REWILDING MONITORING FRAMEWORK

GUIDANCE FOR THE MONITORING OF REWILDING PROJECTS IN BRITAIN

Terrestrial sites | March 2026

REWILDING BRITAIN

ABOUT REWILDING BRITAIN

Rewilding Britain champions rewilding – the large-scale restoration of nature and its remarkable web of life – because it offers hope for tackling the nature and climate emergencies while creating a cascade of benefits for people and local communities.

We influence policy, inspire public action and catalyse joined-up, positive practical action to help rewilding flourish across at least 30% of Britain's land and seas by 2030.

Through our rapidly growing Rewilding Network we're bringing together a community of rewilders – from land managers and farmers to charities, community groups and national parks – to inspire and support each other to create a wilder, more prosperous Britain.

If you'd like to know more about our work or about joining the Rewilding Network, please get in touch via network@rewildingbritain.org.uk

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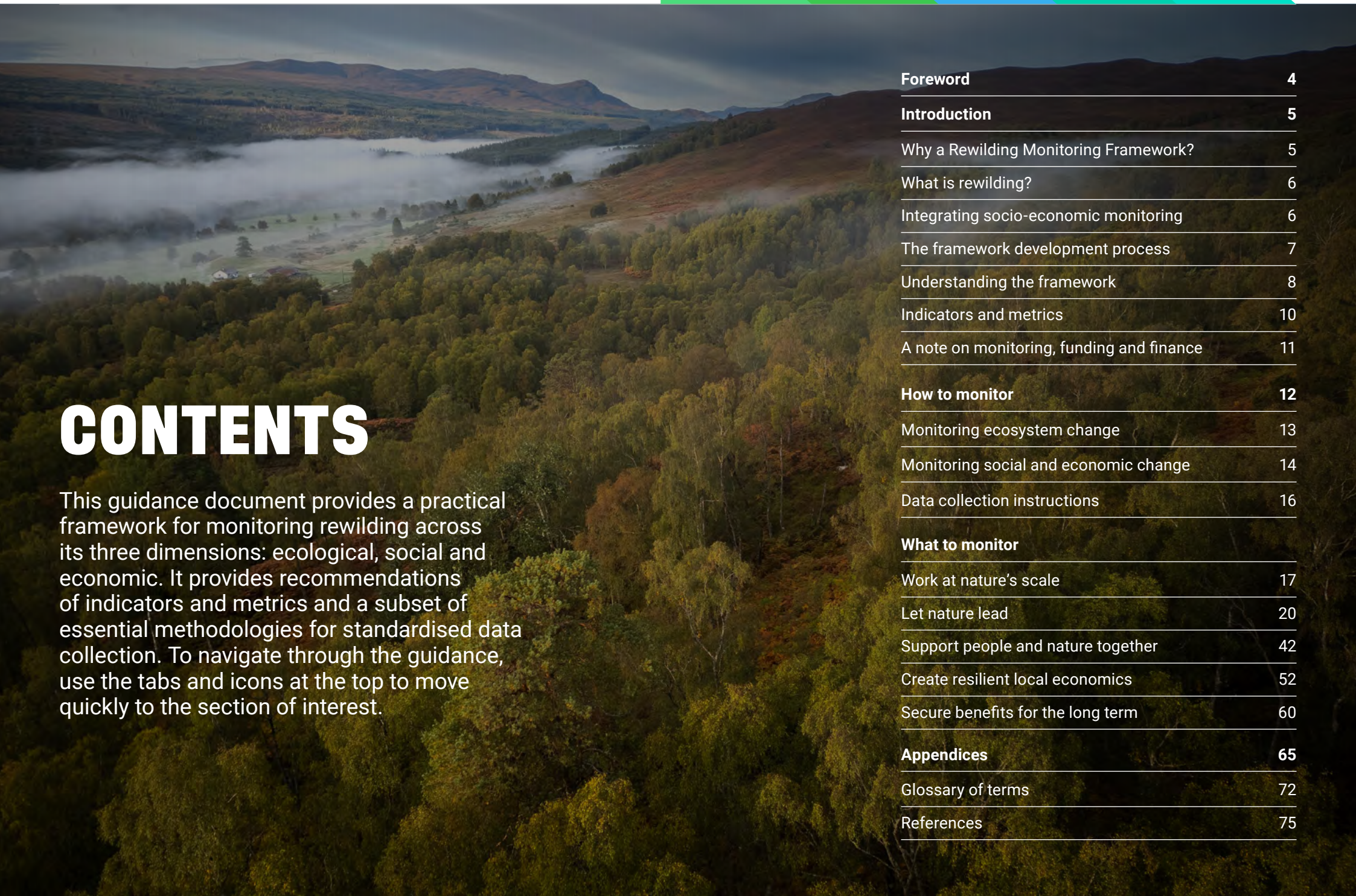


CONTENTS

This guidance document provides a practical framework for monitoring rewilding across its three dimensions: ecological, social and economic. It provides recommendations of indicators and metrics and a subset of essential methodologies for standardised data collection. To navigate through the guidance, use the tabs and icons at the top to move quickly to the section of interest.

FOREWORD

In recent years, Rewilding Britain has increasingly been supporting the Rewilding Network – which connects members who are rewilding at scale across Britain – on what to measure and how to measure rewilding progress, in order to evidence change over time.

With no comprehensive standard for monitoring rewilding, we've led the way with the development of Britain's first Rewilding Monitoring Framework – collaborating with rewilding practitioners and experts across multiple sectors to develop a robust system for measuring ecological, social and economic change across rewilding sites.

The guidance has been developed specifically for rewilding practitioners working on land and freshwater-based projects, including members of the Rewilding Network. It not only explains why we should be monitoring rewilding, but also how to measure change practically and cost-effectively, enabling practitioners to confidently establish or integrate indicators that best tell their project's story.

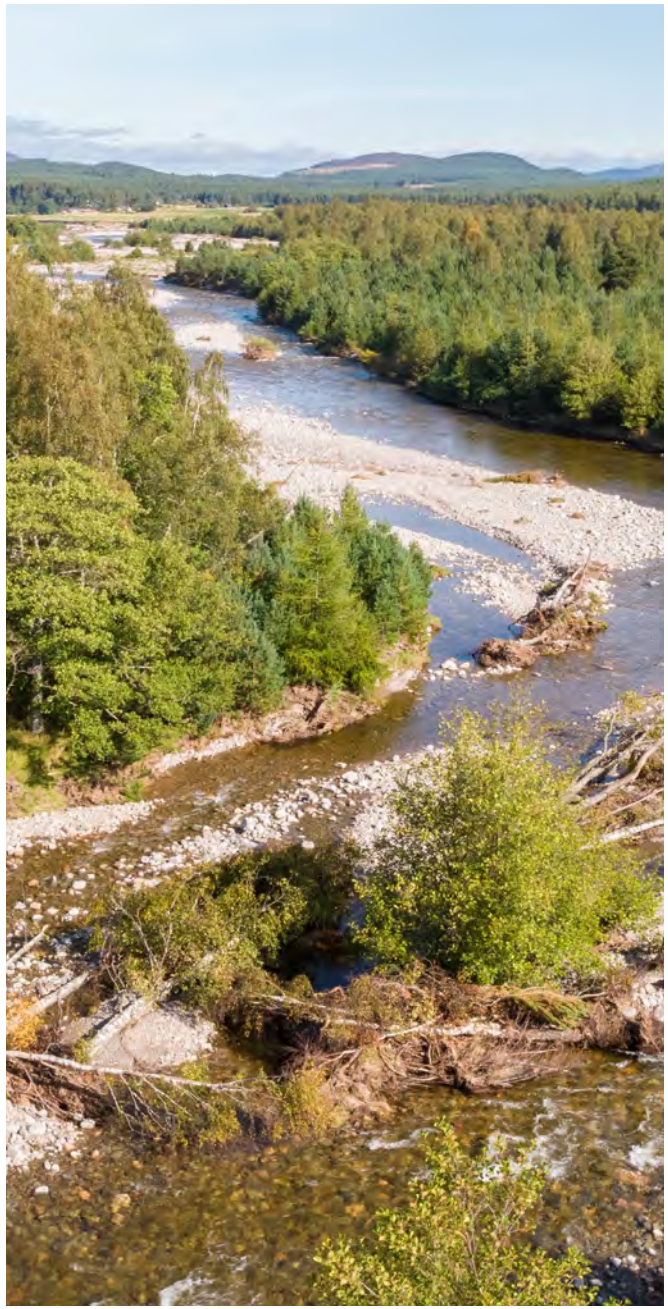
Recognising that every project operates with differing resources and goals, we've striven to balance scientific rigour with the practicality of delivering rewilding in a challenging financing landscape. This pragmatic approach acknowledges the fact that there are many other valuable methodologies and indicators worth exploring beyond these pages.

