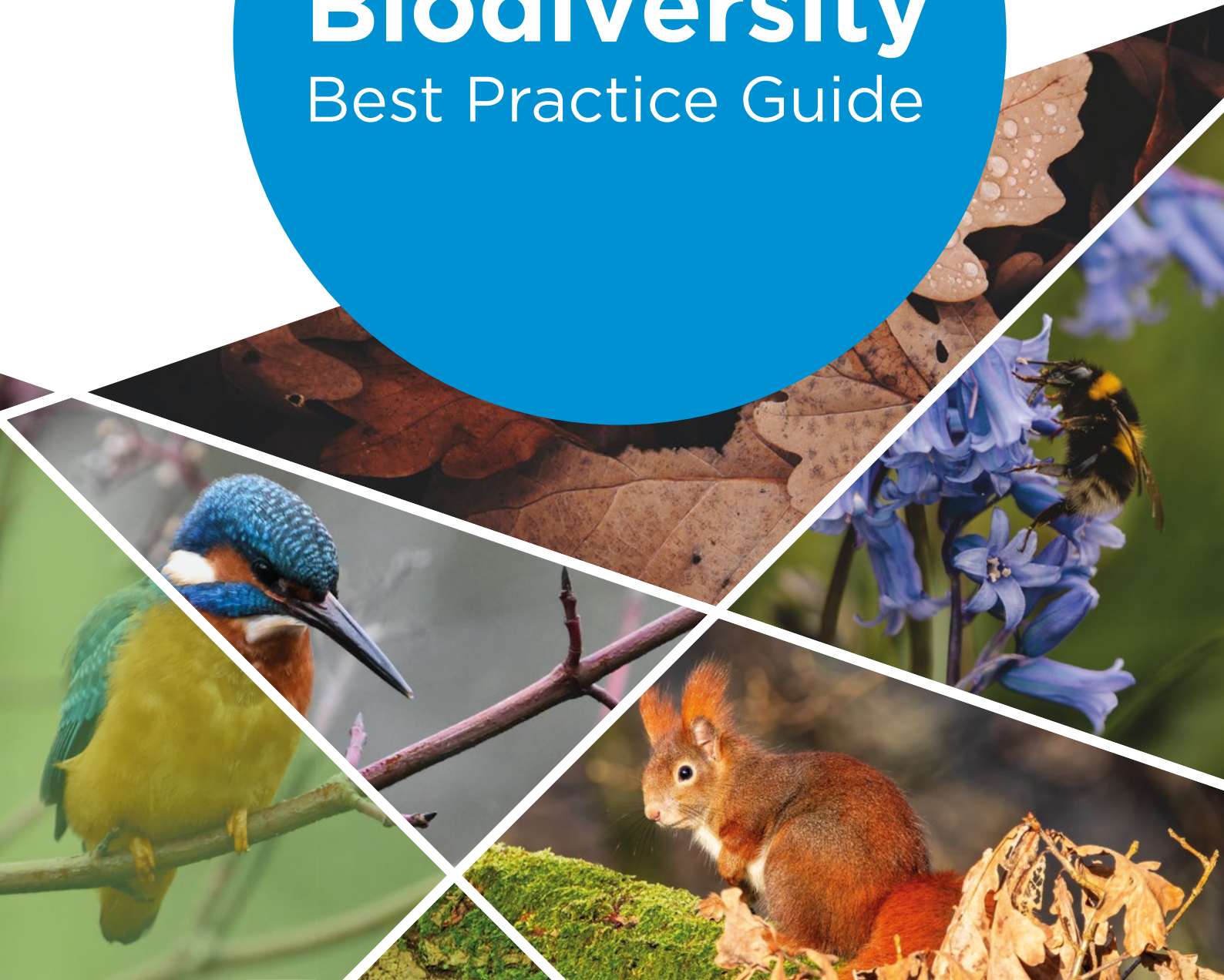




environmental
services
association

Biodiversity

Best Practice Guide



CONTENTS

FOREWORD	3
EXECUTIVE SUMMARY	5
INTRODUCTION	7
Biodiversity and the state of nature	7
The role of the resources and waste management industry	10
This guidance document	13
POLICY AND LEGISLATION	15
Global policy and legislation landscape	16
UK policy and legislation landscape	17
Biodiversity within the Environment Act 2021	19
How does the planning policy environment support efforts to minimise direct biodiversity impacts?	22
How does the resources and waste policy environment help to avoid biodiversity impacts?	23
MEASURING AND REPORTING BIODIVERSITY PERFORMANCE	24
Overview	24
Biodiversity and corporate governance – future direction	26
ACKNOWLEDGEMENTS	27
APPENDICES	28
Appendix One: Framework for biodiversity reporting metrics	28
Appendix Two: Partnerships and affiliations	37
Appendix Three: Case studies	38
Network of Sustainability Champions	39
Biffa's butterflies	42
Encouraging biodiversity at Smalley Hill Closed Landfill	45
Urban Vine	47
Appendix Four: Biodiversity Film	50

FOREWORD

The term *Biodiversity* describes the variability among living organisms, including animals, plants, fungi and microorganisms, as well as the ecosystems they are each a part of. Biodiversity is essential to life on Earth and without it, the ecosystems we all rely on would collapse.

But human population growth, combined with climate change and global cycles of production and consumption, have placed increased stresses on ecosystems and contributed to a significant decline in biodiversity – with many species either becoming extinct or now under major threat, as we face a *sixth mass extinction*. Urgent interventions are needed to restore habitats and species abundance and to reverse this concerning trend.

Biodiversity is critical for companies across their operations and supply chains, and is particularly important for companies with decarbonisation, sustainability and ESG (environmental, social and governance) strategies. Governments around the world acknowledge the challenges facing biodiversity and, with this, resultant policy and legislative change is in progress or on the horizon. Shareholders and stakeholders also increasingly demand that the organisations they invest in, or deal with, play a proactive role in addressing the ecological crisis.

Consuming less and being more efficient with the world's natural resources is essential to limit damage to ecosystems. The way we manage waste, recycle resources, and work across our supply chains, will make a sizeable and important impact to protect, restore and enhance biodiversity. Subsequently, our sector is well placed to make a significant contribution to address the main causes of biodiversity loss – which include changes to land and sea use; exploitation of organisms, climate change and pollution associated with the demands of the world's linear economies.

Extracting and processing raw materials to meet global consumption habits accounts for ninety per cent of biodiversity loss, but recycling helps to keep valuable materials in use for longer, which reduces the need to extract and process more. Using recycled materials also offers significant carbon emission savings compared with raw materials – helping to slow climate change. Additionally, waste management practices and regulations like we have in the UK help to minimise pollution, which would otherwise threaten biodiversity.

In recognition of the current and potential role of our sector, the Environmental Services Association (ESA) convened a *Biodiversity Working Group* of relevant member representatives in 2021 with the intention of developing and sharing best practice as well as monitoring, reporting and governance protocols to track performance.

Developed by the group, this **Best Practice Guide** highlights the role the waste and resource industry can play with regards to protecting, restoring and enhancing biodiversity. It also outlines the existing policy and legislation relating to biodiversity and provides a framework for organisations across our sector to measure their impact on biodiversity—taking into account negative and positive, and direct and indirect impacts – as well as highlighting case studies of current activities being conducted by ESA members.

By recognising and understanding these impacts, we can put appropriate governance in place to ensure we're doing the most we can to protect and enhance biodiversity. While principally aimed at ESA members, we have made this document available to all in our sector and we hope that it will serve as a useful reference guide and starting point.

We will review, update and re-issue this document at regular intervals in future to ensure that it continues to reflect recent policy and legislative changes and reflect best practice examples across the resources and waste management industry.

I would like to thank members for their contributions.



Leigh Broadhurst

Chair of the Environmental Services Association (ESA) Biodiversity Working Group

EXECUTIVE SUMMARY

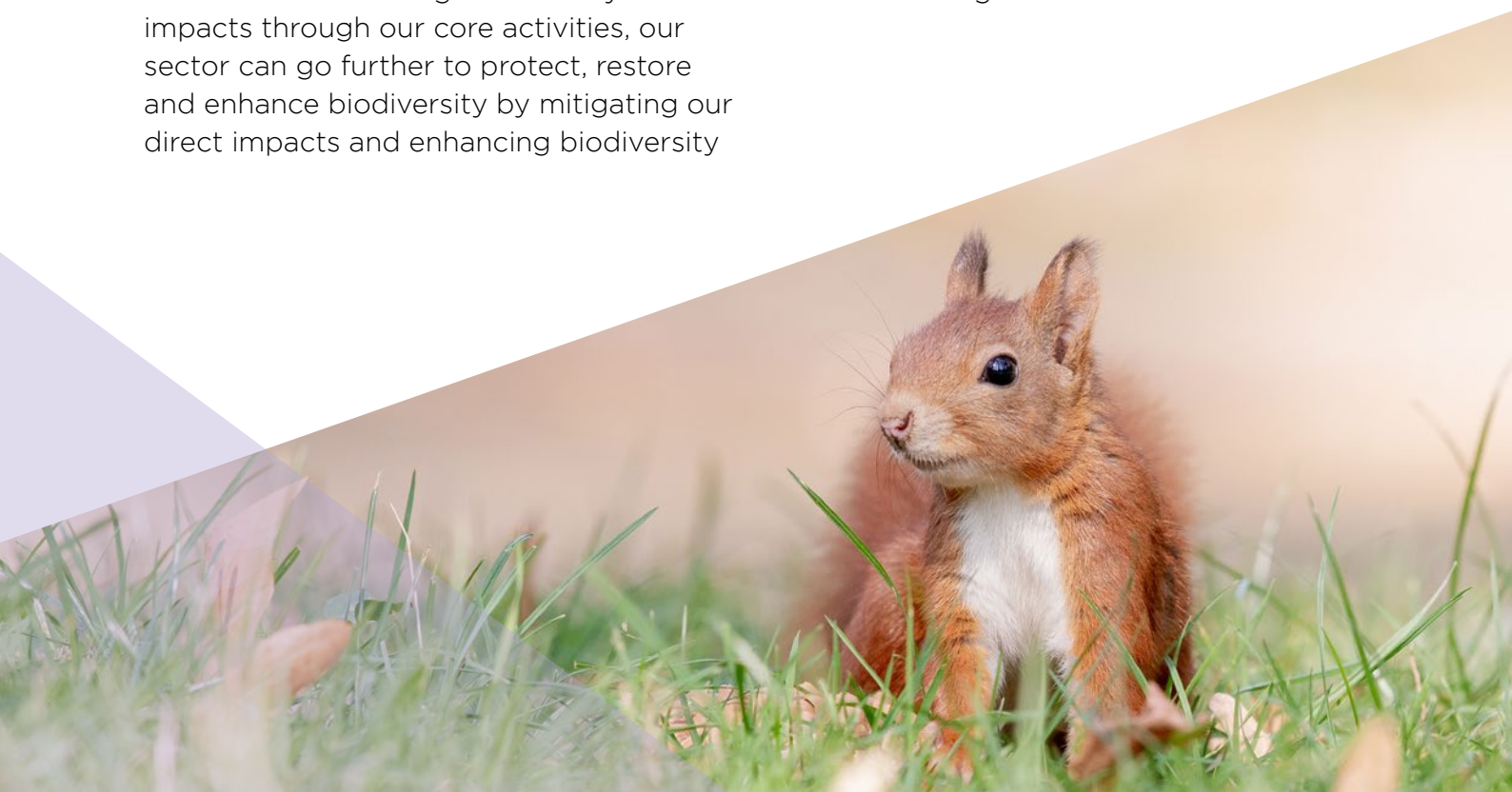
Biodiversity describes the variability among living organisms and the diversity within species, between species and of the ecosystems which are essential for life on earth. Biodiversity is essential for health and food security, disease control and medicines, business and livelihoods and protection from environmental disasters.

