
	8. Restoring peatland to deliver clean water	Yorkshire Water	Utilities	United Kingdom	Peatland	31
D: Enhance the benefits society draws from biodiversity	9. Securing natural resources by supporting sustainable livelihoods	EILA	Manufacturing	Brazil	Pernambuco tree	35
	10. Ensuring farmer livelihoods whilst conserving habitats	IBIS Rice	Agriculture	Cambodia	Giant Ibis, deciduous forest	38
	11. Sustainable trade in marine resources	OATA	Wildlife trade	Global	Rare fish species	41
E: Stakeholder engagement, support and knowledge sharing	12. Collaborating to reduce impacts of a housing development	Berkeley Group	Construction	United Kingdom	Multiple species and ecosystems	44
	13. Financing sustainable agriculture	Rabobank	Banking, Agriculture	Brazil, Indonesia	Multiple forest types	47
	14. Integrating scientific expertise into restoration actions	Norsk Hydro	Mining	Brazil	Tropical forest	50

**Table 4. Links to further case studies**

Corporate Biodiversity Goal	Case	Business	Sector	Location	Biodiversity focus	Link (last accessed October 2018)
A: Embed biodiversity into decision-making	Measuring impacts and dependencies for direct operations and materials supply chain	Novartis	Pharmaceuticals	Global	Multiple species and ecosystems	<a href="https://naturalcapitalcoalition.org/natural-capital-protocol-case-study-for-novartis/">https://naturalcapitalcoalition.org/natural-capital-protocol-case-study-for-novartis/</a>
	Implementing a biodiversity monitoring and mitigation programme	Sakhalin Energy Investment Company Ltd	Oil and Gas	Russia	Western Gray Whale	<a href="https://www.iucn.org/western-gray-whale-advisory-panel">https://www.iucn.org/western-gray-whale-advisory-panel</a>
B: Reduce impacts and promote sustainable use in operations and/ or supply chain	Natural capital assessment of impacts to species from 700+ companies publicly-listed in Europe	Kepler Cheuvreux	Finance	Europe	Multiple species and ecosystems	<a href="https://naturalcapitalcoalition.org/category/case-studies/">https://naturalcapitalcoalition.org/category/case-studies/</a>
	Using low impact design in planning and construction	Maho Bay and Concordia Resort	Tourism	US Virgin Islands	Multiple species and ecosystems	<a href="https://portals.iucn.org/library/node/10112">https://portals.iucn.org/library/node/10112</a>
C: Improve the status of biodiversity	Creating ecological networks in a production landscape	Mondi	Forestry	South Africa	Multiple species and ecosystems	<a href="https://docs.wbcsd.org/2012/09/Biodiversity_and_ecosystem_Mondi.pdf">https://docs.wbcsd.org/2012/09/Biodiversity_and_ecosystem_Mondi.pdf</a>
	Developing a mitigation plan to minimise operational impacts	BP	Oil and Gas	USA	Multiple species and ecosystems	<a href="http://www.ipieca.org/media/2779/bp_landscape_approach_in_the_san_juan_national_forest_colorado.pdf">http://www.ipieca.org/media/2779/bp_landscape_approach_in_the_san_juan_national_forest_colorado.pdf</a>
D: Enhance the benefits society draws from biodiversity	Natural capital assessment of impacts and societal consequences for an Environmental Profit and Loss account	Natura	Consumer goods	Brazil	Multiple species and ecosystems	<a href="https://www.wbcsd.org/Programs/Redefining-Value/Business-Decision-Making/Measurement-Valuation/Business-Examples/Natura-The-capital-that-really-matters">https://www.wbcsd.org/Programs/Redefining-Value/Business-Decision-Making/Measurement-Valuation/Business-Examples/Natura-The-capital-that-really-matters</a>
	Joining expertise to implement biodiversity-based microenterprise development	Holcim	Multiple	Global	Multiple species and ecosystems	<a href="https://www.iucn.org/sites/dev/files/content/documents/b2md.pdf">https://www.iucn.org/sites/dev/files/content/documents/b2md.pdf</a>
E: Stakeholder engagement, support and knowledge sharing	Natural capital assessment (with wider community engagement) of impact drivers from Spandan Cork products	Spadan Corks	Manufacturing	Spain	Cork oak	<a href="https://naturalcapitalcoalition.org/category/case-studies/">https://naturalcapitalcoalition.org/category/case-studies/</a>
	Collaborating to protect the Mexico/US transboundary ecological corridor	CEMEX	Cement	USA and Mexico	Multiple species and ecosystems	<a href="https://www.cbd.int/doc/books/2011/B-03719.pdf">https://www.cbd.int/doc/books/2011/B-03719.pdf</a>

### 1.3. Concluding remarks

The materials developed through this project are intended to be a starting point, demonstrating how different business-relevant actions are possible under existing policy frameworks. The cases are not a representative list of all the actions underway by businesses: other good examples do exist and we point readers to Table 3 and other excellent publicly available collations of business case studies (e.g. Natural Capital Coalition 2018; CBD 2018b; WBCSD 2010; European Commission 2018a; Earthmind 2018; Girvan *et al* 2018; ICM 2018; IPIECA 2018; IUCN 2018; WBCSD 2018).

For each of the fourteen business cases, we have drawn out the business case for undertaking action for biodiversity. This assessment illustrates a range of reasons why businesses are driven to undertake action that is beneficial to biodiversity. For many, action is driven by **compliance with environmental regulation** (e.g. Case Study 4, Implementing a Quarantine Management System, Chevron), but in many cases these companies appear to be going above and beyond regulatory requirements. Other drivers for business action include: **operational incentives** to help improve operational efficiency and benefit biodiversity at the same time (e.g. Case study 8, Restoring peatland to deliver clean water, Yorkshire Water); **reputational incentives** to help meet consumer demand for more sustainable practices (e.g. Case study 7, Implementing a Biodiversity Action Plan for an airport, Gatwick Airport); and, **financial incentives** to de-risk supply chains through protecting biodiversity by which operations depend upon (e.g. Case Study 5, Adopting certification standards for sustainable resource use, Olam Palm).

Some notable features of the business case studies include: **ongoing** programmes and commitments (e.g. Case Study 3, Python Conservation Partnership, Kering); **forward-looking** programmes that apply lessons to other business operations (e.g. Case Study 14, Integrating scientific expertise into restoration actions, Norsk-Hydro); and, **are bigger than biodiversity**, as programmes integrate considerations of societal benefits and local knowledge (e.g. Case Study 9, Securing natural resources by supporting sustainable livelihoods, EILA).

What remains a significant challenge in assessing these business case studies is whether the actions are of sufficient magnitude to negate, or go above and beyond, the detrimental impacts that businesses have on biodiversity. Our assessment is based on publicly available information only, which has limited our ability to assess the exact magnitude of activities, as information that is publicly available can be incredibly variable.

In order for a business to confidently establish whether their actions are positively contributing to international biodiversity goals, they will need to a) estimate the magnitude of their impacts and dependencies on biodiversity, and b) estimate the benefits to biodiversity that are derived from their actions to address or outweigh their impacts and dependencies on biodiversity. This approach is commonly used for site level assessments of operations in some sectors (e.g. extractives), such as through the mitigation hierarchy (e.g. Arlidge *et al* 2018); but will need to be translated to the corporate-level to help businesses assess their contributions to the international biodiversity goals. Although accurate measurement will take time and resources to properly implement, the cases presented here demonstrate the business actions and the outcomes for biodiversity attributes that could be measured to quantify company contributions to the international biodiversity goals.

In the meantime, we hope that the structure presented here – reframing the international biodiversity goals into ‘corporate biodiversity goals’ with corresponding business actions on biodiversity – will be useful to businesses and governments alike. We hope that our summary of corporate biodiversity goals and actions (Table 1) and business case studies

will help the international biodiversity goals become significantly more visible and relevant to everyday business activities. This is both for businesses already undertaking actions for biodiversity, helping make the links between their actions and international policy clearer; and for businesses commencing their journey in exploring relevant actions that they could undertake to address their impacts and dependencies on nature and contribute to the international biodiversity goals. Finally, our re-framing of the international strategic goals for biodiversity offers a new way to communicate the international biodiversity goals for business, and we hope this might be considered by the Conference of Parties at the Convention on Biological Diversity during the development of a post-2020 global biodiversity framework that will be negotiated over the coming years.

### **1.3.1. Remainder of report**

The report is split into five sections that correspond with each of the strategic biodiversity goals. The relevant business actions, SDGs, and international targets for the specific goals are listed at the start of the section. Each case details the main actions adopted by businesses, and how these contribute to the goal it is grouped under. A summary of the different business actions, and which biodiversity goal(s) they relate to, are listed in Table 1.

### **1.3.2. Further information**

The background to this project is listed in a [Technical Appendix](#), which outlines the methods used to link the biodiversity goals, SDGs, and business actions, and the case selection process.

For more information on this project and future initiatives that relate to this project, please contact Matt Smith: [Matt.Smith@jncc.gov.uk](mailto:Matt.Smith@jncc.gov.uk).