This document is the first iteration of the full framework, which incorporates how to monitor change across the social, ecological and economic dimensions of rewilding. While it already incorporates feedback from Rewilding Network members and advice from academic experts, we see the guidance very much as an adaptive framework that we will continue to evolve, informed both by the real data that rewilding projects collect and the rapid advancements in the monitoring landscape.

The framework is an important first step towards building the evidence base for rewilding, allowing us to demonstrate when and where rewilding is restoring natural processes and having wider beneficial impacts on individuals and communities.

The data will be instrumental in guiding rewilding projects and in helping decision-makers and stakeholders enable the expansion of rewilding across Britain that is so critical to addressing the nature and climate emergencies.

Kevin Cumming
Rewilding Director, Rewilding Britain



INTRODUCTION

WHY A REWILDING MONITORING FRAMEWORK?

Rewilding is a dynamic process that can challenge the traditional target-led monitoring approaches used to track changes at more conventional nature conservation or restoration sites. Although many rewilding sites do already collect data and can demonstrate ecological, social and economic changes to a certain extent, there is – as yet – no framework that lays out the most appropriate, measurable metrics for monitoring rewilding progress at sites across the three nations of England, Wales and Scotland.

The aim of this guidance is to provide a framework to support British rewilding projects to collect robust data and evidence on ecological, social and economic changes in response to rewilding, using a standardised approach where possible. Not only will this help to inform their project development, it will also contribute to building the evidence for whether rewilding is a credible land use solution for nature recovery and economic growth in Britain.

The framework aims to help gauge what and how rewilding is delivering for people and nature across five objectives associated with our rewilding principles (Figure 1), because it is only with standardised and coordinated data collection and analysis that we can help understand the progress and outcomes of rewilding projects in Britain.

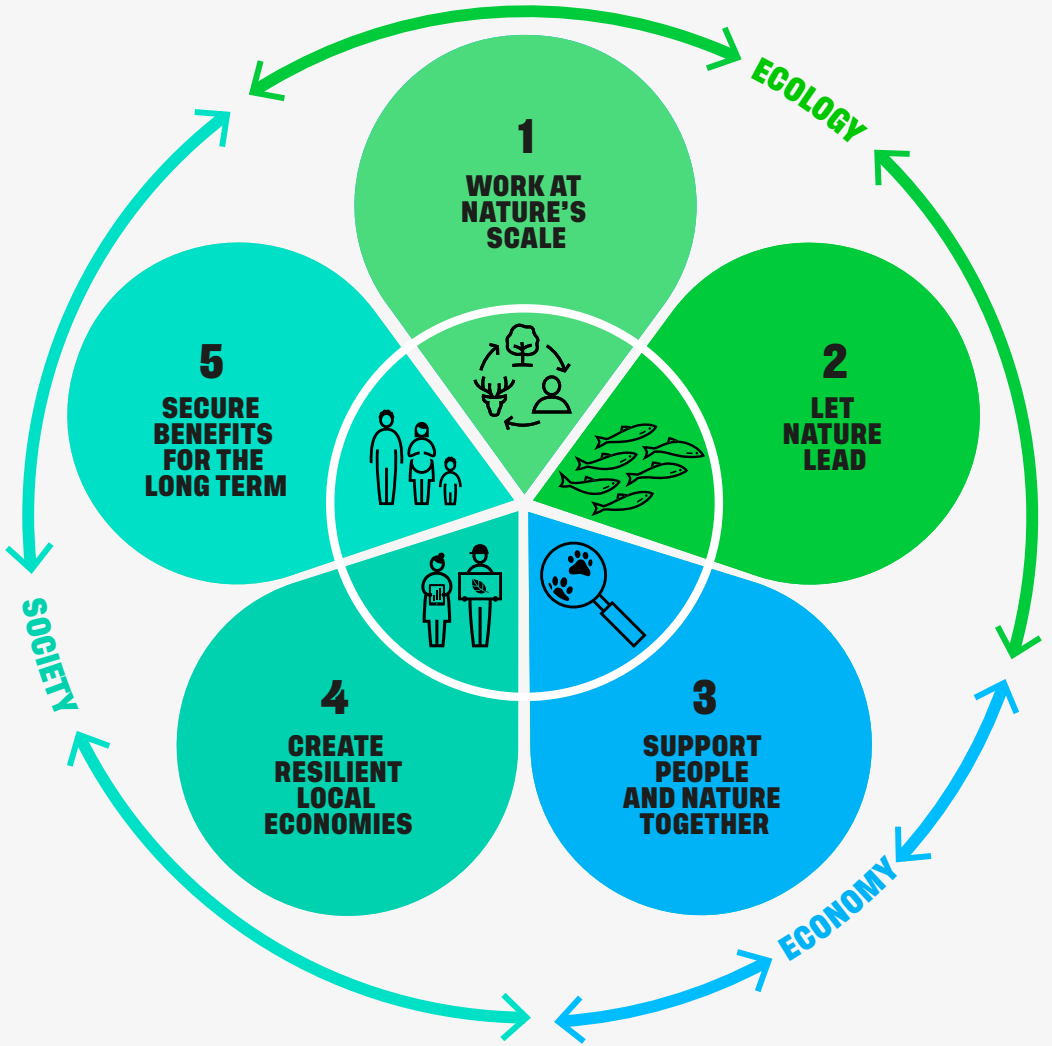


Figure 1: Our five rewilding objectives and the three dimensions of rewilding: ecology, economy and society.

WHAT IS REWILDING?

At Rewilding Britain we define rewilding as the "large-scale restoration of ecosystems to the point where nature is allowed to take care of itself. Rewilding seeks to reinstate natural processes and, where appropriate, missing species – allowing them to shape the landscape and the habitats within. It's focused firmly on the future, although we can learn from the past."

In ecological terms, rewilding is concerned with the restoration of self-regulating ecosystems by actively re-engaging dynamism within the ecosystem. It's about the restoration of interlinked natural processes such as natural disturbance (floods, fires to shape the landscape) dispersal (how species move through the landscape, removing barriers and improving connectivity) and trophic complexity (restoring whole food webs, apex predators and large herbivores that trigger trophic cascades) (Segar et al. 2022) helps to maintain ecological complexity and resilience of ecosystems (Perino et al. 2019).