Despite there being a growing awareness of the importance of biodiversity in recent years its status is in significant decline and urgent action is required to protect, restore and enhance it. Biodiversity loss is caused by changes in land and sea use; direct exploitation of organisms; climate change; pollution and invasive species.

Given the causes of biodiversity loss, there is a clear role for the resources and waste management industry to play to help reverse this alarming trend. Circular economy activities and resource-efficiency help to limit the need for the extraction and processing of virgin material, while managing societal waste prevents pollution, which can damage ecosystems. In addition to avoiding biodiversity impacts through our core activities, our sector can go further to protect, restore and enhance biodiversity by mitigating our direct impacts and enhancing biodiversity

(for example across our operations and estate holdings), and by mitigating impacts across our supply chains, while promoting biodiversity improvements within them.

Policy and legislation is currently under rapid development to drive the actions necessary to protect and restore biodiversity loss by 2030, and this is being driven at both an international and domestic level. Understanding the global and domestic legislative and policy landscape for biodiversity is important for framing best practice and performance reporting, and this document provides a summary framework of the primary biodiversity policy drivers in the context of the United Kingdom.



Internationally, the Convention on Biological Diversity (CBD) sets the strategy for biodiversity. Following international agreement of the CBD's *Strategic Plan for Biodiversity (2011-2020)*, the UK Government produced its own strategy document – *Biodiversity 2020: A strategy for England's wildlife and ecosystem services*. The UK Government is currently reviewing a new strategy for nature to replace Biodiversity 2020, which will build upon the post-2020 global biodiversity framework plans, as well as those set out under the 25 Year Environment Plan, and it is expected that the devolved administrations will do the same. These strategies are delivered through legislation and corresponding regulatory requirements – some of which may require organisations to assess and report biodiversity impacts.

There is no one-size-fits-all tool for organisations to measure their biodiversity impacts or performance, but this document provides a framework of appropriate tools and metrics for different scenarios – covering both retrospective performance reporting and proactive options appraisal for investment and project development, particularly with regards to Biodiversity Net Gain. A full table of these and their uses is set out in **Appendix One**.

To illustrate current biodiversity practice across our sector, a small selection of member case studies are provided in **Appendix Three** and we have included a list of partners and affiliates who are well placed to support organisations in our sector on their biodiversity activities in **Appendix Two**.

Throughout this document, we have linked to relevant resources and these are highlighted in **green**.



INTRODUCTION

BIODIVERSITY AND THE STATE OF NATURE

Biodiversity describes the variability among living organisms (animals, plants, fungi and microorganisms like bacteria) and the diversity within species, between species and of the ecosystems which are essential for life on earth. Without biodiversity, we cannot have the **sustainable ecosystems** that we all rely on to survive.

Biodiversity provides:

- **Health and food security** – biodiversity is the foundation for this
- **Disease mitigation** – plants are essential for medicine
- **Business benefits** – for example, for materials or for tourism
- **Livelihoods** – many jobs are created as a result of the value of our natural ecosystems
- **Protection** – biodiversity and nature-based solutions can protect us from natural disasters, for example floods and storms

Despite there being a growing awareness of biodiversity and its importance over recent years, and with the main causes of biodiversity loss now widely understood, its status is in significant decline and urgent action is required to protect, restore and enhance it.

The **Global Assessment Report on Biodiversity and Ecosystem Services** summarises how biodiversity is deteriorating worldwide at an unprecedented rate, giving rise to concern that the world is experiencing a **sixth mass extinction**. The report includes the causes of this decline as well as the actions required to drive transformative change and progress towards the **UN Sustainable Development Goals** aligned with biodiversity.



This global picture is mirrored in the UK, which is considered to be one of the most **nature-depleted countries in the world**. At least 14 of the 19 **Aichi biodiversity targets** (an ambitious set of global goals aimed at protecting and conserving global biodiversity) were not achieved and the latest **State of Nature** report highlights nature's decline, while emphasising the need for urgent action to halt and restore biodiversity loss. Included in the findings are worrying statistics, for example, that fifteen per cent of species are threatened from extinction from Great Britain and on average, there has been a long decline of species abundance and distribution since 1970.

The Government's proposals for planning reform, as set out in its White Paper: **Planning for the future** are therefore broadly welcomed by the industry.

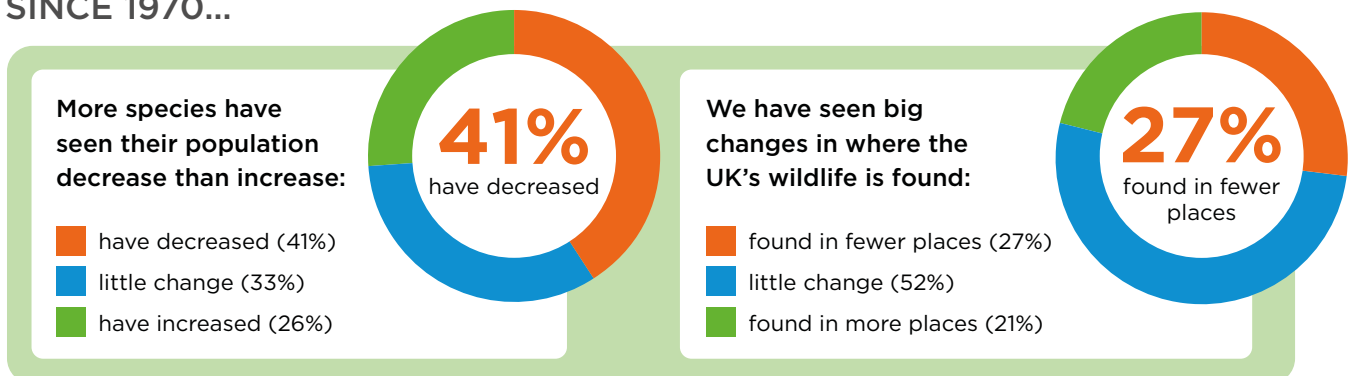
A streamlined plan-making process, with plans produced more quickly and in which local plan policies more closely mirror national planning objectives should, in principle, help instil greater certainty and confidence in the planning process.

While the emphasis of the White Paper is on the delivery of new housing it should equally be recognised that the success of the Government's planning policy objectives relies upon the efficient delivery of new recycling and waste recovery infrastructure through the local plan process. Waste management infrastructure is not only a fundamental part of the UK's economy in its own right but, at the very least, plays a vital role supporting the delivery of new housing; not only in processing of waste during its construction but also in the post-occupation of such.

THE UK'S BIODIVERSITY IS DECLINING



SINCE 1970...



Source: National Biodiversity Network, State of Nature 2019

While it is widely recognised and accepted that we are facing a climate crisis, the stark reality is that we face an *ecological* crisis, where the biodiversity and climate crises combine, and urgent action is required on both fronts.

The **Parliamentary Environmental Audit Committee report**, *Biodiversity in the UK: bloom or bust?*, highlights the five direct causes of biodiversity loss as well as its indirect drivers, which include societal values and behaviours; production and consumption patterns; human population dynamics and trends, trade, technological innovations; and local/global governance.

The five main causes of biodiversity loss are:

- Changes in land and sea use
- Direct exploitation of organisms
- Climate change
- Pollution
- Invasive species

Policy and legislation is currently under development to drive the necessary actions which will protect and restore biodiversity loss by 2030, and some of the key vessels for UK policy delivery include the **Convention on Biological Diversity, COP15** (which is ongoing at the time of publication) and the UK Government's plan to deliver a **Nature Positive future by 2030**.

However, calls for action resound even more widely beyond policy and legal systems. Societal expectations, which are reflected in the demands of investors, customers, employees and supply chains, are significantly increasing to ensure that we all play our role in protecting our planet for future generations.

With this in mind, organisations are also recognising the business advantages that come from adopting good practice principles to improve biodiversity¹, which include:

- Gaining a competitive advantage;
- Increasing the financial and environmental value of assets;
- Securing production and supply chain efficiencies;
- Improving resilience, and;
- Improving reputation.

1 Baker, J., Hoskin, R. and Butterworth, T. (1999). Biodiversity net gain. Good practice principles for development. CIRIA C776a.

THE ROLE OF THE RESOURCES AND WASTE MANAGEMENT INDUSTRY

With the combination of ever-increasing global population growth and unsustainable consumption patterns, it is clear that the waste and resource management industry has an important role to play in addressing the ecological crisis. Our contribution to the protection, restoration and enhancement of biodiversity can be broken down into three key areas outlined below.

These three areas show the wide-reaching scope of the industry's role to protect, restore and enhance biodiversity and it is expected that ESA members uphold the highest standards to contribute towards these three key areas, creating opportunities to maximise the benefit of the circular economy, minimising their impact on the environment and maximising their positive contribution to biodiversity through their actions.

1. Avoiding biodiversity impacts by promoting the circular economy

The industry has a clear role to play in supporting the reduction, or avoidance, of **biodiversity loss associated with the extraction and processing of virgin material**, by promoting the circular economy.

Through waste prevention, reuse and the use of recycled or recovered materials, we can reduce the need for virgin material extraction, which has a significant impact on the natural environment. This protects species and habitats and minimises land-use change. According to the United Nations Environment Programme, **90% of global biodiversity loss** is caused by natural resource extraction and processing.



In 2020, the waste and resource management industry handled over 51 million tonnes of waste, achieving a **household recycling rate of 44.4%**, contributing to the protection of biodiversity. With the waste reduction and recycling targets proposed in the **Resources and Waste Strategy**, the sector has the potential to go much further.

The ESA membership has invested an estimated £5 billion in circular economy and waste management infrastructure in the UK over the last decade (with a plan to invest a further £10 billion over the next 10 years, subject to environmental policy and legislation changes associated with the Environment Act), and the UK now has a well-developed infrastructure for recycling and waste management which supports reduction in the reliance on virgin materials.

Waste prevention and recycling also minimises the potential for pollution through responsible management and handling of wastes, which if not collected

and treated could have a far more damaging impact on the environment. Additionally, it mitigates the climate impact associated with the extraction and processing of virgin materials.

The industry also plays an important role in tackling waste crime, although, it is estimated that **18% of all waste is illegally managed** and more needs to be done to reduce the volume of poorly-managed waste polluting the natural environment and damaging biodiversity.