## International Biodiversity Goal A: Mainstreaming biodiversity

Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society

### Corporate Biodiversity Goal: Embed biodiversity into decision-making

#### Business actions

- Raise awareness about biodiversity amongst external stakeholders, e.g. local communities
- Raise awareness about biodiversity internally, e.g. amongst employees
- Biodiversity embedded in corporate strategy
- Biodiversity accounted for against recognised standards
- Avoid operating or investing in areas of high biodiversity value
- Adopt and implement voluntary certification schemes and industry standards
- Adhere to international, regional and national rules that relate to biodiversity and incorporate into strategies
- Monitoring to assess impacts on biodiversity and the outcomes of business actions
- Implement relevant aspects of National Biodiversity Strategies and Action Plans (NBSAPs) in countries of operation
- Invest in solutions that work with nature such as natural infrastructure
- Adopt measures to ensure sustainable use of natural resources

#### Relevant international goals and targets

**SDGs**



**Aichi Targets**



Awareness of biodiversity increased    Biodiversity values integrated    Incentives reformed    Sustainable consumption and production

**CITES** 1.1, 1.2, 1.5, 1.6, 1.7, 1.8, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5

**CMS** 1, 2, 4, 5

**Ramsar** 1, 3, 9, 11, 16, 19

# 1: Rangeland restoration and monitoring of supply chain impacts

<b>Sector(s):</b> Apparel, Mining, Agriculture	<b>Location:</b> Mongolia
<b>Business(es) involved:</b> Kering & Oyu Tolgoi	<b>Biodiversity focus:</b> Rangeland
<b>Partners:</b> Wildlife Conservation Society (WCS); local goat-herding cooperatives; NASA; Stamford University; Natural Capital Project; Sustainable Fibre Alliance	<b>Years:</b> 2015 - Ongoing

Contributions to the SDGs and MEAs	Business action categories
   	<ul style="list-style-type: none"> <li>Monitoring to assess impacts on biodiversity and outcomes of business actions</li> <li>Adopt measures to ensure sustainable use of natural resources</li> <li>Engage in multi-stakeholder dialogue to manage impacts on biodiversity</li> </ul>
 	<ul style="list-style-type: none"> <li>Reduce or eliminate impacts on species and habitats directly affected by operations and/or supply chain</li> </ul>

## Business case for biodiversity and benefits from acting

Luxury goods manufacturer Kering and mining firm Oyu Tolgoi aim to restore 800,000 hectares of degraded rangeland in the Gobi Desert. Kering are seeking to address an operational risk, with 90% of raw and processed cashmere sourced from Mongolia and China. The recent four-fold increase in goat herd size has led to undernourished goats, resulting in coarser hair and a reduction in the quality of raw materials. This intervention aims to help reduce negative pressures on the grassland habitat through improved pasture management, ensuring a higher-quality, reliable and more sustainable source of cashmere that meets the quality threshold required for Kering’s high-end market goods. Rangeland restoration activities form part of an offset scheme used by Oyu Tologoi to mitigate environmental impacts stemming from mining activities, contributing to their commitment to delivering a “Net Positive Impact” for biodiversity. Oyu Tologoi contribute financial and logistical support, such as accommodation for partners, when undertaking rangeland restoration and monitoring activities.

## Business actions for biodiversity

### Embed biodiversity into decision-making

#### Monitoring to assess impacts on biodiversity and the outcomes of business actions

The “Rangelands Production & Biodiversity Model”, developed by Stamford University’s Natural Capital Project, aims to inform monitoring and consequently the effectiveness of the rangeland restoration programme in incentivising herders to keep smaller more productive herds. The model integrates earth observation data from satellites with ecosystem modelling to predict the effects of changing grazing practices on ecosystem services, such as air and water purification and erosion control, as well as biodiversity. The model monitors improvements to habitat quality and determines where interventions will deliver the greatest positive impact. This approach enables Oyu Tologui to: predict the impacts of investments; confirm that Net Positive Impact commitments are met; and ensure that outcomes are accurately and clearly reported to shareholders and other stakeholders. Kering intend to feed outputs from the model into corporate supply chain impacts assessments in the Gobi Desert region.

#### Adopt measures to ensure sustainable use of natural resources

Kering’s 2016 Environmental Profit & Loss (EP&L) accounting revealed that 93% of their total impacts are generated in the supply chain, of which 72% result from the production and processing of raw materials. 80% of all impacts from animal fibre processing stem from cashmere. The rangelands production and biodiversity model will help inform Kering’s EP&L account, enabling the company to manage their dependencies and reduce supply chain impacts. Additional actions to reduce environmental impacts include a ‘regenerated cashmere’ approach which turns cashmere fibres produced from offcuts into new fibres and products. This approach reduces sourcing demand, waste and associated business costs.

### Stakeholder engagement, support and knowledge sharing

#### Engage in multi-stakeholder dialogue to manage impacts on biodiversity

Oyu Tologui and Kering are partnering with WCS, who have two decades of technical expertise working in Mongolia. Through their Extractive Industry Program, WCS provide advice on improving pasture management, adopting wildlife friendly herding practices and improving animal health and productivity.

**Reduce impacts and promote sustainable use in operations and/ or supply chain****Reduce or eliminate impacts on species and habitats directly affected by operations and/ or supply chain**

In response to increased global demand for cashmere, herders are increasingly motivated to keep larger goat herds, favouring volume over the quality of hair their animals produce. This increases grazing demands on grasslands, leading to a decrease in the amount of grass available to feed the animals. The result is undernourished goats producing poor quality hair, garnering lower prices in the market. To compensate for this loss in revenue, herders further increased their herd size, thus exacerbating the problem and further degrading the environment. To counteract this problem, the partnership encourages smaller herd sizes and provides herders with good husbandry practices to reduce negative pressures on the grassland habitat. In return, herders receive a better financial return for their cashmere and Kering receive a higher quality product. Kering are working with the Sustainable Fibre Alliance, a group that includes Mongolian rangeland and animal health experts. Together, they will develop an internationally recognised standard for sustainable cashmere certification that ensures sustainable practices are verified and rewarded by those purchasing from the cashmere market.

**Supporting literature on this case: page 56**

## 2: Integrating biodiversity into a corporate environmental plan

<b>Sector(s):</b> Electronics	<b>Location:</b> Global
<b>Business(es) involved:</b> Toshiba Group	<b>Biodiversity focus:</b> Multiple species and ecosystems
<b>Partners:</b> Multiple	<b>Years:</b> 2009 - Ongoing

Contributions to the SDGs and MEAs	Business action categories
     <p>Awareness of biodiversity increased</p> <p>Biodiversity values integrated</p> <p>Sustainable consumption and production</p>	<ul style="list-style-type: none"> <li>• Biodiversity embedded in corporate strategy</li> <li>• Monitoring to assess impacts on biodiversity and the outcomes of conservation measures</li> <li>• Raise awareness about biodiversity internally, e.g. amongst employees</li> </ul>

### Business case for biodiversity and benefits from acting

The Toshiba Group have developed Biodiversity Guidelines and Environmental Action Plans (EAPs) to examine, understand and manage linkages between their business activities and biodiversity. Toshiba identify operational risks resulting from biodiversity loss, including instability in water and mineral supply, leading to increased costs. They also identify reputational risks and potential for damage to their brand through failure to implement programmes that account for their interdependencies with biodiversity. To comply with global environmental regulations all Toshiba domestic sites are certified by ISO14001 standards. ISO14001 increases stakeholder and customer trust by providing assurances that environmental impacts are being measured, and helps to reduce waste and associated costs. Toshiba have also implemented an Environmental Education and Human Resource Development programme that increases the environmental management abilities of young and mid-level employees and certifies them as ‘eco-style leaders’. These activities raise morale, contribute to team-building and provide professional development for staff members, resulting in a more motivated and skilled work-force.

## **Business actions for biodiversity**

### **Embed biodiversity into decision-making**

#### **Biodiversity embedded in corporate strategy**

In 2009 Toshiba developed Biodiversity Guidelines that inform the organisation's sustainability implementation framework. Toshiba set out their biodiversity commitments through successive EAPs. The commitments are specific, measurable and time-bound, with progress published annually. They enable a coherent approach to biodiversity across the entire Toshiba Group and allow biodiversity risks and opportunities to be regularly reviewed. The targets increase transparency to shareholders and contribute to protecting Toshiba's brand and reputation. The Sixth EAP, running from financial year 2017 to 2020, seeks to implement activities to conserve protected areas, eliminate invasive species from their sites, inform employees about the value of nature, protect rare species in and around production sites and demonstrate Toshiba's contribution to 10 of the Aichi global biodiversity targets.

#### **Biodiversity monitoring to assess impacts on biodiversity and the outcomes of business action**

Toshiba's Fifth EAP led to the creation of ecosystem networks across all 62 of Toshiba Group's business and production sites. The EAP assessed the effects of the company's efforts to protect over 100 rare species with surveys to monitor progress. In Europe for instance, four surveys of bird populations were conducted every year, with the results recorded in Toshiba's biodiversity database and published on their website. Monitoring continues under the Sixth EAP. Restoring biodiversity surrounding operational sites improves brand image and licence to operate, as well as improving the working environment for employees.