Where it differs from other approaches in the nature restoration 'toolbox' is that, rather than focusing on specific species, habitats or static goals, its aim is to restore natural processes in degraded ecosystems – for the benefit of nature and people. In this way, it focuses on facilitating an ecosystem's natural ability to self-organise and respond to variable environmental conditions.

In addition, rewilding embraces novelty and variability as part of the journey. Using this open-ended approach for restoration brings many benefits to both people and nature: rewilding offers exciting opportunities for people to reconnect with wild nature and build resilient, nature-based economies, and allows natural places to develop according to ecological processes, rather than being constrained by human management. This is an exciting part of the rewilding journey and it comes with many surprises along the way.

But it's not just about ecology – rewilding encourages a balance between people and the rest of nature so that we thrive together. It can provide opportunities for communities to diversify and create nature-based economies, for living systems to provide the ecological functions on which we all depend, and for people to reconnect with wild nature.

INTEGRATING SOCIO-ECONOMIC MONITORING

Rewilding is about reestablishing complex connections, not just in ecological terms, but from a human – nature perspective, too (Ferraro and Whitehead 2025). The practice acknowledges and embraces the complex interactions that exist and understands that different stakeholders are likely to experience and perceive landscape change in diverse ways, shaped by historical, cultural and personal connections to the land. Local communities, land managers and other stakeholders may hold different values and expectations, which can influence individual responses to rewilding (Sharkey et al. 2025). Understanding these perspectives is vital, because the way people experience change and the level of acceptable uncertainty can directly affect the level of acceptance and long-term support for rewilding.

When carried out following the five basic principles as defined by Rewilding Britain, rewilding has the potential to provide significant community benefits by stimulating local economies through new green jobs, educational opportunities, nature-based tourism, diversified livelihoods and opportunities for improved mental and physical health and wellbeing (Rewilding Britain 2021). Demonstrating the social and economic impacts helps to clarify the links between the economy and the policies, investments and commitments that support restoration actions on the ground (Thomas et al. 2024). This is key to ensuring the long-term sustainability of rewilding.

Because ecological recovery underpins many of the benefits that we all depend upon, such as mitigating the effects of climate change, helping to keep our water clean and providing a flourishing natural

environment which can support our wellbeing and livelihoods, it's essential that we integrate social and economic monitoring with ecosystem monitoring. It is only with this rich set of interlinked data that we can capture the full spectrum of the outcomes of a changing landscape.

Equipped with the information, rewilding practitioners are able to make better-informed decisions on their site, produce robust funding applications, carry out enhanced stakeholder engagement and tell impactful stories about how rewilding can deliver real-world impact for people and nature. Evidencing these human dimensions is a key element of positioning rewilding as a viable and inclusive land use option in Britain.

THE FRAMEWORK IS AN IMPORTANT FIRST STEP TOWARDS BUILDING THE EVIDENCE BASE FOR REWILDING

THE FRAMEWORK DEVELOPMENT PROCESS

The Rewilding Monitoring Framework has been developed with guidance from experts and practitioners across different fields to ensure that it's scientifically rigorous and is easy to apply in a practical context. This process has involved a number of key stages:

Research: The initial research phase included identifying existing monitoring programmes, schemes and standards where metrics aligned with the monitoring of rewilding, as well as assessing emerging technologies and opportunities to integrate these.

Indicator prioritisation: We convened workshops with stakeholders – including academics, practitioners, eNGOs and key public sector bodies – to gather expert insight and to prioritise the indicators most relevant to monitoring rewilding, notably those that were felt to be 'essential' for inclusion in a monitoring framework.

Advisory group feedback: Made up of scientists and academics in the fields of ecology, environmental science and human dimensions of rewilding, our informal advisory group is there to guide and challenge our thinking.

Piloting at rewilding sites: To ensure that the framework is usable in practice we invited five Rewilding Network projects to pilot it at their sites across Britain. During this phase we worked with Queen Mary University of London and the British Trust for Ornithology (BTO) alongside the pilots to test methods and the upscaling of approaches in line with the framework. The pilot projects' valuable feedback has enabled us to adapt and enrich the framework.

Engagement: We continue to actively engage with practitioners, advisory groups and audiences at conferences and at workshops to showcase the framework, and invite ongoing insights and scientific developments as we review the framework periodically.

UNDERSTANDING THE FRAMEWORK

Whether you're at the start of your rewilding journey or have been undertaking rewilding for some time, this document aims to provide you, as a rewilding practitioner, with the tools you need to undertake data collection and analysis of your project – across not just ecological dimensions but also societal and economic aspects too.

In designing this framework (Figure 2) we've taken as our starting point the idea that all rewilding projects have the same ultimate ambition of large-scale recovery of ecosystems – to support nature and people together.

Underneath this overarching aim we've laid out five primary rewilding objectives and associated outcomes (Table 1) linked to our principles of rewilding (Rewilding Britain), which are split between three broad dimensions of rewilding: ecology, society and economy.

Each objective is made up of key themes (e.g. Ecological complexity) and within those themes we've identified a number of indicators that we recommend are monitored (e.g. Structural diversity), accompanied by a set of metrics to monitor (e.g. Change in vegetation extent and height).

We recognise that rewilding projects vary greatly across Britain and so have designed the Rewilding Monitoring Framework to be flexible to contexts at all sites – providing a selection of Essential and Desirable indicators to choose from.