2. Mitigating our direct impacts and maximising our positive contribution to biodiversity

The direct biodiversity impacts of the resources and waste management industry can be mitigated through application of the **Biodiversity Mitigation/ Conservation Hierarchy** (see figure below). Positive contributions can also be made by, as a minimum, going beyond compliance with planning and environmental permit

	THE REACTIVE IMPACT MITIGATION HIERARCHY	THE PROACTIVE CONSERVATION HIERARCHY
AVOID	Retain woodland patches on project site	Identify areas for protected area expansion
MINIMISE	Reduce pollutant runoff	Collectively manage polluters to prevent habitat degradation
RESTORE	Regenerate habitat impacted during construction	Actively restore degraded habitat areas
OFFSET	Restore and protect habitat offsite	Fund conservation activities in other nations



requirements, under which our members' activities operate, to deliver best practice wherever possible.

Examples of this include treating waste in accordance with best practice; ensuring emissions are within environmentally-acceptable limits; or by utilising the land footprint upon which waste management activities occur to maximise their contribution towards protecting, restoring and enhancing biodiversity.

This could, for example, be through land restoration, tree planting, or other habitat creation which may align with biodiversity net gain plans, or through carbon sequestration activities that contribute towards achieving net zero carbon emissions. Some example case studies from ESA members are provided in **Appendix 3**.

3. Mitigating our indirect impacts and promoting biodiversity improvements within the supply chain

Our sector's indirect impacts may arise from our consumption or export of materials, whereby biodiversity impacts occur within the supply chain. As such, this can affect the state of biodiversity both locally and globally. Recognising and understanding these impacts allows us to implement appropriate governance to limit them, including decision-making on material consumption and disposal as well as ensuring nature-positive actions are considered at all stages of the supply chain through appropriate procurement practices.

THIS GUIDANCE DOCUMENT

The ESA created a *Biodiversity Working Group* in September 2021 to recognise the role the resources and waste management industry can play to protect, restore and enhance biodiversity, and to steer progress towards becoming nature-positive.

Building upon the ESA's previous contribution to the **Get Nature Positive** campaign, this guidance document has been produced to provide information to the ESA membership, and other private and public sector organisations responsible for resources and waste management. It aims to raise awareness of the role the industry can play with regards to biodiversity; the associated policy and legislation in place and under development; and associated metrics for measuring and reporting biodiversity performance. The guide also showcases best practice case studies as well as affiliations and partnership organisations who can support organisations to improve their biodiversity performance.

Various applicable policies, legislative instruments and reporting frameworks are currently under development and there is no one-size-fits-all approach to reporting on biodiversity.

A sample is provided below of policies and legislation that are both live and applicable in England alone (as of December 2022):

- **Environment Act (2021)** – following its enactment into UK law, this will result in the introduction of a range of sector-specific requirements including the requirement for public bodies to seek the enhancement of biodiversity and for planning applications to deliver biodiversity net gain through planning from November 2023. Various supporting consultations have recently

taken place following the introduction of the Environment Act, including the **Biodiversity Net Gain Regulations and Implementation**, the **Consultation on Environmental Targets** and the **Nature Recovery Green Paper: Protected Sites and Species Consultation**, which set out the Government's delivery mechanisms for environmental enhancement – covering air, water, biodiversity, and resource efficiency/waste reduction priority areas as well as recommendations around protected sites reform. The outcome of such consultations is awaited however.

- **The Resources and Waste Strategy** and associated incoming policies will drive a circular economy across the UK that will help to avoid biodiversity loss by incentivising the use of recycled materials over virgin materials across the value chain.
- **Levelling up and Regeneration Bill**, which is being laid before parliament which may see the introduction of governmental ambitions around Environmental Outcome Reports as well as requirements for water and nutrient neutrality
- **The Post 2020 Biodiversity Framework**, which is to be presented at COP15 in December 2022 will provide a framework to guide actions among member the 2050 Vision of "Living in harmony with nature."

As such, this document will be updated regularly to reflect updated policy and legislation; the ever-changing pressures on the environment; and development of best practices.

The Biodiversity Metric

In England, Biodiversity Net Gain (BNG) will be evaluated and measured using the **Biodiversity Metric**, which provides a standardised approach to calculating the biodiversity impact of various interventions. Other biodiversity metrics are detailed later in this document, but there is currently no one-size-fits-all metric for evaluating a company's biodiversity performance.

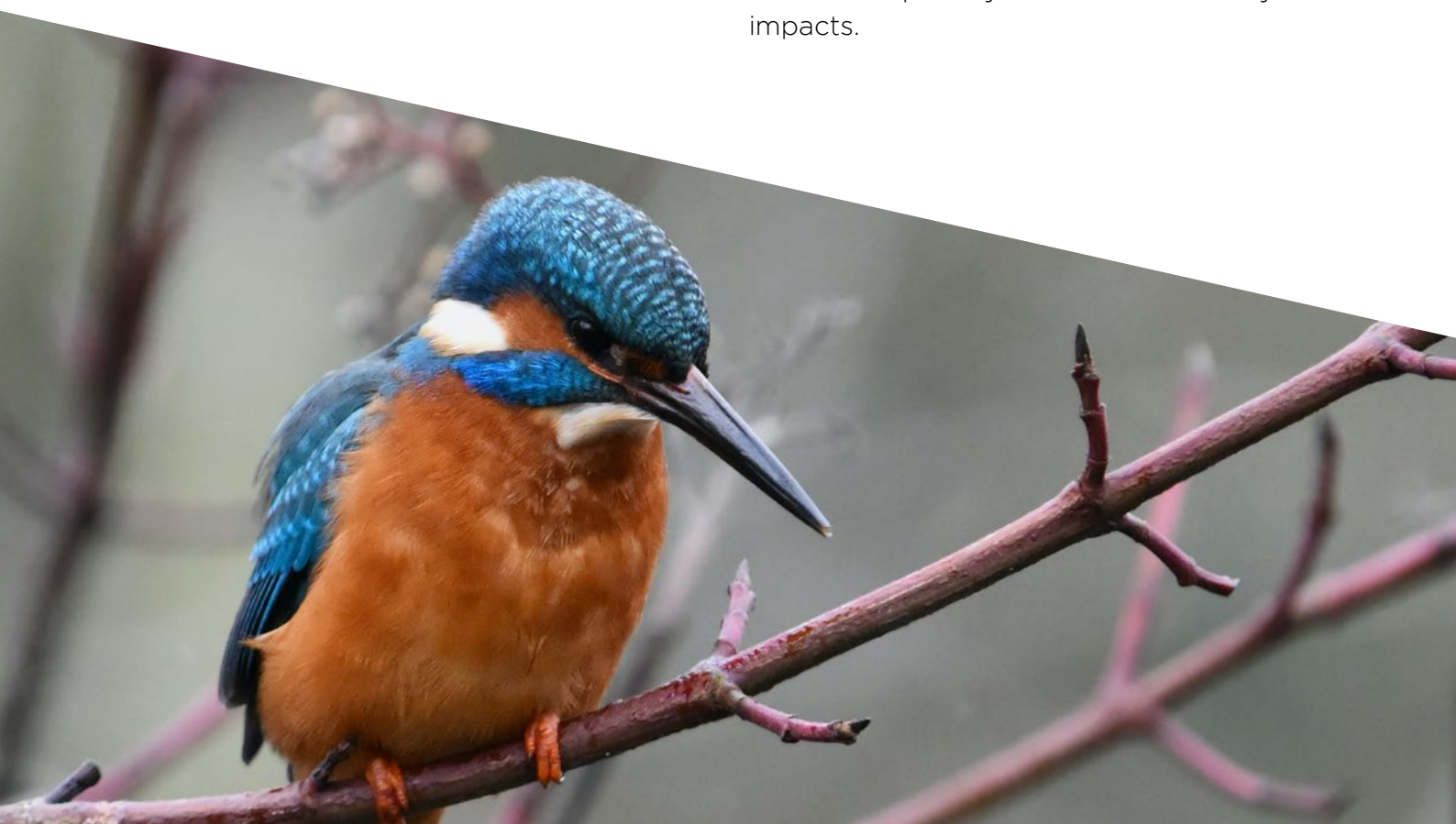
A reporting framework is provided later within this guidance document and in **Appendix One**, which we will update in future iterations of this document to account for reporting framework developments.

Calculating the avoided biodiversity impacts of the circular economy

Avoided biodiversity impacts from the resources and waste management industry's activities, resulting from the promotion and delivery of circular-economy solutions, show that the industry can play a significant role in protecting biodiversity and negating the biodiversity impacts associated with the extraction and processing of natural resources.

However, there are no current metrics for calculating the avoided impacts upon biodiversity from promoting a circular economy, in contrast with those available for, for example, understanding the avoided carbon emissions benefit.

As a result, this guidance document will be updated should such metrics be developed in the future and the ESA will explore the opportunities to improve understanding of the role the circular economy plays in protecting, restoring and enhancing biodiversity and to produce metrics to quantify avoided biodiversity impacts.



POLICY AND LEGISLATION

Understanding the global and domestic policy and legislative landscape for biodiversity is important for developing best practice and current and future performance reporting. As such, this section outlines the relevant global and UK context, summarised below. Although it is primarily focused on England, further information relating to the devolved administrations is provided later in this section.

GLOBAL



- Convention on Biodiversity (CBD), est. 1993
- Strategic Plan for Biodiversity 2011 - 2020, including Aichi Targets
- Post 2020 Biodiversity Framework *(to be agreed at COP15)*
- Vision 2050 - Living in harmony with nature

UK



STRATEGY

- Biodiversity 2020 Biodiversity Framework: A Strategy for England's wildlife and ecosystem services
- 25 Year Environment Plan
- England Post 2020 strategic plan *(to be agreed following Post 2020 Biodiversity Framework)*

POLICY/GUIDANCE

- National Planning Policy Framework (NPPF)
- National Planning Practice Guidelines

LEGISLATION

- Wildlife and Countryside Act 1981
- The Countryside and Rights of Way Act 2000
- Natural Environment and Rural Communities Act 2006
- Conservation of Habitat and Species Regulations 2012
- Town and Country Planning Act 2017
- Town and Country Planning (Environmental Impact Assessment) Regulations 2017
- Habitats and the Conservation of Habitats and Species Regulations 2017
- Environment Act 2021
- Resources and Waste Strategy for England

DEVOLVED ADMINISTRATIONS

Read more about devolved administrations [here](#)





GLOBAL POLICY AND LEGISLATION LANDSCAPE

The **Convention on Biological Diversity** (CBD) was established in 1993 and now has the support of more than 187 countries, including the UK. Obligations arising from international treaties and conventions are the responsibility of the UK Government, with the devolved administrations responsible for implementing obligations that concern devolved matters.

The CBD has three main objectives:

1. The conservation of biological diversity
2. The sustainable use of the components of biological diversity
3. The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources

In 2010, a significant outcome of the CBD was the production of the *Strategic Plan for Biodiversity 2011 - 2020*, which included the *Aichi Biodiversity Targets*, with the aim to take urgent action to halt biodiversity loss. This plan provided an

overarching framework on biodiversity, for which parties agreed to translate this framework into national biodiversity strategies and action plans.

Since 2020, the CBD has been developing a Post-2020 Biodiversity Framework, which is expected to be a steppingstone towards the successor *Vision 2050 - 'Living in harmony with nature.'* It is anticipated this will be agreed in December 2022 at COP15, the outcome of which will be reflected in the next iteration of this document.

UK POLICY AND LEGISLATION LANDSCAPE

Biodiversity policy in the United Kingdom is a devolved matter, with each of the four UK nations producing their own biodiversity plans and strategies.