#### **Raise awareness about biodiversity internally, e.g. amongst employees**

Toshiba runs environmental education events for employees including: general education courses to understand Toshiba Group's global environmental impacts; ISO 14001 education courses; and specialised education courses with curricula tailored to meet the needs of different occupational roles and areas of expertise. In 2016, Toshiba certified 1,710 employees as 'eco-style leaders'. To achieve the certification, employees had to obtain some form of internal or external environmental licence, such as a certification test for environmental specialists ("Eco-test"), administered by the Tokyo Chamber of Commerce and Industry, or becoming a Toshiba environmental auditor. Investing in developing the environmental skills of a workforce can contribute to staff retention and help create a more productive and capable workforce. Toshiba encourage managers across their suite of production sites to act on their

own initiative and design programmes that consider the most suitable approach for conserving species in a specific site location. Toshiba understand that the benefits that can be derived from ecosystems vary geographically and over time. Toshiba have recognised that a 'one size fits all' approach is not appropriate if they want to maximise return on their investment and succeed in delivering unique opportunities for their staff to engage with, and benefit from, biodiversity conservation activities.

**Supporting literature on this case: page 56**

## International Biodiversity Goal B: Reduce pressures on biodiversity

Reduce the direct pressures on biodiversity and promote sustainable use

### Corporate Biodiversity Goal:

**Reduce impacts and promote sustainable use in operations and/ or supply chain**

#### Business actions

- Reduce or eliminate impacts on species and habitats directly affected by operations and/ or supply chain
- Manage pressures on vulnerable ecosystems
- Adopt measures to ensure sustainable use of natural resources
- Adopt and implement voluntary certification schemes and industry standards
- Prevent the introduction or spread of invasive species

#### Relevant international goals and targets



**CITES** 1.1, 1.4, 1.5, 1.6, 1.7, 3.3, 3.4, 3.5

**CMS** 5, 6, 7, 10

**Ramsar** 2, 3, 4, 5, 6, 7, 9, 13

### 3: Sustainable python skin trade

<b>Sector(s):</b> Wildlife trade, Apparel	<b>Location:</b> Global
<b>Business(es) involved:</b> Kering	<b>Biodiversity focus:</b> Reticulated python
<b>Partners:</b> International Union for the Conservation of Nature (IUCN), International Trade Centre (ITC)	<b>Years:</b> 2013 - Ongoing

Contributions to the SDGs and MEAs	Business action categories
 <p><b>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</b></p> <p>CITES Target 3.5</p>  <p><b>4</b> Sustainable consumption and production</p>	<ul style="list-style-type: none"> <li>• Adopt measures to ensure sustainable use of natural resources</li> </ul>
 <p><b>15 LIFE ON LAND</b></p>  <p><b>5</b> Habitat loss halved or reduced</p>	<ul style="list-style-type: none"> <li>• Reduce or eliminate impacts on species and habitats directly affected by operations and/or supply chain</li> </ul>
 <p><b>17 PARTNERSHIPS FOR THE GOALS</b></p>  <p><b>19</b> Sharing information and knowledge</p> <p>CITES Targets 1.5, 1.6, 1.8, 3.4, 3.5</p>	<ul style="list-style-type: none"> <li>• Engage in multi-stakeholder dialogue to manage impacts on biodiversity</li> <li>• Incorporate best available scientific knowledge and expertise into biodiversity conservation measures</li> </ul>

#### Business case for biodiversity and benefits from acting

One million python skins are exported annually from South East Asia, raising concerns about impacts on python numbers and the sustainability of the entire trade. A key issue has been insufficient evidence on python biology, ecology and trade to make fully informed decisions. The Python Conservation Partnership (PCP) was formed to ensure wild harvesting and farming of pythons is managed in an ecologically sustainable manner, ensuring the long-term viability of the trade and delivering social and economic benefits to local communities. Comprising French luxury manufacturing group Kering, IUCN and ITC, the PCP has used the results of science-based research to inform sustainable management practices. A sustainable skin trade delivers financial benefits by ensuring an uninterrupted supply of high-quality skin, and will likely help minimise operational, reputational, and regulatory risks associated with sourcing python skins for Kering. Ongoing monitoring and management will provide the transparency required for Kering’s sustainability reporting standards.

## Business actions for biodiversity

### Reduce impacts and promote sustainable use in operations and/ or supply chain

#### Adopt measures to ensure sustainable use of natural resources

#### Reduce or eliminate impacts on species and habitats directly affected by operations and supply chain

To assess the sustainability of the python skin trade, researchers examined 4,200 pythons brought to processing facilities in northern and southern Sumatra, over a 20-year period. Baseline and repeat surveys of python numbers, mean body sizes, clutch sizes, sizes at maturity and proportion of giant specimens indicate sustainable population levels. The PCP recommend that harvests be managed using skin size limits rather than quotas to reduce the likelihood of stockpiling and enable more rigorous regulation. Implementing minimum size limits for snakes is designed to prevent the capture of small (immature) snakes. Measurements made on the sizes of traded skins is a simple and effective means to enforce these limits. This will work towards lifting the current European Union (EU) import ban on reticulated python skins from Peninsular Malaysia by supporting and demonstrating a transparent sustainable trading system. Specific requirements for length and width of dried skins will also prevent traders overstretching the raw material resulting in higher quality leather for end buyers. Kering's target is to source 100% of precious skins and furs from verified captive breeding operations or from sustainably managed wild populations by 2016. As of the end of 2015, 41% of skins are sourced sustainably, with efforts to reach 100% ongoing.

### Stakeholder engagement, support and knowledge sharing

#### Engage in multi-stakeholder dialogue to manage impacts on biodiversity

ITC, on behalf of the PCP, investigated the impact of the trade in python skins on livelihoods in Peninsular Malaysia and associated impacts on biodiversity. The study promoted multi-stakeholder dialogue to improve understanding of the stages along the supply chain where these impacts could be better managed. ITC's research was produced in conjunction with the Malaysian Department of Wildlife and National Parks (PERHILITAN) and the IUCN/ Species Survival Commission (SSC) Boa and Python Specialist Group (BPSG). Together, they surveyed 80 trade participants, including hunters, agents, processing facility owners, tanners, exporters and provincial and national regulatory authorities. Questions covered how the trade operates, problem areas, and ways to improve the trade. Hunters reported that the EU ban caused a market shift to Asia where lower prices created a 30% loss in value per skin. This caused hunting to increase in excess of quotas to recoup the resulting income loss. 90% of

hunters said a complete ban on snake skin trade would significantly affected their wellbeing and so support a sustainable solution. The results from this and other studies have informed recommendations to reform python skin supply chain management systems and policy. These include improving traceability, dedicated funding for monitoring and enforcement of sustainable trade, and exploring alternatives to quotas.

**Incorporate best available scientific knowledge and expertise into biodiversity business actions**

The PCP integrates work undertaken by the IUCN/ SSC BPSG and scientists from Indonesia and Malaysia to aid global research into the impacts of the python skin trade, and measures to make it sustainable.

**Supporting literature on this case: page 56**

## 4: Implementing a Quarantine Management System

<b>Sector(s):</b> Oil and gas	<b>Location:</b> Barrow Island, Australia
<b>Business(es) involved:</b> Chevron	<b>Biodiversity focus:</b> Multiple invasive and endemic species
<b>Partners:</b> specialist environmental consultants; government regulatory agencies	<b>Years:</b> 2009 - Ongoing
<b>Contributions to the SDGs and MEAs</b>	<b>Business action categories</b>



Habitat loss halved or reduced



Invasive alien species prevented and controlled



Extinction prevented

- Prevent the introduction or spread of invasive species
- Reduce or eliminate impacts on species and habitats directly affected by operations and/or supply chain
- Monitoring to assess impacts on biodiversity and the outcomes of business actions

### Business case for biodiversity and benefits from acting

Barrow Island is located approximately 60 kilometres off the northwest coast of Western Australia and is designated a nature reserve under national law. The Chevron-operated Gorgon Project started in 2009 and is one of the world’s largest natural gas projects. Increased activity associated with the Gorgon Project risks introducing invasive species onto the Island. The Barrow Island Quarantine Management System (QMS) was established to manage potential impacts of their operations by controlling for invasive species. It enabled Chevron to obtain a licence to operate under strict regulations. The QMS covers the transport of cargo and equipment to and from the island and the movement of 6,000 people living and working on and around it. The QMS has gained international recognition, with Chevron receiving numerous awards. Sharing best-practices has also enhanced their reputation. For example, Chevron have advised the U.S. Department of Defence on effective quarantine management measures and have collaborated with the Australian Antarctic Division to refine their quarantine procedures for scientists and tourists. Additionally, training activities established by Chevron are helping to raise the environmental awareness of employees.

## Business actions for biodiversity

### Reduce impacts and promote sustainable use in operations and/ or supply chain

#### Prevent the introduction or spread of invasive species

According to Chevron, the QMS is the world's largest non-government quarantine initiative. It has identified thirteen distinct pathways through which invasive species may enter the site. The QMS includes 300 procedures, specifications, checklists and guidelines to manage and monitor these potential invasive species introduction pathways, including entry through food, luggage, plant and mobile equipment, marine vessels and helicopter transfers. For instance, all trading vessels must complete a Trading Vessel Quarantine Status Questionnaire and submit supporting documentation before they are admitted access to Barrow Island infrastructure. Screening is carried out pre-border before goods and personnel reach the island, at the border and post-border. Anything found to be non-compliant is either refused access or must be corrected before access is granted. Quarantine training is mandatory for all employees and a quarantine handbook is given to all visitors.