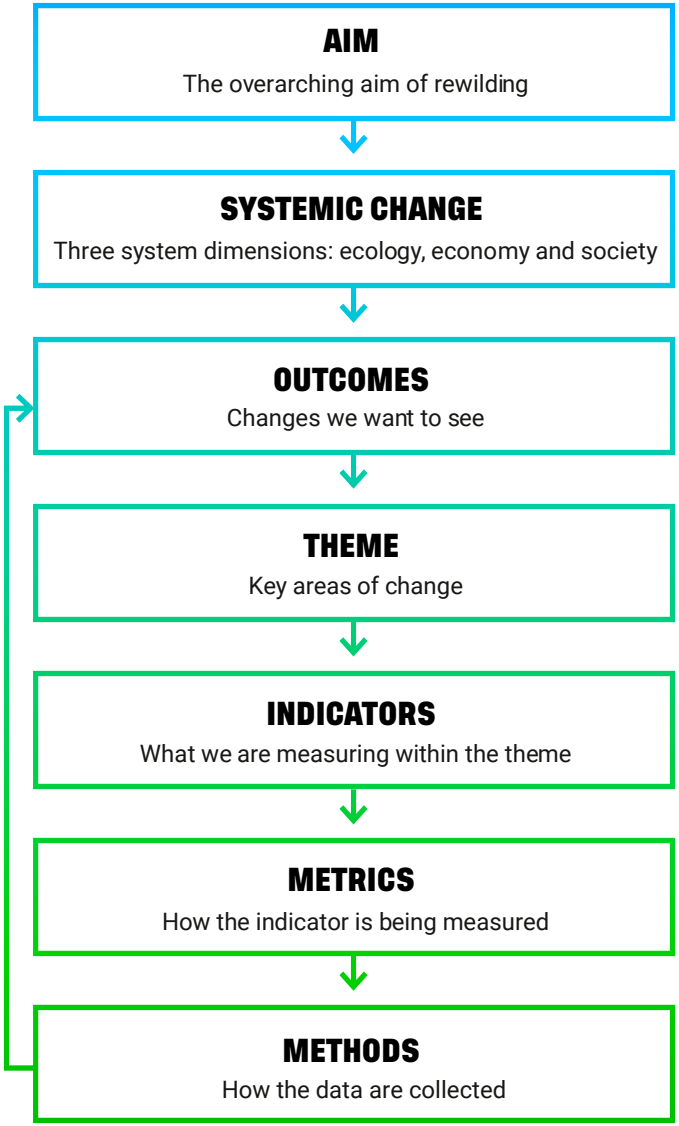
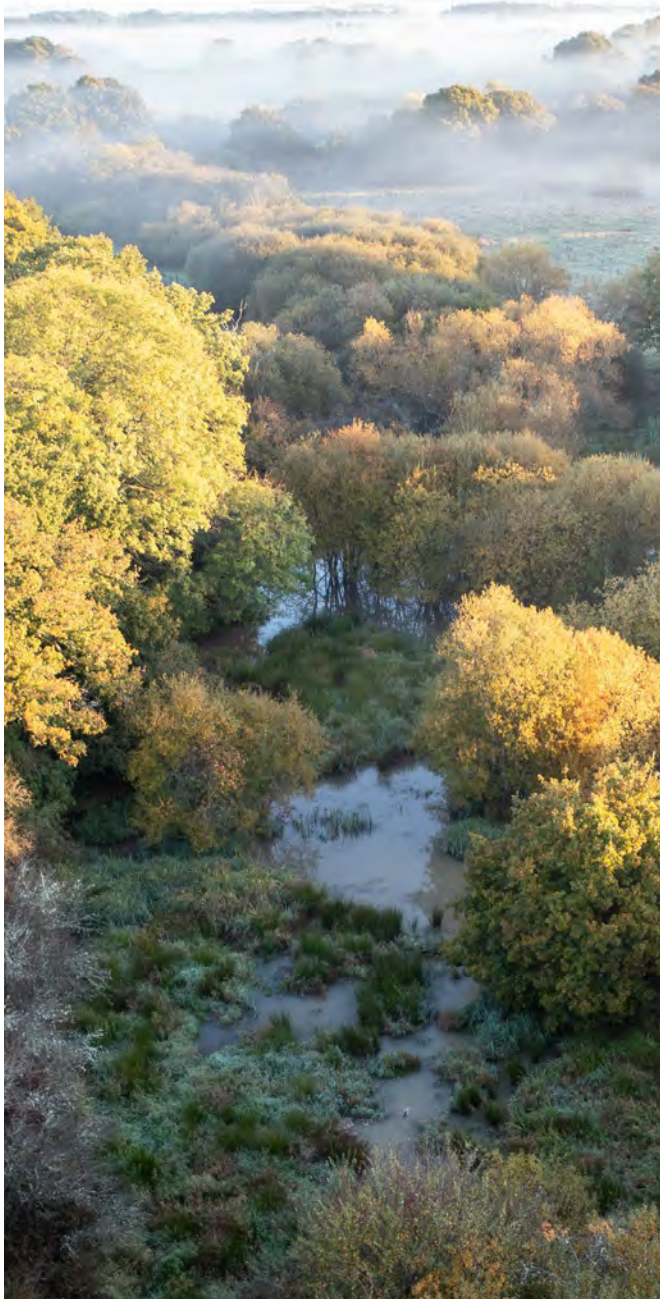


Figure 2: Schematic diagram illustrating the structure of the framework and how monitoring can inform progress against these key objectives to better understand our rewilding trajectory.



	REWILDING OBJECTIVES		REWILDING OUTCOMES
ECOLOGY	**1. WORK AT NATURE'S SCALE** Work at nature's scale so that nature drives the changes and shapes the living systems on which we all depend.	→	Total rewilding area and extent is as large as practicable or contiguous areas.
ECOLOGY	**2. LET NATURE LEAD** Nature leads the way to become self-organising and resilient.	→	Natural processes are being enhanced, improving biodiversity, leading to reduced human control.
ECONOMY	**3. SUPPORT PEOPLE AND NATURE TOGETHER** People and nature are supported together so that ecological restoration and community benefits are mutually reinforcing.	→	Local communities are increasingly involved in and feel a sense of ownership of rewilding decisions that support the delivery of equitably shared benefits.
SOCIETY	**4. CREATE RESILIENT LOCAL ECONOMIES** Rewilding creates opportunities for resilient, new, nature-based economies so that livelihoods thrive alongside nature.	→	New nature-based local ventures and employment opportunities and income streams are realised, leading to local economic regeneration.
SOCIETY	**5. SECURE BENEFITS FOR THE LONG TERM** Benefits are secured in the long term, ensuring the continued benefits of rewilding areas, which are key to a healthy, prosperous future.	→	A diverse range of ongoing funding is secured, with long-term protected status achieved.

Table 1: Our five primary rewilding objectives and associated outcomes towards which the indicators suggested in the Rewilding Monitoring Framework can monitor progress.

INDICATORS AND METRICS

Throughout the framework we recommend a selection of indicators (a qualitative or quantitative measure of progress towards a stated objective) and associated metrics ("measure of an indicator, including the units used" (Bell & Craven 2024)) that can help projects monitor progress against the five key rewilding objectives.

Deciding what is important to monitor in a rewilding context has been at the core of the development of recommended indicators within this document and we have considered SMART principles (Specific; Measurable, Achievable, Relevant, Time-bound) in indicator selection (Bane et al. 2023).

Given that rewilding has a focus on functions and processes and equitable benefit-sharing under a just transition, the chosen indicators reflect this in several ways – by asking firstly, which indicators will tell us about rewilding progress and outcomes, and secondly, which of these will provide the necessary data to track progress against each objective when adopting or transitioning to a rewilding approach (Figure 1). The indicators have been structured around a range of themes, which aim to provide a holistic overview of change across rewilding projects.

A TWO-TIERED APPROACH

We appreciate that monitoring programmes can be expensive and/or time-consuming, so we've worked hard to recommend metrics that take a balanced view of scientific rigour and cost-effectiveness to achieve a good overview of changes.

We also understand that you'll have specific interests, ambitions and potentially different needs for funding streams – and certainly varying degrees of resource. That's why we've come up with a two-tiered approach for choosing your indicators and metrics: Essential and Desirable (Table 2).

Essential: The Essential indicators and metrics have been developed to capture key measures of rewilding progress across the three areas and we encourage all rewilding projects to include these in routine site monitoring using the recommended methods. If resources are limited, these are the ones we would suggest as a minimum.

Desirable: If you have more resources or are keen to focus more in certain areas, your project may wish to expand your monitoring programme to include extra indicators and/or metrics or more sophisticated methods that are appropriate to individual sites. We've provided recommendations as a guide (across social, economical and ecological dimensions).

We encourage you to monitor, as a minimum, those indicators highlighted as 'Essential' using the associated methods. This will ensure a subset of indicators across projects that are collecting the same metrics in the same way. This is critical for being able to reliably make comparisons at your site across years, but also to enable national-level comparisons between projects.

If resources allow, also feel free to refer to the Desirable indicators for recommendations of further monitoring. The choice of metrics used is up to you, allowing flexibility for site context. Selections should be chosen from across the three dimensions: ecological, social and economic. Once chosen, the same additional metrics and methodologies must be used in subsequent repeat surveys to support accurate, good-quality data.

Within each Objective we lay out a list of the Essential and Desirable metrics we recommend you carry out, grouped within the key monitoring themes we've identified.