For England, following the agreement of the CBD’s Strategic Plan for Biodiversity (2011-2020), the UK Government produced its *Biodiversity 2020: A strategy for England’s wildlife and ecosystem services*.

In 2018, the UK Government also published its long-term environment plan for England entitled: **‘Our 25 Year Plan to Improve the Environment’**.

The UK Government is currently reviewing a new strategy for nature to replace *Biodiversity 2020*, which will build upon the post-2020 global biodiversity framework plans, as well as those set

out under the *25 Year Environment Plan*, and it is expected that the devolved administrations will do the same.

The relevant policies of the devolved administrations are set out in the table below, with direct links to the documentation.

Although their application varies across UK nations, the existing legislation and planning policy provides statutory protection to sites, habitats and species across the UK and this protection is not changed.

ADMINISTRATION	PUBLICATIONS AND PUBLICATION DATE
Scotland	Scotland’s Biodiversity: It’s in Your Hands (2004)
	2020 Challenge or Scotland’s Biodiversity (2013)
	NatureScot’s consultation ‘Developing with Nature guidance’ (2022)
	Scottish Biodiversity Strategy to 2045 (2022)
Wales	Nature Recovery Action Plan: Our Strategy for Nature (2016)
	Nature Recovery Action Plan 2020-21 (2020)
Northern Ireland	Biodiversity Strategy for Northern Ireland to 2020 (2015)



This protection is enshrined in the **Wildlife & Countryside Act 1991**, the **Natural Environment and Rural Communities Act 2006**, the **Countryside and Rights of Way Act 2000** and the **Habitats and the Conservation of Habitats and Species Regulations 2017**.

Many species of flora and fauna are protected and it is an offence to kill, injure or take any wild bird or animal, or disturb habitats or eggs.

Picking, uprooting or destroying certain wild plants is also prohibited, as is allowing invasion of non-native species detrimental to wildlife.

Wildlife & Countryside Act 1991

In November 2021, The Environment Act 2021 was introduced as a key piece of primary legislation with two main functions; to provide a legal framework for environmental governance in the UK, and to bring in measures and targets for improvement of the environment in relation to waste, resource efficiency, air quality, water, nature and biodiversity and conservation.

This legislation is vital in terms of nature recovery, due to its inclusion of five environmental principals (integration, prevention, rectification at source, polluter pays and precautionary) which government ministers must consider when making policy. In England, the new Office for Environmental Protection (OEP), which was established within the Act, oversees environmental conduct and breaches by governments and public authorities, which includes the Environment Agency.

The Environment Act 2021 implements Government's ambitions for 'improving the natural environment', which were previously set out in various publications including the **25 Year Environment Plan**. These ambitions have now formed the basis of statutory or legal requirements which mandate action, under the oversight of the new OEP. The focus of the Act is the "...provision [of] targets, plans and policies for improving the natural environment..." and its requirements are structured around a number of broad themes. The Act is England-centric but parts can, and will, be applied across other UK nations. The Environment Act is still subject to implementation, in some aspects, through the publication of secondary legislation.



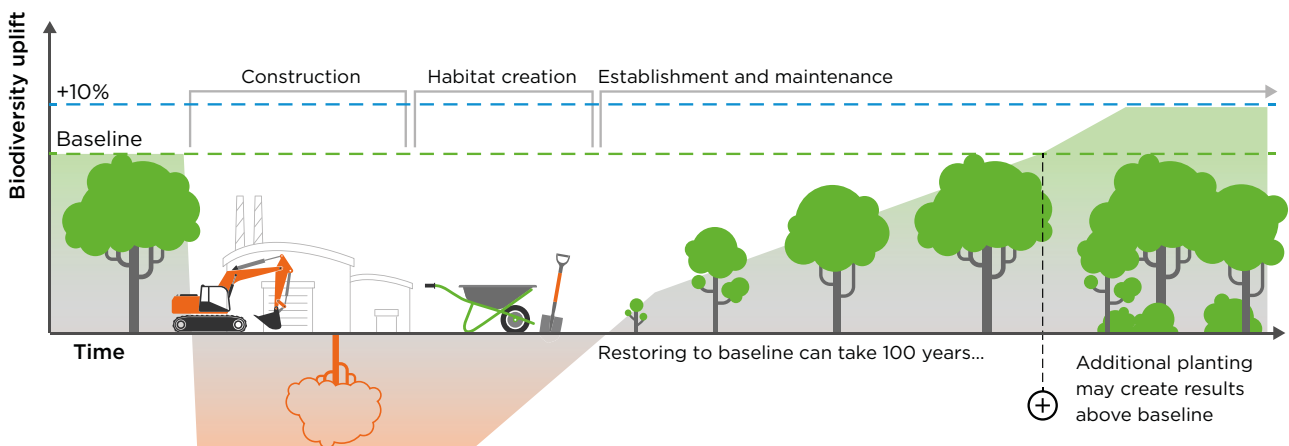
BIODIVERSITY WITHIN THE ENVIRONMENT ACT 2021

In England, the Environment Act states that the Secretary of State must exercise the power to set a long-term target in respect of at least one matter within each priority area. In May 2022 the UK Government published a consultation on the initial **suite of targets** for biodiversity across land and sea for England to support longer-term targets under the 25 Year Environment Plan. Proposed targets for land biodiversity are to:

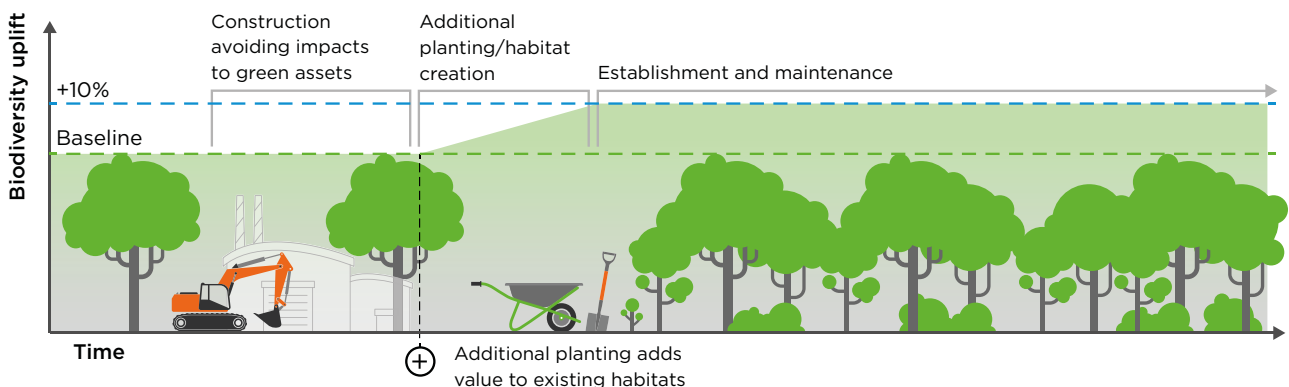
- Increase species abundance by at least 10% by 2042, compared to 2030 levels.
- Improve the England-level GB Red List Index for species extinction risk by 2042, compared to 2022 levels.
- Create or restore in excess of 500,000 hectares of a range of wildlife-rich habitats outside protected sites by 2042, compared to 2022 levels.

The Environment Act 2021 also provides for Biodiversity Net Gain (BNG) in England as a condition of planning permission for new development. It is a habitat-focussed target and strengthens the biodiversity duties of local planning authorities. A key aim is to retain a biodiversity baseline and then restore and enhance it to make a positive contribution to biodiversity, as illustrated in the figure below

RESTORE AND ENHANCE



RETAIN BIODIVERSITY BASELINE AND ENHANCE



In England, **Biodiversity Metric 3** has been published. This is expected to be the metric for measuring mandatory biodiversity net gain and was developed by Natural England. Under Metric 3, biodiversity gains and losses of a development will be measured in 'biodiversity units', using habitats (rivers and streams and hedgerows) as a proxy for biodiversity and calculating units by taking account of the type, extent and condition of habitats.

However, the approach to BNG differs across the home nations, with some not yet using target or metric-based approaches. Currently, England is leading the charge in terms of implementing mandatory targets and metric-based requirements for BNG within the planning system, whereas Wales and Scotland are considering options for mandating a BNG requirement. The Welsh Government aims to publish its BNG strategy by 2023 as part of its Nature Recovery Action Plan and Scotland will consider how to secure positive benefits for biodiversity in its National Planning Framework 4 (NPF4). In Northern Ireland, the picture is less clear.

For England, the Environment Act 2021 means that, once enacted through secondary legislation, biodiversity gain of at least 10% must be secured as a condition of:

1. Planning permissions under the Town and Country Planning 1990 Act from late 2023;

These will need to demonstrate how they will achieve mandatory biodiversity net gain by submitting a biodiversity net gain plan, which set out on-site and off-site measures to the relevant planning authority for approval as

part of the application process. Here, developers will be required to demonstrate that they will deliver a minimum of 10% biodiversity net gain. The 10% is not considered a cap but a minimum benchmark that developers must go beyond. The biodiversity net gain plan includes:

- Goals to avoid or reduce biodiversity impacts through site selection and layout
- Enhance and restore biodiversity on-site
- Create or enhance off-site habitats, either on their own land or by purchasing biodiversity units on the market, and
- As a last resort to prevent undue delays, purchase statutory biodiversity credits from the UK Government where they can demonstrate that they are unable to achieve biodiversity net gain through the available on-site and off-site options.

2. Development consents for Nationally Significant Infrastructure Projects (NSIP) in England under the Planning Act 2008 from late 2025.

DEFRA intends to apply a similar approach to net gain for NSIPs consented under the Planning Act 2008, as is proposed for developments under the Town and Country Planning Act. The BNG requirement for NSIPs will be brought forward through a 'biodiversity gain statement' or statements and will design a single 'core' statement that we will consult on for the range of relevant types of NSIP.

As part of its 2021 consultation on proposals for achieving biodiversity net gain within the planning system, DEFRA still intends to apply the 10% minimum requirement, however it is considering exemptions and transitional arrangements for NSIPs. Equally, it has indicated that it would prefer to apply a different percentage requirement rather than to apply an exemption in certain cases.

Although the Environment Act makes provision for a minimum biodiversity gain objective of 10%, Local Planning Authorities can set higher biodiversity gain objectives and the Secretary of State can, in future, amend the relevant percentage. For example, the Kent Nature Partnership is proposing a **20% target for Kent County**.

This mandatory BNG, implemented through planning in England, does not change the protection afforded to biodiversity and the protection afforded to species and habitats will not change as outlined earlier. Instead, this is in addition to **Standing Advice** including that on

protected species and existing guidelines for developments requiring planning permission. These include requirements for Environmental Impact Assessment (EIA), Strategic Environmental Assessment (SEA), and Habitat Regulations Assessment (HRA). The UK government has recently consulted on changes to the EIA, SEA and HRA, with guidance updated to reflect any changes following this process.

Another variable in England is the upcoming **Levelling Up and Regeneration Bill**, which is progressing through Parliament at the time of publication. Importantly for the BNG landscape, this includes changes to planning reform, with environmental statements set to be removed and replaced with environmental outcomes.