#### Reduce or eliminate impacts on species and habitats directly affected by operations and supply chain

There are 24 species and subspecies unique to Barrow Island. 47 response plans have been formulated in case an invasive species is detected and which may threaten native species and habitats. Since the project began, there have been no introductions or proliferations of invasive species on Barrow Island or in its surrounding waters, but there have been several early detections of invasive species (see details below). The success of the QMS is reflected in Chevron gaining the Australian Petroleum Production and Exploration Association's 2011 Environment Award, the 2011 Environment Award at the Western Australia Engineering Excellence Awards, the 2012 United Nations award for Environmental Best Practice and the 2015 Australian Government's Biosecurity Aware award.

### Embed biodiversity into decision-making

#### Monitoring to assess impacts on biodiversity and the outcomes of business actions

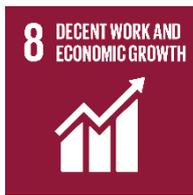
A baseline survey of insects on Barrow Island was conducted before the Gorgon Project began, detecting nearly 2,400 species. Images of all species have been saved in a publicly available online library to aid identification and help in preventing invasive species becoming established. As part of the post-border controls, surveillance is in place to determine the presence or absence of invasive species. More than 70 acoustic sensors are placed on the island, tuned to listen for the Asian house gecko, to protect the native gecko species. Chevron

list amongst their successes detecting germinating grass seed in an excavator radiator, a frog hidden in tarpaulin and a (live) gecko in a tennis racket cover.

**Supporting literature on this case: page 57**

## 5: Adopting certification standards for sustainable resource use

<b>Sector(s):</b> Agriculture	<b>Location:</b> Gabon
<b>Business(es) involved:</b> Olam Palm	<b>Biodiversity focus:</b> Tropical forest
<b>Partners:</b> Republic of Gabon; World Wildlife Fund (WWF); local communities	<b>Years:</b> 2012 - Ongoing
<b>Contributions to the SDGs and MEAs</b>	<b>Business action categories</b>



Habitat loss halved or reduced



Sustainable agriculture, aquaculture and forestry



Sustainable consumption and production

- Reduce or eliminate impacts on species and habitats directly affected by operations and/ or supply chain
- Adopt measures to ensure sustainable use of natural resources
- Adopt and implement voluntary certification schemes and industry standards
- Monitoring to assess impacts on biodiversity and the outcomes of business actions

### Business case for biodiversity and benefits from acting

Olam Palm are a palm oil producer with significant operations in Gabon. Since 2012, Olam have been engaged in a joint venture partnership with the Republic of Gabon to develop palm plantations in line with Roundtable on Sustainable Palm Oil (RSPO) standards. Implementing measures to reduce their operational impacts on tropical forest helps Olam to comply with regulatory requirements under the Government of Gabon’s National Land Use Plan. Adopting RSPO standards also addresses rising consumer expectations regarding sustainable sourcing, particularly concerns about links between palm oil and deforestation. Olam have used their actions in Gabon to demonstrate their claims to be a responsible producer of palm oil. They state that they are the first company in Africa to achieve RSPO’s New Plantings requirements, ensuring that new plantations have no negative impact on primary forest (undisturbed forests of native species). Reducing deforestation also reduces the risks of disruption along the supply chain by helping to protect the ecosystems on which plantation production depends.

## Business actions for biodiversity

### Reduce impacts and promote sustainable use in operations and/ or supply chain

#### Reduce or eliminate impacts on species and habitats directly affected by operations and/ or supply chain

Under RSPO standards, Olam are committed to avoiding operating in areas of High Conservation Value (HCV) and wetland areas. Olam are in charge of approximately 72,000 hectares of HCV areas, of which 85% is formerly logged and the remaining 15% is savannah. Measures include creating river “buffer zones”: strips of vegetation along rivers, streams and lakes that help to stabilise river banks and protect water courses and river ecosystems. Olam are working in partnership with WWF and the Republic of Gabon to help enforce hunting and wildlife laws within their managed areas. An ape management plan was formulated for concessions close to great ape populations and includes relocating wildlife threatened by Olam activities to HCV areas.

#### Adopt measures to ensure sustainable use of natural resources

##### Adopt and implement voluntary certification schemes and industry standards

Olam aim to achieve 100% RSPO certification for their Gabonese plantations by 2021. RSPO commitments are also applied along the supply chain, with the aim of ensuring all producers avoid HCV and peatland. Olam are also participating in GRAINE, a programme run by the Republic of Gabon designed to achieve economic growth whilst protecting biodiversity. The programme is only implemented on land that has undergone HCV assessments, with Olam training smallholders on plantation management techniques. Participating villages benefit from self-sufficiency through subsistence crops of banana and cassava and a stable income source through access to palm export markets.

### Embed biodiversity into decision-making

#### Monitoring to assess impacts on biodiversity and the outcomes of business actions

Olam carry out remote sensing (LiDAR) surveys, Environmental & Social Impact Assessments (ESIA) and HCV assessments, as well as completing New Planting Procedures for their plantation areas in Gabon. Impacts on biodiversity are monitored every 3 to 5 years after a development has begun, measured against pre-development baselines.

#### Supporting literature on this case: page 58

## 6: Reducing the impact of new road infrastructure on local habitats

<b>Sector(s):</b> Construction	<b>Location:</b> United Kingdom
<b>Business(es) involved:</b> Skanska	<b>Biodiversity focus:</b> Multiple species and ecosystems
<b>Partners:</b> Highways England; Environment Agency; Natural England; Leicestershire County Council; landscape architects	<b>Years:</b> 2013 - 2016

Contributions to the SDGs and MEAs	Business action categories
   <p>Habitat loss halved or reduced</p> <p>Ecosystems restored and resilience enhanced</p>	<ul style="list-style-type: none"> <li>Reduce or eliminate impacts on species and habitats directly affected by operations and/or supply chain</li> </ul>
  <p>Sustainable consumption and production</p>	<ul style="list-style-type: none"> <li>Monitoring to assess impacts on biodiversity and the outcomes of business actions</li> </ul>

### Business case for biodiversity and benefits from acting

Skanska are one of the world’s largest construction groups and a leading contractor in the UK. Skanska were commissioned by the UK government to undertake major motorway improvements. This £191 million project represented an important development in easing congestion and reducing the likelihood of accidents on UK roads. A key regulatory requirement for the scheme was to minimise adverse environmental impacts, particularly on the River Avon and the plants and wildlife surrounding the site. Skanska pledged to go beyond regulatory requirements by achieving a net gain in biodiversity. They used construction and waste materials to create habitats for otters, newts and beetles, amongst other species. Skanska recognise that their projects have a negative impact on biodiversity, but through their “net zero” commitment are creating opportunities to enhance and restore habitats for local wildlife. This project is primarily ensuring that Skanska meet regulatory requirements but also demonstrates sectoral leadership in sustainability, enhancing the company’s reputation.

## Business actions for biodiversity

### Reduce impacts and promote sustainable use in operations and/ or supply chain

#### Reduce or eliminate impacts on species and habitats directly affected by operations and/ or supply chain

Skanska has undertaken a variety of biodiversity impact mitigation measures, to address the impact of clearing approximately 4000m<sup>3</sup> of vegetation from the motorway expansion. Skanska took measures to minimise impacts to species during the construction work, such as: installing a bat screen before removing hedge lines along bat movement routes; and closing access to badger setts during construction to avoid disturbing badgers. Skanska also undertook various restoration activities, including creating habitat for otters (e.g. artificial burrows and ledges to improving the connectivity of otter territories), Great Crested Newts (e.g. creating a newt pond area) and installing 24 bat and 100 bird nesting boxes. Skanska also created 17.5 hectares of grassland, 1 hectare of wetland and 12 hectares of tree plantations to attract and support local wildlife. Skanska involved UK government agencies (Environment Agency, Natural England), the local authority (Leicestershire County Council) and landscape architects to ensure that the mitigation and restoration measures were successfully deployed.

### Embed biodiversity into decision-making

#### Monitoring to assess impacts on biodiversity and the outcomes of business actions

Following UK environmental regulatory requirements, Skanska conducted ecological surveys before work commenced, identifying the surrounding land as suitable habitat for many European, national and locally important species of wildlife which had the potential to be adversely affected by the project. Interim ecological surveys were undertaken to monitor the effects of the construction works and ascertain whether habitat creation was meeting Skanska's biodiversity objective. Within a year, otters were found to be using newly installed habitats, great crested newts were present in new ponds and over 70% of the newly installed nest boxes were inhabited by bats and birds. Following completion of the scheme in 2016 Skanska claimed that the project achieved net biodiversity gain.