THEME	INDICATOR	ESSENTIAL	DESIRABLE	COST GUIDE	POTENTIAL FUNDING INVESTMENT
EACH OBJECTIVE IS MADE UP OF KEY THEMES	Core set of indicators measuring key rewilding metrics (all projects to collect as a minimum)	✓		£–£££	Expensive surveys (e.g. vegetation structure) only need to be done every five years; several related metrics can be derived
	Additional set of indicators if resources allow		✓	££–£££	More comprehensive monitoring may provide more opportunity for funding/investment

Table 2: Monitoring helps to track change across time and space, but resources can often dictate how much can be achieved. The proposed Rewilding Monitoring Framework splits indicators across two tiers, which generally reflect resource inputs. An exception to this is eDNA and LiDAR (Light Detection and Range) drone surveys, which require minimal effort from projects but which may incur greater initial cost due to the specialist expertise and analysis required. £ = low cost – £££ = high cost.

A NOTE ON MONITORING, FUNDING AND FINANCE

Monitoring the changes and impacts that emerge through rewilding is closely linked to financial mechanisms and reporting. The framework has been designed so that, where possible, it works alongside other data collection you may be undertaking for funding and payments, such as agricultural subsidies and private investment.

Here's a summary of how the framework interacts with some of the main financial avenues for rewilding.

BIODIVERSITY NET GAIN

In England this mechanism currently uses Defra's Statutory Biodiversity Metric, which requires information on habitat type and condition. Data collected as part of the structural diversity (vegetation structure) and habitat heterogeneity metrics should provide appropriate data that you can also use to report on your Biodiversity Net Gain baseline and detail of ongoing change. In the future, soundscapes could provide the crucial species element to Biodiversity Net Gain assessments. There is no current metric for Scotland and Wales.

CARBON CREDITS

While we have not included a specific metric for measuring carbon within the Rewilding Monitoring Framework, data collected as part of it can be analysed to provide carbon calculations. Vegetation structure surveys can be used to assess the amount of above-ground carbon, hydrological change can inform peatland assessments, and soil surveys can inform changes in soil carbon (although more in-depth soil assessments are likely to be required for these credits). By following the monitoring strategy outlined in our framework you can also potentially access 'carbon plus' credits by showing the impact of your rewilding interventions on biodiversity as well as carbon – selling carbon credits at a premium thanks to the rewilding approach behind your project.

BIODIVERSITY CREDITS

These are still being developed in Britain. However, the majority of emerging schemes are using the approach whereby projects/communities are directed to choose a number of indicators within specific themes that best suit their particular needs. This may require projects to measure around five metrics appropriate for their site. The species abundance and diversity metrics combined with habitat metrics should provide you with the data for your biodiversity metrics. The social and economic indicators recommended in this guide have been designed to effectively contribute to reporting for biodiversity credits, where economic and community benefits and involvement are specified.

NUTRIENT NEUTRALITY CREDITS

These are focused on ensuring no net increase in nutrient pollution. If you're using these credits, water quality metrics should provide transferable data for reporting on these schemes. Interventions that reduce pollution (e.g. those that retain water on site) could be part of this.

AGRICULTURAL SCHEMES

The detail of monitoring for emerging agricultural schemes within the devolved nations remains unclear. However, the combination of habitat, soil, hydrology and species data should provide the detail required to inform your impact reporting for such schemes. The vegetation structure surveys will also be able to effectively show the impact of agricultural schemes over time, providing visually impactful data for funders.

PHILANTHROPIC FUNDING

Following our monitoring framework should provide robust data for philanthropic funders, which is a much more flexible form of funding than government subsidies. While we don't know what future finance markets might emerge, we've taken care to develop this framework with potential future schemes in mind.

While we've attempted to set monitoring protocols that can contribute to the data needed to access these financing mechanisms, we should note that many of these schemes are themselves still in development. The good news is that they are increasingly including social and economic data as part of their requirements, with funding streams and credit schemes seeking evidence of community benefits and involvement or stakeholder analysis (Davis et al. 2024). It's recommended that you seek expert advice from the relevant body before proceeding.

Additionally, we must recognise that this framework is focused on monitoring rewilding trajectories, and – as our Rewilding Finance report (Rewilding Britain 2024) laid out – it's clear that there is some way to go before traditional financing mechanisms work hand-in-hand with rewilding principles.

HOW TO MONITOR

IN THIS SECTION WE OUTLINE HOW TO MONITOR – WITH GUIDANCE ON DESIGNING YOUR REWILDING MONITORING PROGRAMME.

This includes baselining data, setting up a sampling strategy and the techniques, equipment and expertise needed to carry out your data collection.

We've split this guidance into two distinct parts, to be able to better cover the very different processes involved in ecological and socio-economic outcomes.

MONITORING ECOSYSTEM CHANGE

A well-designed monitoring programme will ensure that important changes occurring as a result of your rewilding interventions do not go undetected. Equally important is the fact that your monitoring approach should allow you to distinguish between responses that are specifically attributable to rewilding and the background environmental changes that may be taking place anyway (see Christie et al. 2019).

DEFINING BASELINES AND SAMPLING DESIGN

Collecting baseline data before starting any project is an important part of rewilding projects, because it provides a benchmark against which any changes can be measured. In other words, data needs to be collected using robust methods in a consistent way that enables comparison over time. The strategy suggested here has two components: spatial (changes over space) and temporal (changes over time) to monitor how things are changing.

Depending on rewilding activities, a site-specific, 'stratified random sampling' plan is a scientifically sound way to allocate plots/locations for ecological survey. A grid is applied to the area of interest (your rewilding site) and sampling plots/locations are randomly selected within each grid square, ensuring the variable conditions on site are represented across survey locations. In addition to this sampling plan, the methods recommended within this guidance have their own associated sampling techniques specific to what is being measured. Similar approaches can be used for social and economic monitoring.

We strongly encourage you to adopt the Before-After Control-Impact (BACI) design (Figure 3) as the 'gold standard' approach for your ecological sampling strategy. It is a powerful design used to measure