The British Standards Association (BSI) with support from Natural England has developed **BS 8683** - a new British Standard that sets out a process for designing and implementing BNG. It doesn't cover the actual delivery of BNG but provides a framework to demonstrate that a project has followed a process based on UK-wide good practice.



HOW DOES THE PLANNING POLICY ENVIRONMENT SUPPORT EFFORTS TO MINIMISE DIRECT BIODIVERSITY IMPACTS?

The 2021 National Planning Policy Framework (NPPF) requires planning policies and decisions to minimise impacts upon, and provide net gains to support, biodiversity. Government has set out its expectations (Natural England 2022)² on the application of the mitigation hierarchy including the position that development habitats should be retained in situ (avoidance); and that habitat damage should be minimised before opportunities are taken to enhance or recreate habitats (Remediate and Compensate). This is a systematic approach to development projects to keep negative environmental impacts to a minimum via four key actions summarised as *avoid, minimise, mitigate and offset*.

The NPPF also sets out that plans should *“promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity and identify and pursue opportunities for securing measurable net gains for biodiversity”* (paragraph 179b). The Environment Act provides definitions of, and mechanisms for, the implementation of biodiversity gain (BG), which is also used interchangeably with the term biodiversity net gain (BNG).

These terms can be used to mean the enhancements or gains which are delivered as part of meeting an overall biodiversity net gain objective. In simple terms this means that the biodiversity value attributable to development (post-development) exceeds the pre-development (baseline) biodiversity value of the onsite habitat by a specific percentage or more. BG through planning has been included within the Environment

Act 2021, alongside provisions for Nature Recovery Strategies, Species Conservation Strategies, Protected Site Strategies and Conservation Covenants. This inclusion increases the level of regulation and brings with it opportunities for ESA members and will shift the future focus of development and land management from avoidance of significant effects to biodiversity enhancement and measurable net gain.

Current estimates suggest implementing BNG would establish linked financial markets for biodiversity units worth in the region of £135 million.

Eftec (2021) Biodiversity Net Gain: Market Analysis Study, NR0171

2 Natural England (2022). Natural England Joint Publication JP039. Biodiversity Metric 3.1 Auditing and accounting for biodiversity. USER GUIDE.

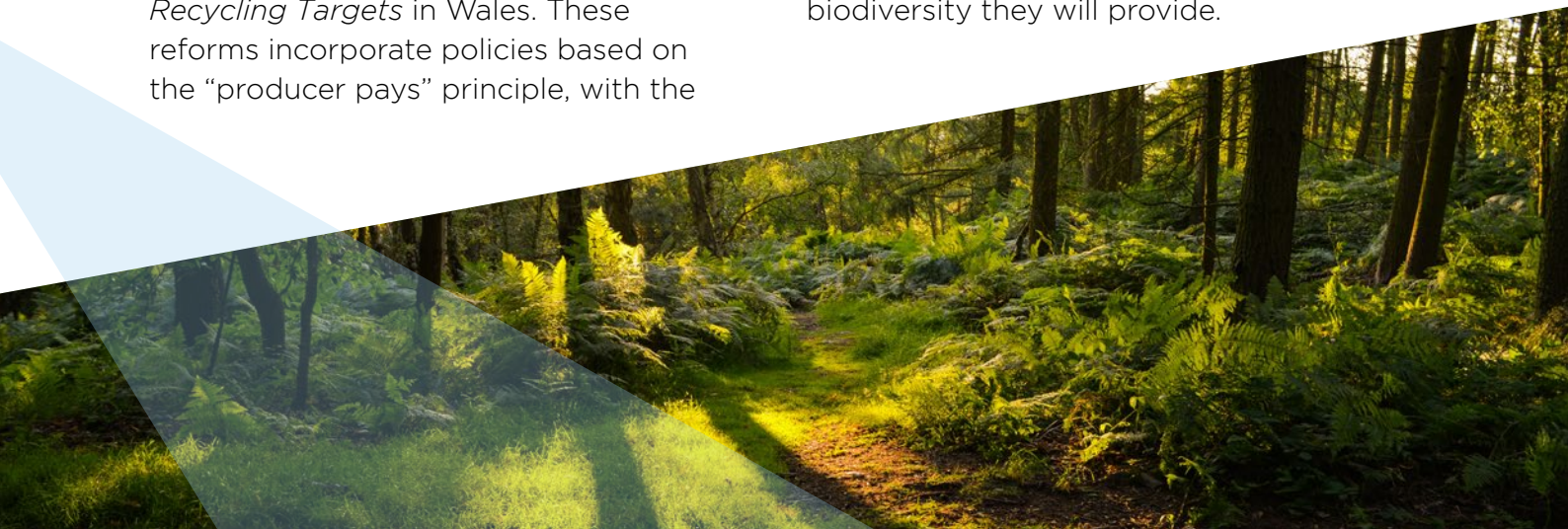
Nature Recovery Network (NRN): *The NRN aims to be a national network of wildlife-rich places. The NRN is a major commitment in the government's 25 Year Environment Plan and enacted by the Environment Act 2021. Local Nature Recovery Strategies (LNRS) - a new mandatory system of spatial strategies for nature established by the Environment Act 2021 - will be integral to this and will help our members identify areas of biodiversity significance*

HOW DOES THE RESOURCES AND WASTE POLICY ENVIRONMENT HELP TO AVOID BIODIVERSITY IMPACTS?

As outlined earlier in this document, the resources and waste industry has an important role to play in avoiding biodiversity impacts by driving a circular economy, which in turn reduces societal reliance on virgin material resources - the extraction of which is having a detrimental impact on habitats and the natural environment. It is therefore worth referencing the suite of circular economy reforms which have been, and are due to be, implemented in the UK, since their outcomes will help to avoid biodiversity loss.

Much like biodiversity policy, waste policy is also a devolved matter, with UK nations adopting their own strategies to drive a circular economy. These are principally the *Resources and Waste Strategy for England*; the *Scottish 2025 Circular Economy Route Map* and *Circular Economy Bill*; Northern Ireland's waste commitments, and *Beyond Recycling Targets* in Wales. These reforms incorporate policies based on the "producer pays" principle, with the

aim to drive waste prevention and reuse and recycling. Notable individual reforms include the UK Plastic Packaging Tax, bans on single use materials and end destinations of certain materials, producer responsibility regimes and changes to collection regimes. It is vital that these policy reforms are subject to no further delays to accelerate the protection to biodiversity they will provide.



MEASURING AND REPORTING BIODIVERSITY PERFORMANCE

OVERVIEW

Unfortunately, while there are a wide range of metrics that are under development and which are becoming available for use, there is no single metric that has been adopted, or that is available, to assess biodiversity performance in its entirety. The choice of metrics can depend on the objective of measurement and reporting, which might include:

- appraisal of options for projects or procurement;
- accounting for assets at an organisational level; or
- corporate reporting.

Given the breadth of services offered by ESA Members and the rapidly developing frameworks and standards for reporting on biodiversity performance, the ESA has developed a hierarchical framework to guide its members and to help determine appropriate performance metrics and standards for the type and size of organisation, as well as the purpose and objective of reporting. This framework is presented in the figure on the next page. It suggests the application of a sequential approach to assessment and reporting, with foundational activities (i.e. minimum requirements) at the base, and more complex accounting practices at the top. Each approach is supported by a number of metrics/tools, which are also indicated, with further detail on these provided in [Appendix One](#).

Generally, it is recommended that ESA members should report corporate biodiversity performance as a minimum by referring to the applicable nature/resource-based metrics, whilst also providing qualitative context where appropriate and clarifying the actions that are additional³. Corporate reporting can subsequently be enhanced by adhering to recognised reporting frameworks as appropriate to suit the aims of the organisation.

For the appraisal of options, it is recommended that ESA members utilise Natural England's Biodiversity Metric and the Environmental Benefits for Nature Tool (EBNT).

For the accounting of assets, the Enabling a Natural Capital Approach (ENCA) guidance is recommended, although it is recognised that reference to such assessments undertaken could also become part of corporate biodiversity reporting in the future.

Although biodiversity metrics and standards are an area under development, the ESA has recognised that there is a

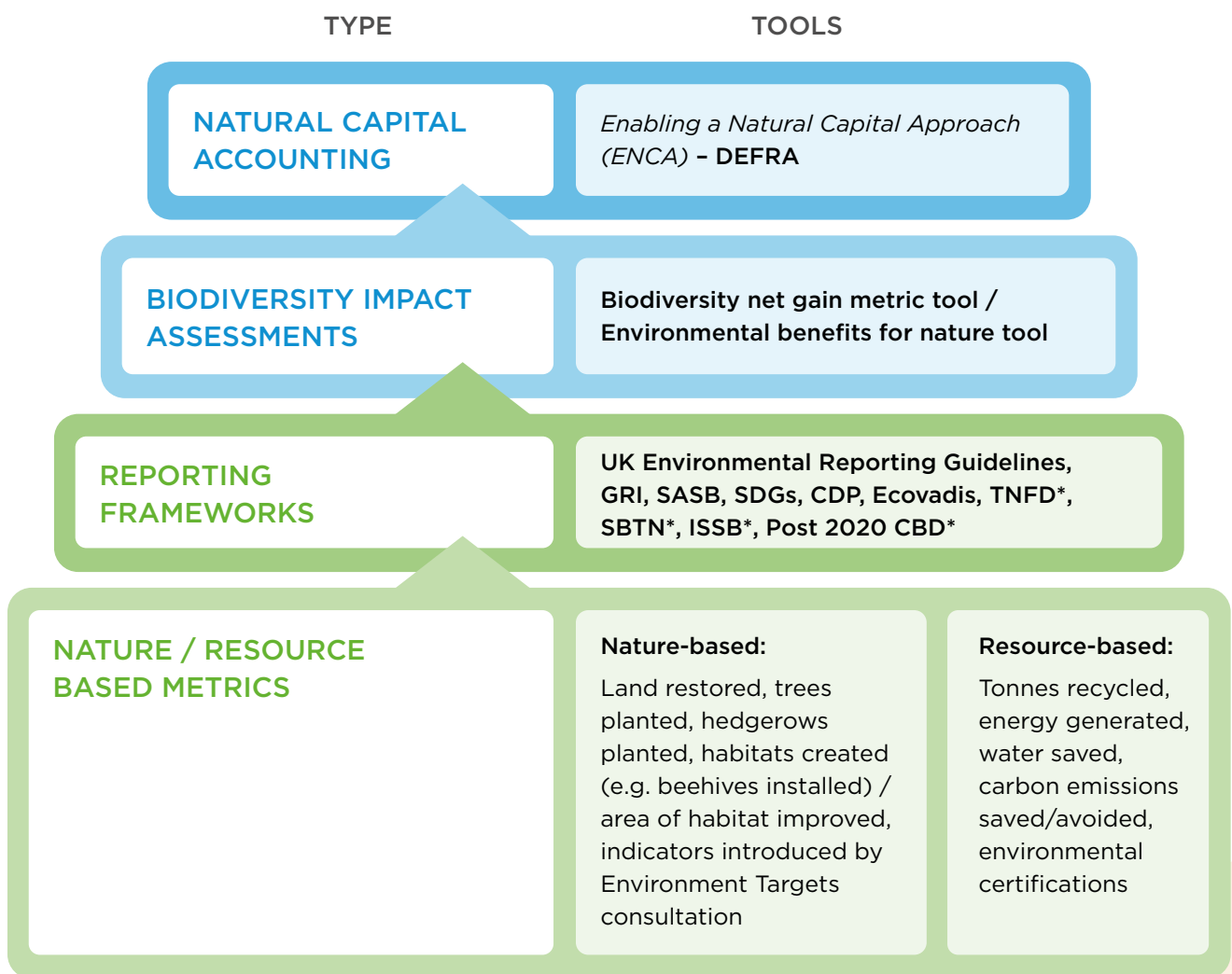
³ Additionality is the extent to which something happens as a result of an intervention that would not have occurred in the absence of the intervention.

gap in quantifying the full positive and negative impacts on nature associated with our activities.