**Supporting literature on this case: page 58**

## International Biodiversity Goal C: Safeguard biodiversity

To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity

### Corporate Biodiversity Goal: Improve the status of biodiversity

#### Business actions

- Establish private protected areas, or support establishment of public protected areas
- Implement ecosystem restoration actions
- Invest in solutions that work with nature, such as natural infrastructure
- Reduce or eliminate impacts on species and habitats directly affected by operations and/ or supply chain
- Measures to prevent impacts on genetic diversity

#### Relevant international goals and targets

<b>SDGs</b>	       
<b>Aichi Targets</b>	   <p>Protected areas increased and improved</p> <p>Extinction prevented</p> <p>Genetic diversity maintained</p>
<b>CITES</b>	1.1, 1.4, 1.5, 1.6, 1.7, 1.8, 2.2, 2.3, 3.2, 3.3, 3.4, 3.5
<b>CMS</b>	8, 10, 12
<b>Ramsar</b>	5, 6, 7, 8, 11

## 7: Implementing an airport Biodiversity Action Plan

<b>Sector:</b> Transport	<b>Location:</b> UK
<b>Business(es) involved:</b> Gatwick Airport	<b>Biodiversity focus:</b> Multiple species and ecosystems
<b>Partners:</b> Gatwick Greenspace Partnership (GGP), Sussex Wildlife Trust, Surrey Bat Group	<b>Years:</b> 2007 - Ongoing

Contributions to the SDGs and MEAs	Business action categories
   <p>Sustainable consumption and production</p> <p>Extinction prevented</p>	<ul style="list-style-type: none"> <li>• Implement ecosystem restoration actions</li> <li>• Monitoring to assess impacts on biodiversity and the outcomes of business actions</li> </ul>
   <p>Awareness of biodiversity increased</p> <p>Sharing information and knowledge</p>	<ul style="list-style-type: none"> <li>• Raise awareness about biodiversity amongst external stakeholders, e.g. local communities</li> </ul>
	<ul style="list-style-type: none"> <li>• Engage in multi-stakeholder dialogue to manage impacts on biodiversity</li> </ul>

### Business case for biodiversity and benefits from acting

London Gatwick is the second largest airport in the UK. In addition to airport operations, it is also responsible for 185 hectares of “non-operational” land. This includes woodland, grassland, ponds, scrub and hedgerows and which are home to some rare and protected plant and animal species. This green space is highly valued by the local community and some areas are protected by UK government planning regulations. Gatwick Airport’s Biodiversity Action Plan (BAP) covers 75 hectares of this land and outlines monitoring, enhancement and volunteer activities. Gatwick use the BAP to demonstrate how they engage with the local community and other stakeholders and account for the impacts of their operations. The BAP also helped to substantiate Gatwick’s case in the planning application for building a second runway. Protecting biodiversity was a key consideration, with Gatwick’s plans assessed against the impacts and mitigation measures they had in place, as detailed in the BAP.

## **Business actions for biodiversity**

### **Improve the status of biodiversity**

#### **Implement ecosystem restoration actions**

The Gatwick Airport BAP involves various plans to improve the condition of ponds, grasslands and woodlands. Measures included: removing scrub; restoring ponds; creating new habitats for multiple species, including beetles, solitary bees and butterflies; and reducing invasive plant species such as Himalayan Balsam. These and other activities have contributed to the return of protected species such as the Great Crested Newt. Some restoration activities help to meet planning requirements, for example, wild flower seeding contributes to flood alleviation. Gatwick Airport's ecosystem restoration efforts have been recognised by achieving the Wildlife Trusts' Biodiversity Benchmark Award in 2014.

### **Embed biodiversity into decision-making**

#### **Monitoring to assess impacts on biodiversity and the outcomes of business actions**

Gatwick Airport's first BAP set specific objectives for grassland, hedgerow, wetland and woodland, as well as general objectives for the overall site, for instance establishing a database of species across the sites being managed. Each objective contains a series of measurable targets, called Biodiversity Performance Indicators (BPIs), such as for establishing numbers of habitats for specific species, trees planted and the size of area restored or reclaimed from invasive species. Ecological baseline surveys (averaging 25 a year) were undertaken for species and habitats in 2012, and were repeated in 2017 to assess progress against the BPIs. Progress against objectives were recorded in Gatwick Airport's BAP five-year review, and a new five-year BAP is carrying forward recommendations for future biodiversity activities. Gatwick have employed a full-time ecologist to help conduct this work.

#### **Raise awareness about biodiversity amongst external stakeholders, e.g. local communities**

Gatwick Airport have engaged in various initiatives designed to increase understanding of biodiversity amongst their employees and the local community. A Gatwick Airport wildlife officer leads a corporate and community volunteering programme, to undertake habitat management activities. "Gatwick Goes Wild" events, designed to bring local people of all ages closer to the wildlife around the airport, have been held in 2017 and 2018. Other activities include: events for local schools; a site tour for Sussex University conservation students; support for a Bumblebee Conservation Trust training day; and a Gatwick Wildlife Recording day. A Gatwick Biodiversity blog provides website updates on the latest activities and

discoveries across the areas covered by the BAP. These activities can also go towards increasing the reputation of the airport amongst local communities by providing accessible greenspace that not only provides recreational and learning opportunities but also contributes to minimising associated air and noise pollution.

### Stakeholder engagement, support and knowledge sharing

#### **Engage in multi-stakeholder dialogue to manage impacts on biodiversity**

Gatwick Airport consulted local conservation groups and experts in designing the first BAP, alongside their landscape contractor. Gatwick Airport partners with the landscape contractor and the Gatwick Greenspace Partnership (GGP), part of Sussex Wildlife Trust, on habitat management and species surveys and the Sussex Wildlife Trust and Surrey Bat Group in delivering awareness raising activities.

**Supporting literature on this case: page 58**

## 8: Restoring peatland to deliver clean water

<b>Sector(s):</b> Utilities	<b>Location:</b> United Kingdom
<b>Business(es) involved:</b> Yorkshire Water	<b>Biodiversity focus:</b> Peatland
<b>Partners:</b> Yorkshire Peat Partnership, Environment Agency, Natural England, National Farmers Union (NFU), the Moorland Association	<b>Years:</b> 2003 - Ongoing

Contributions to the SDGs and MEAs	Business action categories
      <p>Biodiversity values integrated      Ecosystems and essential services safeguarded      Ecosystems restored and resilience enhanced</p>	<ul style="list-style-type: none"> <li>• Implement ecosystem restoration actions</li> <li>• Invest in solutions that work with nature, such as natural infrastructure</li> <li>• Biodiversity embedded in corporate strategy</li> <li>• Engage in multi-stakeholder dialogue to manage impact</li> </ul>

### Business case for biodiversity and benefits from acting

Yorkshire Water is a major land owner in Yorkshire, a region that includes the largest area of lowland raised peat in England. Over the last 20 years Yorkshire Water have found that the quality of the raw (i.e. untreated) water that they collect has been deteriorating. Yorkshire Water cite pollution, unsustainable management practices and climate change as contributing to this change. Damage to peatland and consequent soil erosion contributes to colour pollution and sediment in collected raw water, increasing the cost of treating drinking water. Yorkshire Water recognise the poor condition of Yorkshire peatland, its importance as a unique UK ecosystem and its role as both a carbon sink and in improving raw water quality. Consequently, restoring peatlands have been integrated into their Biodiversity Action Plan (BAP) and catchment management programme. These actions contribute to Yorkshire Water meeting regulatory duties to manage catchments and biodiversity. They also provide opportunities to engage with diverse stakeholders and demonstrate their efforts to make a positive contribution to the natural environment.

## **Business actions for biodiversity**

### **Improve the status of biodiversity**

#### **Implement ecosystem restoration actions**

Yorkshire Water are engaged in the multi-agency Yorkshire Peat Partnership to restore up to 3,250 hectares of degraded peatland. Restoration activities include installing bunds (containment areas) to store water and blocking-up gullies (channels of water eroding the peatland) and grips (drainage ditches) that contribute to lowering the water table, drying-out the peat and leading to soil erosion. The work has also involved seeding areas with crops such as grasses to stabilise the surface and finally covering them with heather brash (cuttings from old patches of heather). These measures encourage the growth of specialist plants found on peatland, such as sphagnum moss and cotton grass, which aid water treatment by acting as a natural filter.

#### **Invest in solutions that work with nature such as natural infrastructure**

Restoring peatland is central to Yorkshire Water's catchment management plan. More peatland, and specifically sphagnum moss, reduces soil erosion, and consequently decreases sediment in water. Using natural infrastructure makes it easier and more cost effective to protect drinking water quality. A future moorland management programme will deliver investigative and implementation activities in the catchments where colour pollution is likely to overwhelm water treatment works capacity in the longer term. They will also investigate the presence of nitrate and other pollutants that present risks to groundwater sources.

### **Embed biodiversity into decision-making**

#### **Biodiversity embedded in corporate strategy**

Yorkshire Water's Biodiversity Strategy commits them to taking responsibility for the water environment and ensuring "excellent" river and coastal catchments. Their BAP includes targets for management of protected sites, woodland and river habitat, wildlife management, invasive species, and catchment management. Targets include that at least 95% of the protected land is to be in 'recovering' or 'favourable' condition by 2020 (as defined by Natural England, the responsible environmental agency). 99.97% of the land was assessed as recovering or better in 2018. Other targets include restoring 150 hectares of ancient woodland (trees standing since before 1600 AD) by March 2020. The work involves replacing invasive shrubs and trees with native species and enabling the woodland to return to a point close to its original condition.