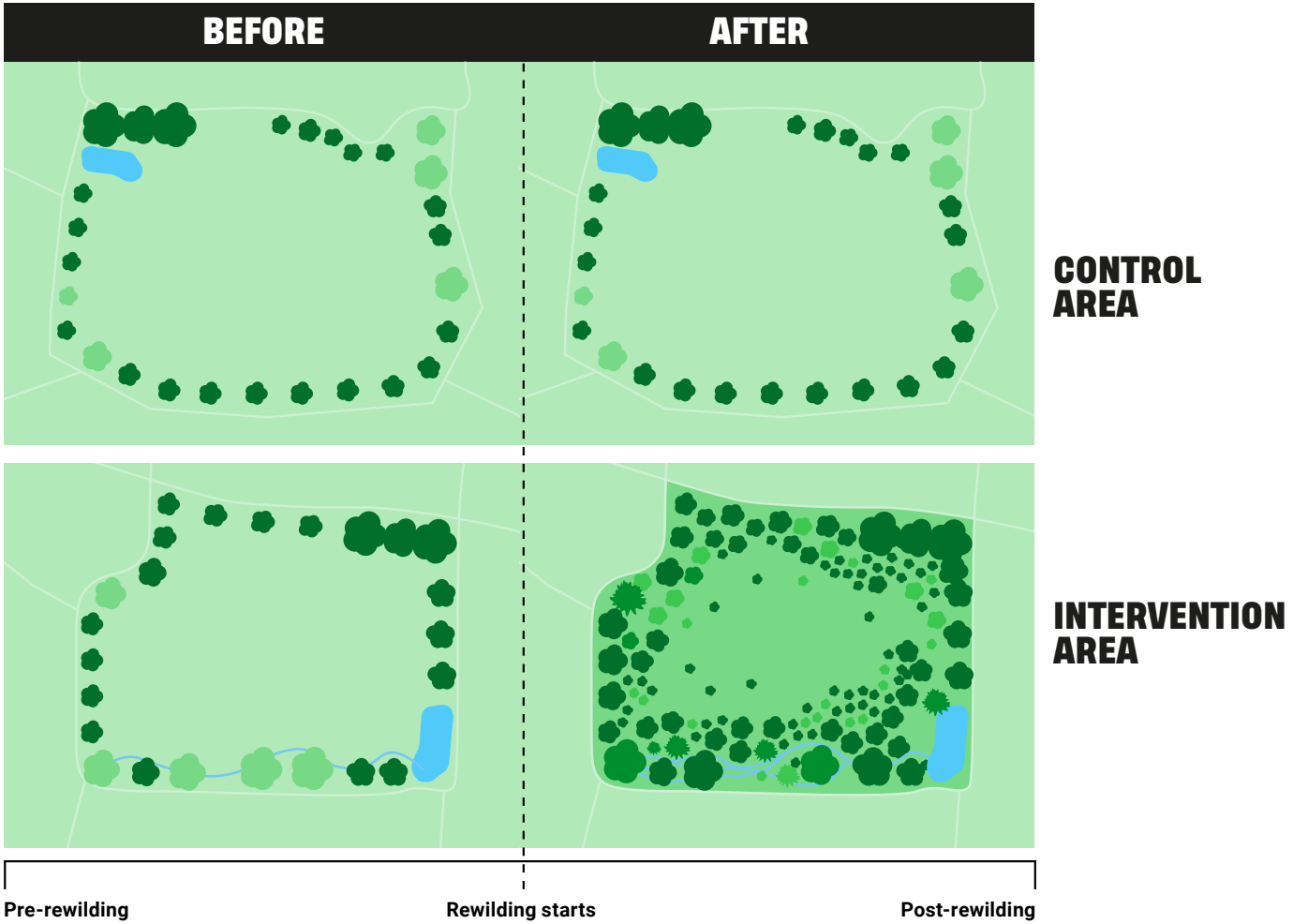


Figure 3: Before-After Control-Impact (BACI) approach to collecting data across comparable control and rewilding areas.
Before: *Survey the existing baseline conditions of control and impact (proposed rewilding area) sites.*
After: *After rewilding interventions or actions are introduced, conduct repeat surveys at control and rewilding sites in identical ways and at the same time, according to the monitoring programme.*

environmental impact (Perino et al. 2019; Christie et al. 2019).

BACI pairs rewilding areas (Impact) with 'Control' areas (a management-as-usual area with similar characteristics at baseline in terms of conditions and management regimes) and compares them 'Before' (the baseline) and 'After' (repeat monitoring) rewilding ('intervention') starts. The comparison between the two areas allows you to understand the 'true' impact of rewilding and to distinguish it from local natural variability. Identifying a control site and having capacity to collect data there in the long term can be challenging.

Control-Impact design should be used if you have not been able to monitor a site before rewilding started, although care should be taken to ensure that pre-existing differences between sites are not interpreted as rewilding outcomes.

Where no control site is available, a simple Before-After design may be the best approach. While less accurate in its ability to estimate the true effects of rewilding, it will still be incredibly valuable. Most projects collect baseline data before rewilding starts and use this as the Before measure, and use subsequent surveys as the After. Ideally, baseline data should be gathered over more than one year to ensure it is robust and to iron out year-to-year variation due to, for example, weather.

STANDARDISING YOUR DATA COLLECTION IS KEY TO COMPARING CHANGE OVER TIME

ADDITIONAL CONSIDERATIONS

A standardised monitoring programme will ensure robust data that are comparable over time. We also recommend consideration of the following when carrying out ecological monitoring:

- **Time of year the surveys are completed:** Ensure that repeat surveys are collected at the same time across subsequent years in accordance with recommended time periods (e.g. once a year in April, once every five years in June).
- **Distribution of survey locations across the rewilding area:** Ensure the variable conditions on the site are represented across survey locations (stratified random sampling approach).
- **Standardised data collection and analysis:** To allow direct comparisons over time.
- **Number of sampling points:** Ensure that enough sampling points are selected to support the collection of robust data.
- **Weather conditions on survey days:** It's good practice to record weather conditions on the day of each sample (e.g. approximate wind speed, rain, cloud cover). Ideally there should be an in situ weather station for continuous data collection.
- **Format and labelling of data collected:** Perhaps the most important consideration for long-term data collection is to ensure that all data collected are available in a consistent digital format (e.g. drone imagery, acoustic files, digital habitat maps, spreadsheets). Ideally, you should use labelling with unique identifiers to enable data to be more easily processed and to ensure that it is directly comparable over time (e.g. SiteCode_LocationCode_DataType_Year_Month_Day_Time.FileType). For further information on improving quality of data collection, PRISM provides some useful information (Dickson et al. 2017).
- **Metadata:** Datasets should be stored with any other relevant information about how it was collected, by whom and when, so that this information is available to others who may need to use it or for repeat surveys.

MONITORING SOCIAL AND ECONOMIC CHANGE

Many of the approaches used to monitor ecological change are mirrored by those used in the social sciences, particularly when it comes to collecting data in a structured and consistent way. In this framework, we draw on social science and economic methods to support practitioners in applying established approaches to capture social and economic outcomes alongside ecological ones.

MAPPING YOUR STAKEHOLDERS

To ensure your monitoring is as successful as possible, we strongly recommend taking an initial step to conduct a stakeholder analysis exercise. Stakeholders are people or groups who "can affect or are affected by decisions associated with these landscapes, this may be directly (communities-of-place), or indirectly (communities-of-interest)" (Moore and Tully 2017).

Doing this will help identify who is most likely to be affected (both positively and negatively) by rewilding activities – and to what extent. An important component of this is identifying any potential power

imbalances between stakeholders and/or members of the community (Butler et al. 2021). By mapping out these relationships from the start, projects can ensure that a broad range of perspectives and visions is included and can uncover opportunities for collaboration and design engagement approaches that build shared ownership and trust. Working through this process will also create opportunities for more focused collaboration and engagement. It's worth noting that stakeholder analysis is a requirement of several credit schemes (see page 12).

Guidance on how to engage communities is not specifically covered in this framework, but there are a range of useful resources on establishing meaningful community participation, some of which have been developed through a nature recovery and/or rewilding lens (e.g. Hafferty et al. 2023; Nixseaman and Cook (n.d.), SDCD 2015; Scottish Land Commission 2023; IAP2 2020 and 2024; Lawrence and Maddix 2025). An increasing number of projects are using the arts as a way of understanding the human dimensions of rewilding, with some great examples that include producing comics (e.g. Locke et al. 2024), art (e.g. Radnorshire Wildlife Trust; Drumadroon), sculpture (e.g. Dundreggan 'Tree of Life') poetry and stories (e.g. Tir Natur) and essays (e.g. MacFadyen et al. 2025).

QUALITATIVE OR QUANTITATIVE

Using qualitative approaches, that is, descriptive rather than numerical (quantitative) data, can provide insights into how stakeholders experience and interpret rewilding. Such approaches help capture nuance, context and emotion, revealing the social and economic dimensions of rewilding that may not be visible through quantitative data alone. Combining both qualitative and quantitative methods can offer a fuller picture of the transformative potential of rewilding across landscapes and communities. Many of the indicators in Objectives 3–5 are a mixture of these two approaches.

Capturing the more intangible outcomes of rewilding is an important part of understanding the nuance around indicator-based monitoring. Other approaches (Appendix 3) such as Most Significant Change (Davies and Dart 2005) are indicator-free techniques that draw on contributed stories from the community to build an understanding of how people are interacting with rewilding. Intangible benefits indicators are also being developed to be used alongside quantitative data.