For this reason, the ESA will explore the undertaking of the necessary research to improve the understanding of the role the circular economy plays in protecting, restoring and enhancing biodiversity, in particular producing metrics to quantify

the avoided biodiversity impact through the promotion of the circular economy.

The ESA framework will also be reviewed following the UK Government’s review of its biodiversity indicators which is planned to take account of the new global biodiversity framework to 2030 being negotiated under the Convention on Biological Diversity (CBD).



- **Accounting of options/Accounting for assets**
(May be used for corporate reporting in the future)
- **Corporate reporting**

*Under development



BIODIVERSITY AND CORPORATE GOVERNANCE – FUTURE DIRECTION

It is expected that there will be further development of requirements around business/corporate sustainability reporting to include biodiversity, for example those related to companies complying with the Companies Act 2006 (Strategic Report and Directors' Report) Regulations 2013 and the Taskforce on Nature Based Disclosures (TNFD) requirements, once implemented.

This may also include a requirement of Natural Capital Accounting which is a useful tool to measure the elements of nature that have a value to society, and it is possible this could be brought into statute in the future.

The EU has already taken comparable steps towards introducing a legally enforceable system of biodiversity and ecosystem corporate reporting. As a result of these possible developments, this document will be updated subject to such developments in due course.

ACKNOWLEDGEMENTS

This document was compiled by members of the ESA's Biodiversity Working Group in 2022, which represent the wider ESA membership, and we thank all who participated for their contribution.

This document was submitted for external review prior to publication and we are grateful to Julia Baker from Mott Macdonald and Mat Crocker for their review.

For further information or comments on this document, please contact Isabel Clifford, ESA Policy and Parliamentary Affairs officer, by email to

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APPENDICES

APPENDIX ONE: FRAMEWORK FOR BIODIVERSITY REPORTING METRICS

This table provides additional information upon which the reporting hierarchy figure in the preceding section is based. It provides further details on the primary purpose, description and type of reporting standards/metrics to aid organisations in determining their appropriate use for company or organisational reporting. It also provides a signpost, in the form of links, to further relevant information.

Primary purpose	Type of framework	Standard / metric	Description	Associated example metrics	Further information where applicable
Corporate performance	Company specific	Nature based metrics – member activity specific	Nature based metrics applicable to ESA member activities.	No. trees planted (No.)	N/A
				Hedgerows planted (m)	
				Area of land restored (Ha)	
				Habitats installed or created/restored (No. / Ha)	
				Persons trained on biodiversity related topics (No.)	
				Case studies	

Primary purpose	Type of framework	Standard / metric	Description	Associated example metrics	Further information where applicable
Corporate performance	Company specific	Resource based metrics - activity specific	Resource based metrics applicable to ESA member activities.	Tonnes material recycled (t)	N/A
				Tonnes material recovered (t)	
				Energy generated (electricity / heat) (MWhe)	
				Water saved / treated (m3)	
				Carbon emissions saved / avoided (tCO2e)	
				Sites covered by ISO 14001 or other environmental certification (No.)	
Corporate Performance	England	Environment Act Targets	The UK Government has committed to legally binding long-term environmental targets that will drive action by successive governments to protect and enhance our natural world. The underpinning metrics are currently under consultation, but these could result in reliable business biodiversity metrics once published.	Species abundance	Environment Targets Public Consultation
				GB Red List Index for species extinction risk	
				Habitat restoration outside of protected sites	
				Woodland cover	

Primary purpose	Type of framework	Standard / metric	Description	Associated example metrics	Further information where applicable
Corporate Performance	UK	UK Environmental Reporting Guidelines	<p>To help companies and limited liability partnerships comply with the Companies Act 2006 (Strategic Report and Directors' Report) Regulations 2013 and the Companies (Directors' Report) and Limited Liability Partnerships (Energy and Carbon Report) Regulations 2018 and all organisations with voluntary reporting on a range of environmental matters, through the use of key performance indicators (KPIs).</p> <p>These guidelines provide a framework for businesses to select appropriate indicators themselves dependent on the impact of activities.</p>	Guidelines refer to inclusion of specific metrics where appropriate	Environmental Reporting Guidelines
Corporate performance	International	Global Reporting Initiative (GRI)	The GRI is the independent international organisation that helps businesses and other organisations take responsibility for their impacts, by providing them with a global common language to communicate those impacts. It provides a specific standard for reporting biodiversity performance.	Biodiversity has a standalone section under 'Environmental Topics - GRI 304: Biodiversity'	GRI 304: Biodiversity
Corporate performance	International	SASB	<p>SASB Standards guide the disclosure of financially-material sustainability information, by companies, to their investors.</p> <p>Available for 77 industries, the Standards identify the subset of environmental, social, and governance (ESG) issues most relevant to financial performance in each industry.</p> <p>Biodiversity is not exclusively mentioned, as it is within GRI above, but could be quantifiable under activity metrics.</p>	Biodiversity could be reported in association with the 'activity metrics'	SASB Standards

Primary purpose	Type of framework	Standard / metric	Description	Associated example metrics	Further information where applicable
Corporate performance	International	Sustainable Development Goals (SDGs)	<p>The United Nations (UN) SDGs are a collection of 17 global goals that serve as a “blueprint to achieve a better and more sustainable future for all,” that were adopted by UN member states in September 2015.</p> <p>In particular, SDG 15: Life on Land aims to protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.</p> <p>Members could report using the metrics associated with the specified targets of SDG15 although other actions towards other SDGs may also be relevant, for example SDG12 Responsible Consumption and Production.</p>	<p>Directly relates to SDG’s:</p> <ul style="list-style-type: none"> - 12: Responsible consumption and production - 13: Climate action - 15: Life on land 	Sustainable Development Goals
Corporate performance	International	CDP (formerly carbon disclosure project)	<p>CDP is a not-for-profit charity that runs the global disclosure system for investors, companies, cities, states, and regions to manage their environmental impacts. It contains the richest and most comprehensive dataset on corporate and city action.</p> <p>There are three areas of focus when assessed: Climate, Water & Forests. Assessments can be based on one focal area or multiple.</p>	<p>CDP disclosures fall under 11 different categories. Although Biodiversity isn’t specifically assessed in its own right, the role biodiversity has will impact upon scoring in the parameters of:</p> <ul style="list-style-type: none"> - Target Setting - Opportunity Disclosure - Emission Reduction Initiatives 	CDP website

Primary purpose	Type of framework	Standard / metric	Description	Associated example metrics	Further information where applicable
Corporate performance	International	EcoVadis	<p>EcoVadis aims to provide the world’s most trusted sustainability ratings, enabling all businesses to reduce risk, drive performance and improve environmental and social outcomes. Their ratings comprise of more than 75,000 rated companies.</p> <p>The environmental section of the assessment (which has a 50% score weighting) interrogates a business’s environmental practices including biodiversity related activities such as environmental management systems and/or third party certification / accreditation.</p>	<p>EcoVadis is a more conventional Environmental Social Governance (ESG) assessment tool. Marks are directly awarded for quantitative environmental targets for which biodiversity is included, and the environmental section is weighted more heavily than others, so affects overall scoring proportionately.</p>	<p>EcoVadis website</p>

Primary purpose	Type of framework	Standard / metric	Description	Associated example metrics	Further information where applicable
Corporate performance	International* *Although this could potentially become a legal requirement in the UK over the next few years	Taskforce on Nature-related Financial Disclosures (TNFD)	<p>The goal of the TNFD is to provide a framework for organisations to report and act on evolving nature-related risks, in order to support a shift in global financial flows away from nature-negative outcomes and toward nature-positive outcomes.</p> <p>The TNFD Work Plan is presented to put the goal, principles and scope into action over a two-year period (2021-2023). The TNFD framework will adopt a four-pillar approach, structured around how organisations operate comprising governance, strategy, risk management, metrics and targets.</p> <p>The TNFD intends for its outputs to be integrated into existing frameworks and standards in the space, such as those published by GRI, SASB, CDSB and the forthcoming IFRS Sustainability Board, linked to the ISSB.</p> <p>It is likely that the TNFD will become a legal requirement in future years but, until then, members could use this approach to communicate nature risks and opportunities.</p>	This is under development, but a beta version has been released	TNFD Website

Primary purpose	Type of framework	Standard / metric	Description	Associated example metrics	Further information where applicable
Corporate performance	International	Science Based Target Network (SBTN)	<p>SBTN has issued initial draft guidance on science-based targets (SBTs) for nature, as a first step toward integrated SBTs for all aspects of nature: biodiversity, climate, freshwater, land, and ocean (expected in 2022).</p> <p>The aim is to define science-based targets as measurable, actionable, and time-bound objectives, based on the best available science, that allow actors to align with “Earth’s limits and societal sustainability goals”.</p> <p>SBTN will enable companies to align their efforts with global nature-related sustainability efforts, notably the goals set out in the following frameworks for action under the United Nations: CBD, UNCCD, UNFCCC, SDG agenda. Companies can measure their impacts to set targets and track their performance using existing data sets and methods, accepted standards, and indicators like those set and used by GRI, CDP, SASB, etc. As much as possible, SBTN will work to ensure that future standards and indicators (both voluntary and mandated by regulation) are increasingly aligned with SBT methods and vice versa, particularly in less standardised issue areas like biodiversity, where SBTN will align with emerging accounting frameworks like those under the Biological Diversity Protocol which requires value chain assessment that are then used to set targets. Other targets could be linked to consumption of water/materials, etc.</p> <p>This draft guidance could be used by members to integrate their approach towards measuring, setting targets and taking action.</p>	Under development but currently propose a series of principles to underpin targets for nature	Science-based Targets for Nature
Corporate performance	International	International Sustainability Standards Board (ISSB)	This board was established in November 2021 to create a comprehensive global baseline of sustainability-related disclosure standards that provide investors and other capital market participants with information regarding companies’ sustainability related risks and opportunities. Once finalised, members could use these standards to report on a common set of metrics.	Under development	IFRS website