## Stakeholder engagement, support and knowledge sharing

### **Engage in multi-stakeholder dialogue to manage impacts on biodiversity**

Yorkshire Water's catchment management plans were developed in conjunction with multiple stakeholders. Since 2013, they have partnered with UK government agencies (the Environment Agency and Natural England) and landowners (e.g. represented by the NFU), to develop and implement Safeguard Zones and supporting Safeguard Zone Action Plans. These zones and plans are being established to better protect the catchment areas that influence the quality of water collected for drinking water. Yorkshire Water have committed to a Catchment Based Approach, a UK government-based initiative spanning the whole of England and designed to engage people and groups from across society to improve water quality. Other partners Yorkshire Water work with include the Moorland Association.

**Supporting literature on this case: page 59**

## International Biodiversity Goal D: Benefits for all

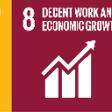
Enhance the benefits to all from biodiversity and ecosystem services

### Corporate Biodiversity Goal: Enhance the benefits society draws from biodiversity

#### Business actions

- Account for the needs of indigenous groups, women, the poor, marginalised and vulnerable groups, and individuals in business actions
- Implement ecosystem restoration actions
- Reduce or eliminate impacts on species and habitats directly affected by operations and/ or supply chain
- Adhere to or incorporate international, regional and/ or national rules relating to biodiversity
- Ensure access to, and benefit sharing from, natural resources while operating within sustainable limits

#### Relevant international goals and targets

<b>SDGs</b>	        
	  
<b>Aichi Targets</b>	  
<b>CITES</b>	1.3, 1.5, 3.3, 3.4, 3.5
<b>CMS</b>	11
<b>Ramsar</b>	8, 11, 12

## 9: Securing natural resources by supporting sustainable livelihoods

<b>Sector(s):</b> Manufacturing	<b>Location:</b> Brazil
<b>Business(es) involved:</b> International Association of Violin and Bow Makers (EILA)	<b>Biodiversity focus:</b> Pernambuco Tree (aka Pau Brasil or Brazilwood)
<b>Partners:</b> Multiple (see case details)	<b>Years:</b> 2000 - Ongoing

Contributions to the SDGs and MEAs	Business action categories
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Sustainable consumption and production



Ecosystems and essential services safeguarded



Ecosystems restored and resilience enhanced



Access to and sharing benefits from genetic resources

- Account for the needs of indigenous groups, women, the poor, marginalised and vulnerable groups, and individuals in business actions
- Ensure access to, and benefit sharing from, natural resources while operating within sustainable limits
- Implement ecosystem restoration actions
- Adhere to or incorporate international, regional and/ or national rules relating to biodiversity

### CITES Target 1.1



Sharing information and knowledge

- Engage in multi-stakeholder dialogue to manage impacts on biodiversity

### Business case for biodiversity and benefits from acting

The Pernambuco tree, the source for bows for violins, violas and cellos for over 250 years, is only found in parts of Brazil’s Atlantic Coastal Forest. Fragmentation of this forest has led to Pernambuco being classed as endangered by the IUCN and listed on Appendix II of CITES, meaning its trade is strictly controlled. Responding to fears about future supply, EILA and other bow makers formed the International Pernambuco Conservation Initiative (IPCI). The IPCI’s aim is to ensure the future of stringed instrument music by promoting sustainable use of the Pernambuco tree. IPCI has adopted a community-based approach, funding research and reforestation by locally based organisations to ensure that local communities benefit. These actions help demonstrate EILA’s commitments to act responsibly regarding a rare and endangered species.

## **Business actions for biodiversity**

### **Enhance the benefits society draws from biodiversity**

#### **Account for the needs of indigenous groups, women, the poor, marginalised and vulnerable groups, and individuals in business actions**

IPCI's aims include working with local communities to improve their lives through music and work opportunities, as well as conservation. For instance, as part of their restoration efforts, IPCI worked in partnership with the Landless Workers Movement (MST), an organization representing and supporting Brazil's landless people, to enable local residents to be hired planting seedlings in three MST settlements.

#### **Ensure access to, and benefit sharing from, natural resources while operating within sustainable limits**

IPCI are exploring opportunities to cooperate with cacao farmers in Bahia, Brazil to develop a broader-scale reforestation, sustainable use and livelihoods project. A pilot project was established to identify and characterise the economic benefits of integrating pernambuco and other native species into farm systems. The project involved using pernambuco as an overstory to provide shade for cacao (a shade-loving plant), providing farmers with a source of income and an incentive to maintain the trees. The IPCI's work has been praised by CITES for addressing links between conservation and poverty.

#### **Implement ecosystem restoration actions**

IPCI have planted over 150,000 pernambuco seedlings in Bahia. Half of the seedlings will be sold commercially when mature, 30% will be conserved and 20% will be maintained for civic and cultural benefit. IPCI donated seeds to the Ecological Corridor Project, a national forest in the Brazilian state of Espiritu Santo where pernambuco is being reintroduced and to a local Bahian project called Projeto Tamar. IPCI funded a study that measured the population dynamics of pernambuco trees in 139 different sites and 14 forest fragments. The DNA of pernambuco trees was studied. Phenology (flowering) studies in 12 Brazilian municipalities resulted in trees being geo-referenced and registered as mother trees. A database has been established that includes maps, scientific papers and a list of endemic flora species in Bahian rainforests.

## Embed biodiversity into decision-making

### **Adhere to international, regional and national rules that relate to biodiversity and incorporate into strategies**

Pernambuco is classified as endangered, listed in CITES Appendix II and is recognised as a threatened plant species under Brazilian law. Although pernambuco for producing bows is regulated, its harvesting is strictly controlled with all trade from Brazil only allowed from artificially propagated specimens. IPCI and member bow-makers adhere to these rules on pernambuco trade.

## Stakeholder engagement, support and knowledge sharing

### **Engage in multi-stakeholder dialogue to manage impacts on biodiversity**

IPCI members include musicians, teachers, stringed-instrument makers and conservationists. The IPCI has developed partnerships with multiple stakeholders, including the CEPLAC, a Brazilian government agency operating under the responsibility of the Minister of Agriculture in Brazil. IPCI formed the Programa Pau-Brasil with CEPLAC to enable a reforestation project to get underway. IPCI also engages with scientific bodies within and outside Brazil, agricultural scholars and various Brazilian universities to help enact restoration activities. IPCI sponsors yearly workshops where bow makers, NGOs, government and experts in Pernambuco and forestry gather to share lessons learned and plan future initiatives. Engaging farmers, locals, national conservation NGOs, as well as experts and agencies in Brazil addresses suspicions regarding IPCI's intentions and doubts surrounding whether the scheme will benefit Brazil.

**Supporting literature on this case: page 59**

## 10: Ensuring farmer livelihoods whilst conserving habitats

<b>Sector(s):</b> Agriculture	<b>Location:</b> Cambodia
<b>Business(es) involved:</b> IBIS Rice	<b>Biodiversity focus:</b> Giant Ibis, deciduous forest
<b>Partners:</b> Wildlife Conservation Society (WCS), Cambodian rice farmers, Cambodian Government	<b>Years:</b> 2009 - Ongoing

Contributions to the SDGs and MEAs	Business action categories
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- Account for the needs of indigenous groups, women, the poor, marginalised and vulnerable groups, and individuals in business actions
- Reduce or eliminate impacts on species and habitats directly affected by operations and/or supply chain
- Ensure access to, and benefit sharing from, natural resources while operating within sustainable limits
- Engage in multi-stakeholder dialogue to manage impacts on biodiversity

### Business case for biodiversity and benefits from acting

IBIS Rice is a not-for-profit enterprise working with rice farmers in Cambodia's northern plains. It aims to help local farmers preserve their environment whilst also earning a sustainable livelihood. Dependence upon growing rice, cutting trees from the forest and hunting wildlife puts farmers in competition with species like the Giant Ibis, Cambodia's national bird, which is classified as critically endangered. IBIS Rice pay a premium for long grain jasmine rice and then sells various products to Cambodian and international markets. In return, farmers affiliated with IBIS Rice act as guardians of 500,000 hectares of national park area, helping to protect over 60 threatened and endangered species in an area previously threatened by loggers and poachers. Farmers can also earn extra income from acting as guides for visitors who wish to see the Giant Ibis. The Giant Ibis has begun to return since the scheme's inception.

## **Business actions for biodiversity**

### **Enhance the benefits society draws from biodiversity**

#### **Account for the needs of indigenous people, women, the poor, and vulnerable groups/ individuals in conservation measures**

Generations of farmers have worked the land and many indigenous people live in the national parks where IBIS Rice operates. Farmers sign-up to a zero deforestation, zero poaching protocol, pledging not to expand their fields, to grow one rice crop a year and to not engage in hunting, logging, or using pesticides and herbicides. In return, IBIS Rice helps farmers secure land rights and pays up to 50% above market price for the rice they produce. IBIS Rice processes, packages, markets and sells their products at a premium thus providing farmers access to markets. Farmers can generate additional income by guiding visitors to see the Giant Ibis and other birds.