DEFINING YOUR SAMPLES

As with ecological monitoring, defining your 'sampling units' (i.e. who you are collecting data from/on is an important aspect of consistent monitoring. The stakeholder analysis will also help identify different groups of interest too, such as long-term volunteers. Where the indicators we've included in this framework refer to 'local community' or the 'local economy', we've provided the guidance below:

Local community: 'Community' has been defined as "a group of people with diverse characteristics who are linked by social ties, share common perspectives, and engage in joint action in geographical locations or settings" (MacQueen et al. 2001). For the purposes of this guidance document, we focus on 'local community' being what is described as 'communities of place' – people within the same geographic location who are in proximity to a rewilding activity. This is in contrast to 'communities of interest', which are those who share a common interest but who are not exclusively living in the same geographical location (Lawrence and Maddix 2025).

We suggest this proximity to be within a 10-mile radius of the project. (This is based on data analysis we've undertaken on the proximity of people to rewilding sites across Britain, in which the average distance is 10 miles. Given that there is no defined or standard distance, we've based this suggestion on that calculation but with the caveats listed).

This will of course depend in part on how isolated your site is from the nearest community or from dispersed populations who are likely to be influenced by rewilding activity. Under land reform in Scotland, community geographical boundaries and areas may be self-defined for the purposes of forming a 'compliant Community Body' (Scottish Government 2026). To maintain consistency of data, ensure that whatever you define as the local community remains consistent over time.

Local economy: We recommend that this is also set at a 10-mile radius and is linked to the local community. However, if a rewilding project is relatively geographically isolated and there may be fewer businesses and people to employ, it may be more appropriate to opt for the regional economy. Using a regional economy (e.g. a radius of 30 miles) enables you to demonstrate that a relatively local economy is being supported.

BASELINING YOUR DATA

As with ecological indicators, baselining conditions before rewilding activity starts will allow comparison over time and space. The baseline allows comparison against repeated measures over time and will allow you to compare changes against this. If rewilding has already started, you may be able to access existing data through sites such as the Office of National Statistics (ONS), which holds large amounts of social and economic data.

Applying the BACI approach to monitoring social and economic outcomes is possible, but is potentially resource-heavy, requiring a control location or group. Alternative approaches are to collect your data from the same sample population (e.g. local community: long-term volunteers, businesses) repeatedly over time (i.e. panel data) pre and post rewilding activity. A more pragmatic approach is to collect data before and after rewilding starts. If you can use a control population or community where rewilding isn't taking place, this will help determine the attribution of these outcomes being monitored.

As with ecological indicators, samples should be randomised among your identified target population, ensuring all groups and demographics are well represented. A professional social scientist – either through a consultancy, professional body, research institute or university – may be able to provide guidance on this. For more comprehensive surveys or participatory work, we recommend that guidance be sought to ensure that data collection is robust. Please also review the range of recommended guidance on how to engage, which is included in this framework and which provides more detailed guidance (page 14 'Mapping your stakeholders').

ETHICAL CONSIDERATIONS

Due consideration should be given to the ethical implications of any data collection involving people. Where individuals participate directly, participation must be voluntary and based on free, prior and informed consent. This should include clear information about the purpose of data collection, how the data will be used, whether and how it will be anonymised, where it will be stored, who will have access to it, how it will be protected and (if personal information is collected) the participants' rights under the UK's General Data Protection Regulation.

It's also considered good practice to ensure the results of any surveys are fed back to participants. There are numerous useful resources available that provide more information in this area (e.g. Social Research Association 2021; Dickson et al. 2017).

DATA COLLECTION INSTRUCTIONS

In the following sections you'll find data collection instructions (or the commissioning thereof) for the indicators and metrics we've identified as essential across all five objectives.

The instructions include information on standardised methods, where possible, so that data are comparable over time and across sites. For Species diversity (Theme 2.1) additional Desirable metrics together with detailed methods are provided in Appendix 1.

Please note that metrics measuring Objective 1 (Work at nature's scale) is being monitored directly with the Rewilding Network using the 'spectrum assessment' of rewilding in our Rewilding Journeys toolkit (Rewilding Britain 2024).

EACH OF THE INDICATOR TABLES OUTLINES:

- why it's an important indicator;
- what you will be monitoring;
- when you should do the monitoring;
- who should do the monitoring or survey work;
- how the data should be collected;
- estimates of costs and expertise required;
- where available, a link to standardised or recommended methodology (i.e. a way of monitoring in the same way as everyone else, which is important for assessing trends and comparing change over time);
- any important asks of surveyors or contractors to ensure you receive outputs in a usable format that's comparable over time.

OBJECTIVE 1: WORK AT NATURE'S SCALE

REWILDING IS RESTORING ECOSYSTEMS WITH ENOUGH SPACE TO ALLOW NATURE TO DRIVE THE CHANGES AND SHAPE THE LIVING SYSTEMS ON WHICH WE ALL DEPEND.

Scale may come from single landholdings or through collaborative projects so that nature can thrive from mountain top to doorstep, from source to sea. These metrics will be collected by Rewilding Network members as part of the initial rewilding spectrum assessment.

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TABLE OF ESSENTIAL AND DESIRABLE INDICATORS

Tick marks indicate whether an indicator is Essential (recommended minimum) or Desirable (additional indicators where resources allow), following the framework's two-tier approach.

THEME	INDICATOR	ESSENTIAL	DESIRABLE	METRIC(S)	METHOD
1.1 SCALE	**Size of rewilding area**	✓		Area rewilding (ha)	Rewilding spectrum assessment / Project records
		✓		Area managed for traditional conservation (ha)	
				Total site area (ha)	
				Area in other land uses (ha)	
		✓		Total area (ha)	
	Strategic connectivity	✓		Number of strategic initiatives (e.g. nature recovery network) in the area	
	Multi-stakeholder	✓		Number of stakeholders with rewilding land in the project	

THEME

1.1 SCALE

Scale is an important component of rewilding because many ecological processes operate across large areas. Landscape-scale rewilding supports many key ecological processes, such as predator – prey interactions, the movement of animals and water and natural disturbances that require extensive, connected landscapes to occur effectively. In Britain, these large landscapes will often be formed of multiple neighbouring landowners, and collaboration between them and other stakeholders is essential to achieve rewilding at scale.

By working together to coordinate a mosaic of habitat restoration activities across property boundaries, landowners can create continuous habitats and ecological corridors that support ecosystem resilience.

If you are a member of the Rewilding Network, these data are collected as part of the Rewilding spectrum assessment when you join. If you are not part of the network, there are no methods sections for Objective 1, because the data can easily be recorded as part of an annual site assessment.

OBJECTIVE 2: LET NATURE LEAD

NATURE LEADS THE WAY IN BECOMING SELF-ORGANISING AND RESILIENT.

From the free movement of rivers to natural grazing, habitat succession and predation, rewilding seeks to reinstate natural processes. This includes reintroducing missing species where appropriate, particularly keystone species. It is not focused on reaching any human-defined optimal point or end state. It goes where nature takes it. It promotes process, diversity, functionality and resilience.

CONTENTS

*Although not essential, based on practitioner interest we have added additional details to these desirable indicators.

TABLE OF ESSENTIAL AND DESIRABLE INDICATORS

Tick marks indicate whether an indicator is Essential (recommended minimum) or Desirable (additional indicators where resources allow), following the framework's two-tier approach.