Primary purpose	Type of framework	Standard / metric	Description	Associated example metrics	Further information where applicable
Corporate performance	International with local application / reporting	The Post-2020 Global Biodiversity Framework	<p>The framework aims to galvanise urgent and transformative action by Governments and society - including indigenous peoples and local communities, civil society, and businesses, to achieve the outcomes it sets out in its vision, mission, goals and targets, and thereby to contribute to the objectives of the Convention on Biological Diversity, its Protocols, and other biodiversity related multilateral agreements, processes and instruments.</p> <p>The framework aims to facilitate implementation, which will be primarily through activities at the national level, with supporting action at the subnational, regional and global levels. Specifically, it provides a global, outcome-oriented framework for the development of national and, as appropriate, regional, goals and targets and, as necessary, the updating of national biodiversity strategies and action plans to achieve these, and to facilitate regular monitoring and review of progress at the global level. It also aims to promote synergies and coordination between the Convention on Biological Diversity and its Protocols, and other relevant processes.</p> <p>The framework will be supported by three additional documents: (a) a monitoring framework with headline indicators, (b) a glossary with a definition of terms used in the framework, and (c) supporting technical information on each draft goal and target.</p> <p>Once agreed by Member States and implemented in the United Kingdom by the UK Government, businesses should integrate the appropriate monitoring and reporting into their governance.</p>	Under development	CBD Framework

Primary purpose	Type of framework	Standard / metric	Description	Associated example metrics	Further information where applicable
Accounting of options / accounting for assets*	England	Biodiversity net gain (BNG)	<p>This biodiversity metric is a habitat-based approach used to assess an area's value to wildlife pre and post intervention.</p> <p>The metric uses habitat features to calculate a biodiversity value for existing or proposed habitats and members could use this to determine the current value of existing biodiversity or the potential uplift in biodiversity should specific interventions be introduced.</p>	<p>No. of BNG assessments undertaken</p> <p>No. BNG units that represent existing assets</p> <p>No. of BNG units created through intervention</p>	Biodiversity metric guidance
Accounting of options / accounting for assets*	England	Environmental benefits for nature tool (EBNT)	<p>A tool that helps inform decision making and improve the design and outcomes of development projects to deliver the wider benefits for people and nature.</p> <p>Primarily designed to be used with the Biodiversity Net Gain (BNG) metric by indicating how BNG outcomes deliver changes across 18 different ecosystem services.</p> <p>Members could use the tool to determine the current value of existing biodiversity or the potential uplift in biodiversity and additional benefits should specific interventions be introduced.</p>	No. of EBNT assessments and output of EBNT assessments	EBNT Tool (beta version)
Accounting of options / accounting for assets*	UK	Natural Capital Accounting	<p>A tool to measure certain stocks of the elements of nature that have a value to society, such as forests, fisheries, rivers, biodiversity, land and minerals, which includes both the living and non-living aspects of ecosystems.</p> <p>Members could undertake natural capital accounts of their assets to inform their natural capital, using the guidance developed by DEFRA 'Enabling a Natural Capital Approach' (ENCA).</p>	No. of natural capital accounts & output of natural capital accounts	Natural Capital guidance

APPENDIX TWO: PARTNERSHIPS AND AFFILIATIONS

There are various partnership organisations that could support members and help them to improve their contribution to protecting, restoring and enhancing biodiversity. The below table provides a selection of such organisations.

UK Business & Biodiversity Forum (UKBBF)	A forum for businesses to connect on the theme of mainstreaming biodiversity, supporting the understanding of biodiversity and integrating nature into their value chain.
Get Nature Positive	Nature Handbook for Business - a toolkit to understand your businesses impacts and actions to protect and restore nature.
Natural England	The Government's advisor for the natural environment in England.
Environment Agency	Regulator responsible for water quality and resources, fisheries, conservation and ecology and for regulating major industry and waste.
The Wildlife Trusts	A purpose to bring wildlife back, to empower people to take meaningful action for nature. Comprise of 46 regional Wildlife Trusts.
Rivers Trust (and local variations)	Conservation experts with a vision to create wild, healthy, natural rivers, valued by all. Comprise of 65 regional member trusts.
RSPB	Protect habitats, save species and help to end the nature and climate emergency through conservation.
National Trust	A charity looking after nature, beauty and history – for everyone.
Forestry Commission	Aims to increase the value of woodlands to society and provide support to businesses regarding tree planting and the like.
Scottish Forestry	Scottish Government Agency responsible for forestry policy, support and regulations.
Woodland Trust	The UK's largest woodland conservation charity.

APPENDIX THREE: CASE STUDIES

There are various examples of best practice when it comes to protecting, restoring and enhancing biodiversity within the waste and resource management industry. A selection of case-study examples from ESA Members are provided below. Additional biodiversity case studies were also submitted by ESA members to the **Get Nature Positive Handbook**.



NETWORK OF SUSTAINABILITY CHAMPIONS

ESA Member Name: SUEZ

Location: UK (Various)

Project Summary:

SUEZ handles over 12M tonnes of material every year at over 300 sites around the UK, with 25,000 business customers and 75 local authority contracts. Ultimately, we put waste to good use through the promotion of the circular economy, which avoids the biodiversity impacts associated with the extraction and processing of virgin materials that would otherwise occur.

Recently, we have renewed our vision 'to live in a world where there is no more waste' and our purpose 'building a sustainable future that doesn't cost the earth,' recognising the global environmental and societal challenges we face and the role SUEZ can play in addressing these through preserving resources, optimising the use of materials, and recovering value from waste.

To bring our vision and purpose to life, we have embedded a triple bottom line approach across our organisation, balancing the needs of people, planet, and profit into our decision-making processes and how we measure success.

Alongside maintaining our ISO 14001 certification and ensuring that we continually improve our environmental performance to maximise our contribution to biodiversity, we have introduced our company value of commitment to the environment and measure progress towards this as one of our critical success factors - sustainable environment:

To deliver on this commitment and drive action, we have created a network of *sustainability champions* across our 300+ sites. Together they create a real ground swell of activity to protect, restore, and enhance biodiversity across each of our sites.



Outcomes:

The creation of a network of champions to deliver on the planet element of our triple bottom line approach has resulted in significant biodiversity improvements across our estate.

Our renewed purpose, values and critical success factor have provided organisational clarity for our people, empowering them to act locally to improve biodiversity on and around our sites. This, supported by putting the 12.2M tonnes of waste we handle to good use and avoiding the biodiversity impact associated with using virgin materials, allows SUEZ to make a significant contribution towards, protecting, restoring, and enhancing biodiversity.

Through our sustainability champions network, we have created a forum to develop knowledge and to share best practice. Led by our champions, our teams have created new habitats for nature across our estate including:

- The design of a flagship site at our Witley Community Recycling Centre together with the Surrey Wildlife Trust, to showcase how to maximise biodiversity at a recycling centre. The team have installed a pond and various shelters to cater to the needs of specific species, including bug hotels, log piles, reptile hibernaculas and bird boxes.
- Partnering with *BeeOdiversity* at our Tees Valley Energy from waste facility to use pollen analysis to monitor the biodiversity onsite. This in turn identified improvements to allow species to thrive and subsequently, we have facilitated educational visits and even trained a number of our staff in beekeeping!

- The design and installation a nesting box with the help of a local ornithologist to provide habitat for a pair of peregrine falcons at our Suffolk Energy from Waste facility. It even includes a webcam so we can watch their chicks hatch and grow.
- The co-design and construction of a groundbreaking bat habitat and conversion of a WW2 pillbox into a bat habitat at our Runfold landfill site, with the help of expert advice from the Community Liaison Group, and:
- The creation of 12Ha of native grassland with wildflowers and habitat for the Sand Martin and other species at our **Path Head** landfill site, whilst also opening a nature trail buzzing with biodiversity for the local community to enjoy and improve their wellbeing.



These local biodiversity activities are in addition to the restoration of 2,000Ha of land, the planting of 300,000 trees and 13,500m of hedgerows across the UK since 2002. For further information, please see our [latest sustainability report](#).

Looking ahead to continue to ensure biodiversity is a key part of our business purpose, we have pledged our support to the [Get Nature Positive Campaign](#) and joined the [UK Business and Biodiversity Forum](#), whilst also agreeing partnerships with:

- Earth Change, to optimise restored landfill sites through a biodiversity net gain approach to create additional habitats to the value of over 30 units at our Northwick Landfill Site to support the local nature recovery strategy, and:
- Nicholson Lockhart Garrett, to plant over 10,000 trees at our Seale Lodge and Sandy Cross landfill sites under the [Woodland Carbon Code](#) to support the [England Trees Action Plan](#) and obtain certified carbon units for the carbon sequestered.



BIFFA'S BUTTERFLIES

ESA Member Name: Biffa Waste Services

Location: Brookhurst Wood Landfill Site, Horsham, West Sussex

Project Summary:

Biffa's landfill portfolio offers substantial opportunity to support pollinators and biodiversity. Our Resources and Energy division is responsible for our biodiversity projects at Biffa, with the support of our Sustainability Team. Biffa published its Sustainability Strategy in 2020 that set out an ambitious biodiversity target which would see 20% of our estate managed for biodiversity by 2025, rising to 30% by 2030. As of FY22 Biffa has managed to achieve 31%.

In February 2020 Biffa was granted planning permission for a comprehensive review to the landscape restoration scheme to provide substantial biodiversity enhancements over and above the pre-existing approved restoration scheme at Brookhurst Wood landfill site, a closed landfill site in West Sussex. Brookhurst Wood has the potential to provide an

extensive and valuable 'reservoir' of species- rich grasslands that support a diverse range of butterfly species that could recolonise any suitable habitat within the wider landscape of north-west West Sussex.

Recent analyses confirm significant declines of UK butterflies since 1976. Both habitat specialists and wider countryside species have decreased significantly in abundance and range. Many of our wider countryside species now rank among the most severely declining UK butterflies, which is a cause of serious concern. Butterflies and many other insects play a vital role in the pollination of crops and our wildflowers more generally and are also a key food source for many birds and mammals.



For several years the Brookhurst Wood landfill site has been visited by local butterfly expert David Bridges who has been undertaking butterfly surveys which have highlighted the presence of significant colonies of rare and declining butterfly species within the UK - the Grizzled Skipper and Small Heath. The main habitats for the Grizzled Skipper are woodland rides, chalk downland and former landfill sites, making our southern closed landfill site the perfect home.

As part of their 'Buildings Sites for Butterflies' programme, the National charity Butterfly Conservation approached Biffa to review the existing restoration arrangements for the Brookhurst Wood Landfill and to develop and amended scheme that will provide a suitable habitat for the promotion of butterfly species in the local area.

Issues:

The pre-existing restoration scheme would have involved the creation large areas of woodland planting. Woodland creation is a much lower priority compared to species rich grassland restoration for nature conservation, since such grassland meadows and the butterflies that depend on them are an increasingly scarce resource in the UK and within West Sussex.

Following the initial meeting with Butterfly Conservation there followed further discussions which included the County Ecologist to develop the scheme further prior to the submission of a planning application.



Grizzled Skipper, © Copyright: Bill Thornton

Outcomes:

Planning permission was subsequently granted for a 14-hectare species-rich wildflower habitat. Recent monitoring has shown that the populations of Grizzled Skipper and Small Heath have since grown significantly as restoration of the site has progressed, as well as populations of bumblebees. This successful collaborative project marks a significant contribution towards Biffa's biodiversity commitments within our Sustainability Strategy.

Biffa has since held volunteering days for staff to undertake Butterfly monitoring and which also provides an opportunity to educate staff on these critical ecological issues.