#### **Reduce/ eliminate impacts on species/ habitats directly affected by operations/ supply chain**

IBIS Rice works only inside national parks and participating villagers allow their fields to be mapped by satellite to detect deforestation. By securing farmers' agreements to use environmentally friendly farming methods, follow land-use plans that limit deforestation, and to stop hunting wildlife, IBIS Rice is helping to reduce pressures on the Giant Ibis and its habitats, as well as several other threatened species.

#### **Ensure access to and benefit sharing of natural resources, within sustainable limits**

Through the agreements on land rights and payments for rice, IBIS Rice is helping to increase the incomes of 1,000 rice-farming families across 12 villages. Previously, farmers had no formal land rights and their income came from rice growing, forestry, and hunting. Agreements are enforced by locally elected natural resource management committees, composed of representatives from the village in question, designed to ensure a high degree of 'local ownership' of the scheme. The rice is certified as Wildlife Friendly by the Wildlife Friendly Enterprise Network (WFEN). This certification denotes that the product integrates conservation and local development needs. WFEN is founded on ensuring biodiversity protection whilst also delivering economic wellbeing. It promotes community level economic development by linking income opportunities to practices that account for biodiversity.

## Stakeholder engagement, support and knowledge sharing

### **Engage in multi-stakeholder dialogue to manage impacts on biodiversity**

WCS and IBIS Rice farmers worked with the government to establish agreements giving villagers secure legal rights to their land. A community training outreach programme is in place to promote and encourage the other villagers to join the project.

**Supporting literature on this case: page 60**

## 11: Sustainable trade in marine resources

<b>Sector(s):</b> Wildlife trade	<b>Location:</b> Worldwide
<b>Business(es) involved:</b> Ornamental Aquatic Trade Association (OATA)	<b>Biodiversity focus:</b> Rare fish species
<b>Partners:</b> the Indonesian Nature Foundation (LINI)	<b>Years:</b> 2016 - Ongoing

Contributions to the SDGs and MEAs	Business action categories
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- Reduce or eliminate impacts on species and habitats directly affected by operations and/or supply chain
- Ensure access to, and benefit sharing from, natural resources while operating within sustainable limits
- Adopt measures to ensure sustainable use of natural resources

**CITES Targets 1.1, 1.6**

### Business case for biodiversity and benefits from acting

The trade in wild caught ornamental fish, corals and invertebrates provides a livelihood for communities in remote areas, which often have fewer employment opportunities. OATA was established to promote the interests of the ornamental aquatic trade industry in the UK, with a focus on sustainability, legality, and high welfare standards. The overall impact of the industry on biodiversity appears to be minor. According to OATA, the ornamental marine industry represents a maximum of 0.0001% of fish caught globally and quotas and regulations along supply chains can also contribute to reducing impacts, with additional controls for species listed under CITES. However, poor fishing practices can be extremely damaging to marine ecosystems such as coral reefs, threatening supply chains and local livelihoods. Regulations in countries where fish are sourced may be inadequate to control for these impacts, presenting further risks to the sustainability of trade in rare species. Besides operational risks, failure to control for impacts presents a reputational risk for the industry. To ensure that the trade remains sustainable, businesses in the UK work with local stakeholders to promote best practice and to control the scale of harvesting.

## Business actions for biodiversity

### Enhance the benefits society draws from biodiversity

#### Ensure access to, and benefit sharing from, natural resources while operating within sustainable limits

Buying fish from sellers who follow sustainable management plans can aid conservation and support local communities. For instance, in San Martine Tipishca, a village within Peru's Pacaya-Samiria National Reserve, the freshwater arowana fish was originally caught for food, resulting in severe population decline. Fishermen now follow sustainable management plans to manage harvesting for the ornamental fish trade. To do this they estimate the number of breeding specimens and the number of offspring ('fingerlings') that can be safely collected each season.

#### Reduce or eliminate impacts on species and habitats directly affected by operations and supply chain

UK companies are working with their suppliers and local charities to tackle poor practices that threaten the health of coastal marine ecosystems. Ornamental fishing provides an important source of income for thousands of coastal communities in Indonesia for example, but is often based on unsustainable practices, such as squirting cyanide in coral reefs. Cyanide stuns fish hiding in the coral and makes collection easier, but it damages the reefs and contributes to high fish mortality rates along the supply chain. In response, UK companies are working with LINI to develop alternative, non-lethal fishing methods.

### Embed biodiversity into decision-making

#### Adopt measures to ensure sustainable use of natural resources

Although OATA estimate the overall impact of the trade to be relatively small, some studies indicate a high cumulative mortality rate of ornamental fish along the supply chain (up to 73%). LINI note that stock mortalities remain high prior to export due to poor post-harvest handling techniques. OATA asserts that training in best practice regarding collection, handling, transport, holding and shipping can reduce mortalities to below 1% from exporters to importers. Consequently, UK companies are working with their supply chains to provide training in best practice.

**Supporting literature on this case: page 60**

## International Biodiversity Goal E: Enhance implementation

Enhance implementation through participatory planning, knowledge management and capacity building

### Corporate Biodiversity Goal: Stakeholder engagement, support and knowledge sharing

#### Business actions

- Implement relevant aspects of National Biodiversity Strategies and Action Plans (NBSAPs) in countries of operation
- Incorporate traditional knowledge into strategic planning for sustainable management of biodiversity
- Engage in multi-stakeholder dialogue to manage impacts on biodiversity
- Incorporate best available scientific knowledge and expertise into measures regarding biodiversity
- Share biodiversity monitoring data to assist decision-making and adaptive management
- Support third-party biodiversity initiatives

#### Relevant international goals and targets

										
<b>SDGs</b>										
<b>Aichi Targets</b>	 Biodiversity strategies and action plans	 Traditional knowledge	 Sharing information and knowledge	 Mobilizing resources from all sources						
<b>CITES</b>	1.1, 1.3, 1.4, 1.5, 1.6, 1.8, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 3.5									
<b>CMS</b>	13, 14, 15, 16									
<b>Ramsar</b>	8, 10, 14, 16, 17, 19									

## 12: Collaborating to reduce impacts of a housing development

<b>Sector(s):</b> Construction	<b>Location:</b> United Kingdom
<b>Business(es) involved:</b> Berkeley Group	<b>Biodiversity focus:</b> Multiple species and ecosystems
<b>Partners:</b> Natural England, Hart District Council	<b>Years:</b> 2003 - 2013

Contributions to the SDGs and MEAs	Business action categories
  	<ul style="list-style-type: none"> <li>Engage in multi-stakeholder dialogue to manage impacts on biodiversity</li> <li>Incorporate best available scientific knowledge and expertise into measures regarding biodiversity</li> <li>Adhere to/ incorporate international/ regional/ national rules relating to biodiversity</li> </ul>
  	<ul style="list-style-type: none"> <li>Implement habitat/ ecosystem restoration</li> </ul>

### Business case for biodiversity and benefits from acting

In 2003, Berkeley Group gained planning permission to build 300 homes in Hampshire, United Kingdom. The Edenbrook Village development plan was complicated by neighbouring heathland being designated as a protected area under European bird legislation. The development was identified as posing a potential disturbance to rare ground nesting birds by adding to the number of people visiting the heathland or by increasing cat predation. Berkeley cooperated with local authorities and national agencies to design a mitigation strategy to reduce visitor pressure on the heathland and committed to create Edenbrook Country Park. The park was designed to go beyond regulatory requirements by establishing new habitats, attracting new species and providing a new recreational area for the local community. Berkeley have used Edenbrook to demonstrate positive contributions to both biodiversity and the quality of life of the local community, supporting their claims to be a housebuilder who act responsibly. They have also used the park to help advertise and sell the housing development as a desirable area to live.

## Business actions for biodiversity

### Stakeholder engagement, support and knowledge sharing

#### Engage in multi-stakeholder dialogue to manage impacts on biodiversity

The Berkeley Group discussed the project aims from the outset with the government agency (Natural England) responsible for considering impacts on biodiversity and the local authority (Hart District Council) responsible for approving planning. The three organisations agreed project objectives and timings, joint working arrangements regarding dedication of resources and allocation of roles, and committed to regular team meetings. The relationship lasted over ten years, from the design and management plan formulated by Berkeley through to granting planning permission and finally finishing the Country Park and home-building.

#### Incorporate best available scientific knowledge and expertise into measures regarding biodiversity

Natural England provide advice to businesses on development proposals where biodiversity may be affected. In this case, they advised on design and management and on what the country park needed to provide in order to reduce effects on the protected area.

### Embed biodiversity into decision-making

#### Adhere to international, regional and national rules that relate to biodiversity and incorporate into strategies

The Edenbrook development was conducted using a framework agreed under EU rules on protected areas. The framework included a 400m exclusion zone around the protected area and proposed that new developments between 400m and 5km from the protected area must provide special mitigation measures, such as providing residents with suitable alternative natural green space away from the protected area and its nesting birds and plants.