Brookhurst Wood Restoration Planting, © Copyright: Connie Turner

ENCOURAGING BIODIVERSITY AT SMALLEY HILL CLOSED LANDFILL

ESA Member Name: Veolia

Location: Shropshire, UK

Project Summary:

The main objective of this project was to maximise the biodiversity on a previous landfill site, using expertise and local partnerships to bring both environmental and social benefits to the local area.

Following completed restoration works in the 1990's Veolia sought to maximise the environmental benefits of the land by forming a partnership with the Shropshire Wildlife Trust, creating a powerhouse for local protection of biodiversity. Veolia ensured that during restoration, land was revegetated with native species that were in-keeping with the local area so that once restored the public may never know it had once been a landfill site. Veolia was then responsible for the upkeep of the site until 2014 but during this time recognised there was greater potential for biodiversity and public interest as the site had potential to be a full nature reserve.

In light of this, Veolia Environmental Trust was able to provide a grant of £38,804 to the Wildlife Trust to bring this to fruition. This involved a 15-year lease to enable access and maintenance to the newly-created area to ensure its future viability.

Work began on the site including the installation of bird boxes and other measures to help increase the range of amphibian, mammal and bird species on site. Information boards were also created to help the general public to identify pertinent species on site, and provide a history of the work undertaken.



Outcomes:

Since the project started, a number of protected species have made the reserve their home, from kestrels and owls to great crested newts. Further surveys have also identified field voles and other mammals, reinforcing the importance of the site.

The Shropshire Wildlife Trust is now responsible for regular monitoring and upkeep of the nature reserve until 2030.

Not only has our partnership improved biodiversity, it has also benefited the local community. With full access, including for people with disabilities, the nature reserve provides the opportunity for environmental education, mindfulness, and getting in touch with nature. A legacy that will bring enormous benefits for generations to come.



URBAN VINE

ESA Member Name: EMR

Location: UK

Project Summary:

As a member of the Council for Sustainable Business (CSB), EMR is an active proponent in DEFRA's Get Nature Positive initiative. EMR has significant operations spanning the UK and we have a valuable opportunity to limit loss, or even enhance, natural habitats.

Being nature positive, EMR is:

- improving biodiversity at its UK sites;
- combatting climate change through carbon capture;
- improving natural forms of surface water control;
- improving local landscapes;
- creating visual and sound barriers using natural features;

By undertaking this project, EMR is affirming its position as a leader in the supply of sustainable materials in the circular economy.

Putting this into practice, EMR has assessed the land use at every UK site. Using DEFRA's Biodiversity Metric tool, we calculated the biodiversity baseline

across the group. This exercise allowed EMR to focus on areas where we could maximise Biodiversity Net Gain (BNG) and create distinctive habitats like woodlands, meadows and grasslands with native rich hedgerows and trees.

Each UK site is unique, with some having canals, rivers, established woodland, ruderal and variety of different grasslands and some being mostly concrete. Identifying the natural habitats of the surrounding area was also important in identifying how to enhance or create a habitat on site. For example, a meadow at one site may not be congruent with surrounding environmental conditions. Similarly, some species of trees grow better at other parts of the UK than others and are more in-keeping with local biodiversity.

We are also working on this project with local wildlife groups and encouraging community participation through local tree planting initiatives, linking with local authority environmental targets.

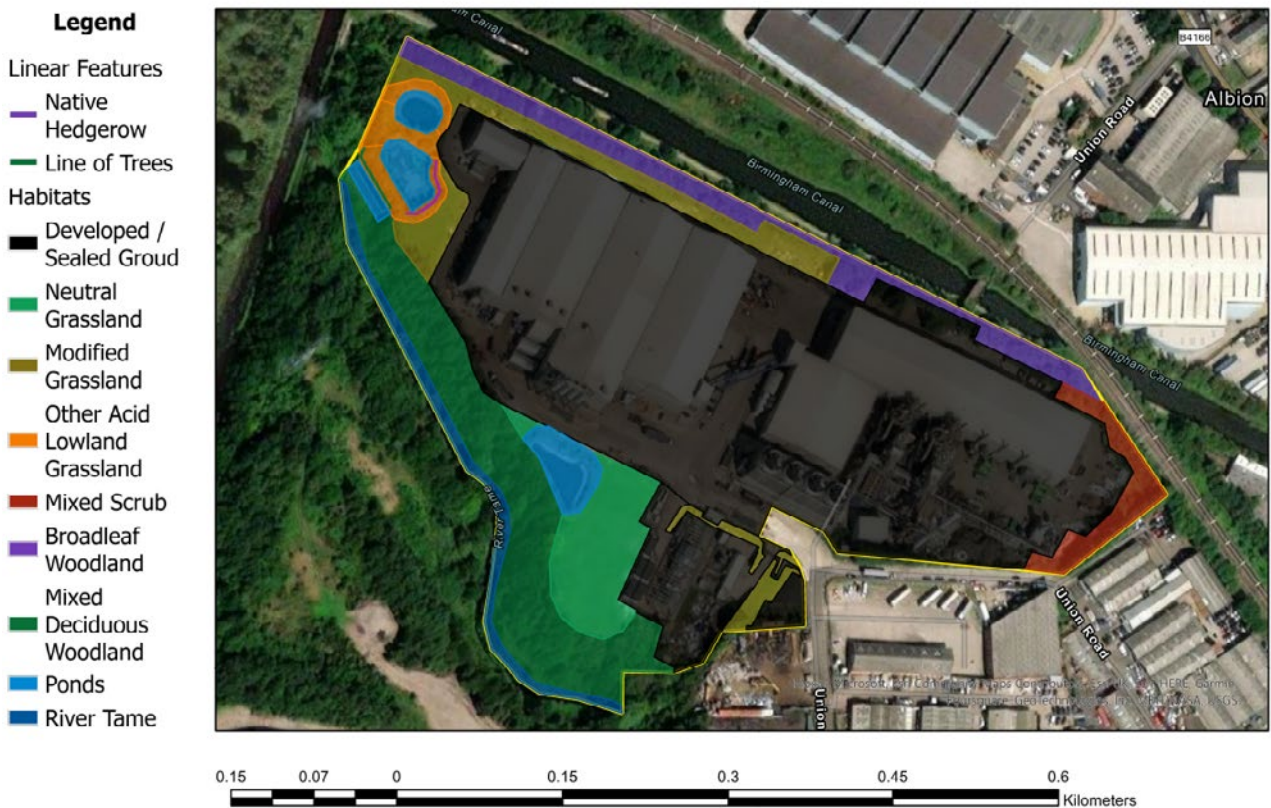


Issues:

One of the main issues is the fact that EMR is a recycling and waste management company that requires a lot of floor-space under hardstanding to accommodate our process plant and materials (vehicles, components, metals, wood, plastic etc.) In many cases, space can be tight and the opportunity to create or enhance biodiversity characteristics limited. We have, however, found that even on some of our most constrained sites there are opportunities to get nature positive like creating a green wall on some of the buildings on site, for example.

Also important to us is the recognition of the avoided impacts on biodiversity through our recycling process. By avoiding the use of primary or virgin materials, EMR is preventing the need to clear habitats for mining purposes. Whilst not easily measured or captured in a conventional sense, this is clearly a very valuable part of our operations.

Oldbury Habitat Map (Before)

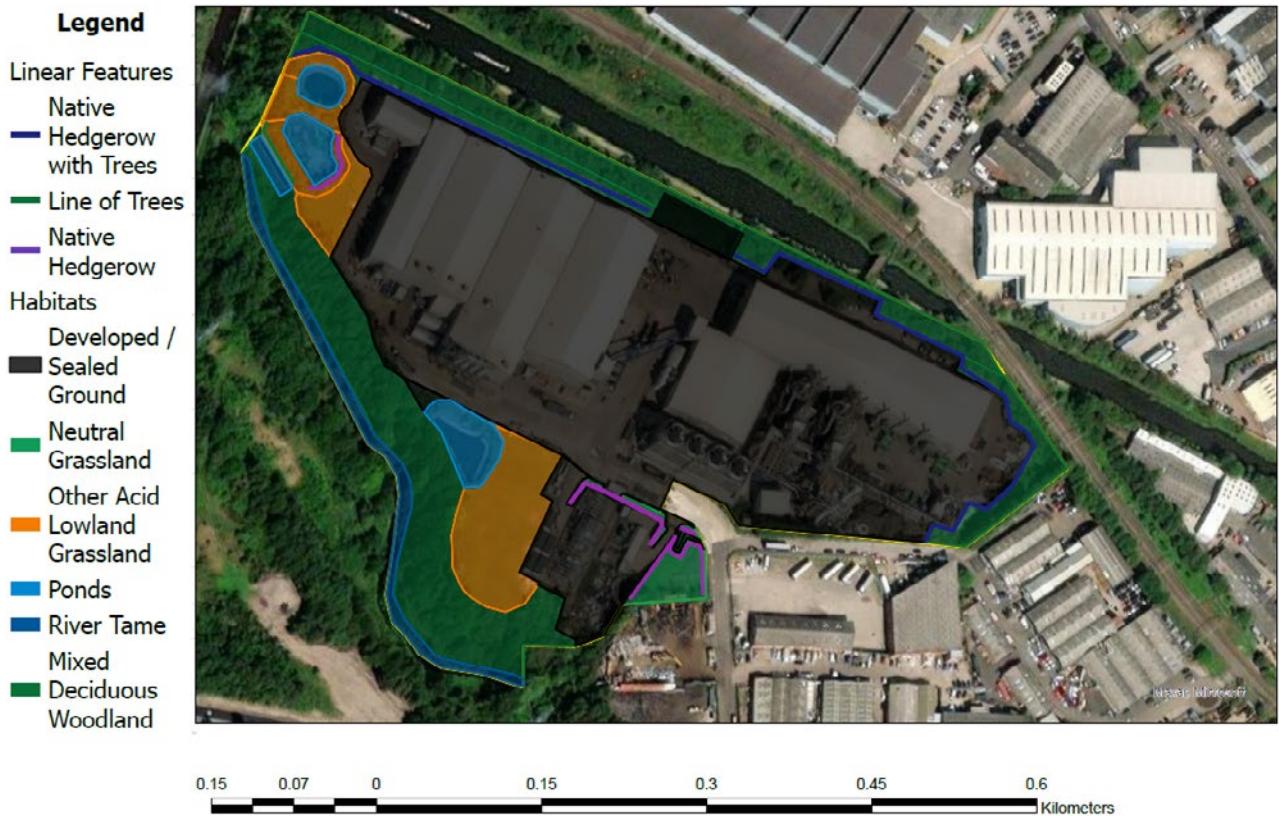


Outcomes:

A direct outcome from our work so far can be illustrated at our Oldbury site. By following the approach above, we have identified opportunities to enhance the site's greenspaces, generating an estimated Biodiversity Net Gain (BNG) of 25 biodiversity units. At Oldbury we'd be planting blackthorn and holly bushes,

allowing native wildflowers to grow in Northwest of the site, and plant a range of tree species like firs, pines, and silver birch trees. This, however, is just the start. We are developing nature positive plans across a number of our other sites which will further enhance biodiversity on a more aggregated and appreciable scale.

Oldbury Habitat Map (After)



APPENDIX FOUR: BIODIVERSITY FILM

We have produced a short film which you may wish to view, or share with colleagues, which provides an executive summary of this report. The film is **available to view here** and the file can be made available to download if necessary.



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