### Enhance the benefits society draws from biodiversity

#### Implement ecosystem restoration actions

£2 million was invested in habitat creation and public recreation. Mitigation measures included planting 2.7km of hedgerow, seeding 4 hectares of meadow, building a bat house, pond-dipping platform, a bird hide and an amphitheatre. 2 hectares of new ponds and wetlands were used to create a network of waterways, provide habitat for birds and invertebrates and improve drainage and filter surface water from the development. Enhancing greenspace can also increase the desirability of housing developments to potential buyers.

**Supporting literature on this case: page 60**

## 13: Financing sustainable agriculture

<b>Sector(s):</b> Banking, Agriculture	<b>Location:</b> Brazil, Indonesia
<b>Business(es) involved:</b> Rabobank	<b>Biodiversity focus:</b> Forest (multiple types)
<b>Partners:</b> United Nations Environment Programme (UNEP), World Wildlife Fund (WWF)	<b>Years:</b> 2017 - Ongoing

Contributions to the SDGs and MEAs	Business action categories
   <p>Sustainable consumption and production</p> <p>Sharing information and knowledge</p>	<ul style="list-style-type: none"> <li>Engage in multi-stakeholder dialogue to manage impacts on biodiversity</li> <li>Support third-party conservation initiatives</li> </ul>
    <p>Reduce or eliminate impacts on species and habitats directly affected by operations and/or supply chain</p> <p>Adopt measures to ensure sustainable use of natural resources</p>	<ul style="list-style-type: none"> <li>Reduce or eliminate impacts on species and habitats directly affected by operations and/or supply chain</li> <li>Adopt measures to ensure sustainable use of natural resources</li> </ul>
  <p>Ecosystems and essential services safeguarded</p>	<ul style="list-style-type: none"> <li>Account for the needs of indigenous groups, women, the poor, marginalised and vulnerable groups, and individuals in business actions</li> </ul>

### Business case for biodiversity and benefits from acting

Rabobank is an international financial services provider and one of the world's leading food and agricultural banks. Rabobank and UNEP formed a Partnership for Forest Protection and Sustainable Agriculture, providing USD 1 billion to improve agricultural output and rural livelihoods in developing countries whilst also promoting forest protection and reforestation. This partnership aligns with Rabobank's reputation and ambition to be a socially responsible lender and support sustainable land use. By supporting farmers to transition to sustainable land use, Rabobank is helping create more sustainable and resilient supply chains (both environmentally and operationally), which could help increase the stability of future investments. By financing farmers in developing countries, Rabobank is supporting the improved operational efficiency of farming practices, helping to protect biodiversity whilst maintaining or increasing yield for local farmers and smallholders.

## Business actions for biodiversity

### Stakeholder engagement, support and knowledge sharing

#### Engage in multi-stakeholder dialogue to manage impacts on biodiversity

The Partnership for Forest Protection and Sustainable Agriculture shares knowledge on agri-finance and engage with a wide range of stakeholders in structuring new financing deals between governments, multilateral organisations, NGOs and other impact investors. For instance, Rabobank are collaborating with the WWF in Brazil to monitor the effectiveness of Integrated Crop-Livestock-Forest (ICLF) systems. These systems are designed to combine productivity growth with natural resource conservation.

#### Support third-party biodiversity initiatives

Rabobank is providing up to USD 1 billion in Commercial Loans and Guarantees to clients involved in sustainable agricultural production, processing or the trade of soft commodities and who adhere to provisions regarding forest protection, restoration and the involvement of smallholders. There is also a facility for other corporate partners or impact investors to contribute to the fund. Rabobank will promote the partnership goals among its clients and business partners.

### Reduce impacts and promote sustainable use in operations and/ or supply chain

#### Adopt measures to ensure sustainable use of natural resources

Rabobank are prioritising financing of projects resulting in non-conversion of forests and savannahs with a High Conservation Value (HCV) and/or High Carbon Stock (HCS) forest and promoting ICLF systems. ICLF systems come in different forms, depending upon the mix of crop, livestock or forest. However, all rest on the principle of integrating crop, livestock and forest components in rotation, combination or succession within the same area. The ICLF enables agricultural production but not at the cost of exhausting the soil on which it depends, resulting in sustainable output.

#### Reduce or eliminate impacts on species and habitats directly affected by operations and/ or supply chain

The partnership is aiming to achieve a deforestation-free supply chain, promote reforestation and agroforestry and enhance soil fertility. ICLF is designed to enhance climate change resilience and/ or protect biodiversity whilst maintaining or substantially increasing yield for local farmers and smallholders.

**Account for the needs of indigenous groups, women, the poor, marginalised and vulnerable groups, and individuals in business actions**

To qualify for funding, projects must contribute to sustainable livelihoods, including promoting gender equality, eradicating child labour, promoting fair labour and wages, and alleviating poverty. Alongside reducing impacts on biodiversity and ecosystems, ICLF systems are designed to increase incomes and improve social conditions in rural communities through sound agricultural practices, reclaiming degraded land and boosting land and labour productivity. Rabobank will provide grants for technical assistance (e.g. to support training programmes), soft (i.e. low interest) loans and reduce risks for farmers through loans, guarantees and insurance.

**Supporting literature on this case: page 60**

## 14: Integrating scientific expertise into restoration actions

<b>Sector(s):</b> Mining	<b>Location:</b> Brazil
<b>Business(es) involved:</b> Norsk Hydro	<b>Biodiversity focus:</b> Tropical rainforest
<b>Partners:</b> University of Oslo, Emilio Goeldi Pará Museum, Federal University of Pará, Federal University of Amazonia	<b>Years:</b> 2013 - Ongoing

### Contributions to the SDGs and MEAs

### Business action categories



Genetic diversity maintained



Sharing information and knowledge



Mobilizing resources from all sources

- Engage in multi-stakeholder dialogue to manage impacts on biodiversity
- Incorporate best available scientific knowledge and expertise into measures regarding biodiversity



Sustainable consumption and production



Ecosystems restored and resilience enhanced

- Implement ecosystem restoration actions
- Monitoring to assess impacts on biodiversity and the outcomes of business actions

### Business case for biodiversity and benefits from acting

Norsk Hydro ('Hydro') operate in 40 countries, mining, refining and recycling aluminium. Hydro's bauxite mine in the Paragominas Municipality, Brazil is in an area previously deforested and degraded by logging and cattle farming. Strip mining to extract the bauxite leads to further vegetation being removed. Hydro formed a Biodiversity Research Consortium (BRC) to develop a more effective, science-based approach to rehabilitate degraded tropical forests around the Paragominas facility. The BRC, comprising universities and museums in Norway and Brazil, is overseeing multiple projects focussed on biodiversity and climate change related issues. Hydro's restoration activities meet commitments to the International Council on Mining and Metals (ICMM) Sustainable Development Framework and the Aluminium Stewardship Initiative and along with the BRC demonstrate that Hydro understand and are addressing negative impacts on biodiversity and ecosystems resulting from their operations.

## Business actions for biodiversity

### Stakeholder engagement, support and knowledge sharing

#### Engage in multi-stakeholder dialogue to manage impacts on biodiversity

The research programme integrates graduate students and facilitates researcher exchanges between academic institutions in Norway and Brazil. The BRC hopes to extend the scope of future research to cover mining in other parts of the Eastern Brazilian Amazon. A research collaboration agreement reached between the Research Council of Norway and the state of Pará in 2016 is seen by Hydro as one way of strengthening the BRC.

#### Incorporate best available scientific knowledge and expertise into measures regarding biodiversity

The BRC integrates expertise from multiple scientific institutions and is coordinated by scientists from Norway and Brazil. Between 2017 and 2020, Hydro has committed NOK 30 million to fund twelve research projects to study and monitor a variety of ‘functional groups’ that play an important role in ecosystem functioning and integrity. BRC currently lists eleven research projects as having secured funding.

### Improve the status of biodiversity

#### Implement ecosystem restoration actions

By the end of 2016 nearly 1,700 hectares of land had been rehabilitated. Targets are in place to rehabilitate 1) the areas that are no longer needed for the safe operation of the mine and 2) areas that were inherited from the mine’s previous owners. The BRC has established a nursery for seedlings and epiphytes with a capacity to produce up to a thousand seedlings per year. Since 2013, the BRC has used nucleation techniques to improve natural soil formation and enhance regrowth. Nucleation involves uneven distribution of topsoil to simulate natural landscapes and trap rainwater. Piles of cut wood are distributed to create shelters for animals and improve growing conditions for certain plant species. Hydro state that they are hoping to scale-up and implement nucleation across larger areas in future reforestation efforts.

### Embed biodiversity into decision-making

#### Monitoring to assess impacts on biodiversity and the outcomes of business actions

One of the BRC’s three aims is to conduct biodiversity surveys, including of insects, large mammals and plants in and around the mining area. The BRC have installed platforms in the canopy to monitor tree regrowth and piloted 30 camera traps to track large mammals such as tapir and jaguar. There are plans to increase the number of cameras to understand population

trends and to record the condition of pristine forest and reforested areas, to help formulate rehabilitation guidelines. Since monitoring began in 2003, Hydro has recorded 75 species (57 animals, 18 plants) on the Paragominas site. As of 2017, three of these are listed as critically endangered and four endangered.

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