THEME	INDICATOR	ESSENTIAL	DESIRABLE	METRIC(S)	METHOD
2.1 SPECIES DIVERSITY	Species abundance and diversity	✓		Species richness	Total number of different species (across taxonomic groups) per sample area
		✓		Species abundance	Total number of individual per species present (across taxonomic groups) per sample area
		✓		Species diversity	Simpson's D or Shannon Index
			✓	Functional diversity	Functional traits Database/R software
			✓	Community composition	Beta (β) diversity (Bray-Curtis Dissimilarity)
2.2 ECOLOGICAL COMPLEXITY	Soundscapes		✓	Acoustic Entropy Index; Acoustic Complexity Index	Soundecology (R package)
			✓	Full suite of acoustic indices	
	Structural diversity	✓		Change in vegetation extent (ha) and height (m)	LiDAR/photogrammetic surveys
			✓	Diversity in vertical structure	Number of vegetation layers; foliage height diversity (FHD)
			✓	Canopy rugosity	Horizontal and vertical variance
2.3 HABITAT HETEROGENEITY AT LANDSCAPE SCALE	Habitat heterogeneity		✓	Number, area (m^2) and arrangement of habitat patches (configuration)	UK Hab Level 4 Remote sensing/GIS or R software
			✓	Diversity of habitat types (composition)	Simpson's D
2.4 CONNECTIVITY	Structural connectivity		✓	Mean distance between similar patches (m)	GIS or R software
			✓	Effective mesh size	GIS or R software
	Functional connectivity		✓	Equivalent connected area (ECA)	GIS or R software

THEME	INDICATOR	ESSENTIAL	DESIRABLE	METRIC(S)	METHOD
2.5 ECOSYSTEM FUNCTIONS/ PROCESSES	Hydrology, geomorphology and water quality*	✓		River flow (discharge) (m3s-1)	Continuously measured at gauging stations/on site
		✓		Flow velocity (ms-1)	
		✓		Water level/depth (m)	
		✓		Depth to water table (m)	
			✓	Physical assessment	MoRPh field survey
			✓	Water quality (pH, N, P, DO, turbidity)	Field survey
			✓	Wetland/floodplain inundation (m2)	Remote sensing
	Disturbance		✓	Herbivore pressure/grazing impact	Field survey/remote sensing
			✓	Frequency and spatial extent of fire, flood or anthropogenic disturbance events (number; ha/year)	Remote sensing
	Soil quality and structure $	✓		Soil organic carbon (SOC%)	Laboratory analysis
		✓		Bulk density (soil structure)	
		✓		Worm counts	Field survey
			✓	Soil chemistry (e.g. phosphates, nitrates)	Laboratory analysis
			✓	Soil water content	
			✓	Fungi:bacteria ratio	Laboratory analysis (eDNA)
			✓	Soil microbial community (functional groups)	
			✓	Mycorrhizal fungi diversity	Laboratory analysis
			✓	Soil invertebrate diversity and abundance	Field sampling, analysis
	Decomposition		✓	Litter decomposition rate	Teabag Index
			✓	Carrion biomass (kg)	Field survey
			✓	Deadwood volume (m^3)	Field survey

$ If restoring peat please refer to the IUCN Peatland Code Field Protocol.

THEME	INDICATOR	ESSENTIAL	DESIRABLE	METRIC(S)	METHOD
2.5 ECOSYSTEM FUNCTIONS/ PROCESSES	Primary productivity		✓	Gross primary productivity (GPP)	Remote sensing (satellite)
			✓	Above-ground biomass	Field survey/remote sensing
	Pollination		✓	Number of insect visits to a flower	Field survey
	Greenhouse gas exchange		✓	GHG, water, energy exchange between atmosphere and ecosystem	Eddy co-variance
2.6 ECOSYSTEM RESILIENCE	Resilience		✓	Time to pre-disturbance state (months)	Remote sensing/field survey
			✓	Functional redundancy	See 2.1
2.7 HUMAN MANAGEMENT	Human intervention	✓		Management time on management activities (per week)	Project records
			✓	INNS^ presence; extent (ha); species (per year)	Field survey/remote sensing
			✓	Barriers to dispersal	Type (e.g. fence, wall, road); extent (m)
			✓	Supplementary feeding (£ per year)	Project records
			✓	Population control (number per year)	Project records
			✓	Population reinforcement (number per year)	Project records

*Hydrology monitoring is only considered 'Essential' if the rewilding project is focused on restoring hydrological function, for example re-meandering of rivers, wetland restoration.

^Invasive non-native species

A note on environmental DNA (eDNA) methods for assessing species diversity:

eDNA sampling has become an increasingly powerful, non-invasive approach to monitoring species diversity and community composition, multi-trophic food webs, species turnover and functional groupings. Essentially, organisms from bacteria to mammals, shed fragments of their DNA into the environment as they interact, move, feed and excrete. These fragments persist in the environment for a period of time depending on conditions. Soil, sediment, water and, increasingly, air samples can be collected and the DNA fragments processed and sequenced allowing the detection and classification of species in the sample (Ruppert et al. 2019).

These methods for monitoring changes in biodiversity and ecosystem function are certainly worth considering if resources in the long term allow. Using them to monitor at scale is more time efficient, but can increase costs. As with other areas of monitoring, standardisation is important for comparable data over time and space. There are a number of companies offering relevant and comprehensive services, or you could consider engaging community scientists to develop a DNA-based monitoring project (Cook & Harper 2025).

THEMES

2.1 SPECIES DIVERSITY

Monitoring species diversity and abundance across trophic levels can tell us about trophic complexity or how complex or complete the food web is. How species are distributed across trophic levels influences key ecological processes such as predation and herbivory. Understanding how this is changing as rewilding progresses is an important indicator for natural process recovery. As a minimum we recommend sampling plants, butterflies, birds and/or bats as essential metrics.

Species diversity can be calculated at different scales: α; diversity at local or patch level, β; compositional differences between local sites and Γ overall diversity in the wider landscape (Magurran 2021)

ESSENTIAL INDICATORS:

- Plants
- Butterflies
- Birds
- Bats

2.2 ECOLOGICAL COMPLEXITY

Ecological systems are complex, dynamic networks of interactions.

Ecological complexity is defined as the number of components in a system (e.g. species, functional groups, vegetation height classes) and the number of connections among them (e.g. connectivity between patches or species interactions). Complexity is linked to the resilience of a system, which in the face of climate impacts is increasingly important. In its simplest terms we would expect degraded systems to have low complexity and rewilding sites to increase in complexity over time.

ESSENTIAL INDICATORS:

- Soundscapes
- Vegetation structure

2.3 HABITAT HETEROGENEITY AT LANDSCAPE SCALE

Rewilding doesn't focus on maintaining any particular habitat at a particular point. Instead, it allows natural processes to shape the landscape, resulting in a dynamic mosaic of habitats.

Heterogeneity underpins diversity though increasing the range of conditions available across spatial scales.

ESSENTIAL INDICATORS:

- Habitat heterogeneity

THEMES

2.4 CONNECTIVITY

Ecological connectivity is important in supporting natural processes such as dispersal, and describes how well-connected elements or components of the landscape are.

In Britain, land is heavily managed, causing fragmentation and isolation of habitat patches within wider, low-quality landscapes. Increasing connectivity between high-quality sites through high-quality nature corridors increases biodiversity, gene flow and resilience to climate change.

ESSENTIAL INDICATORS:

- Structural connectivity

2.5 ECOSYSTEM FUNCTIONS/ PROCESSES

The recovery of functioning ecosystems and natural processes with an associated reduction in human management is key to rewilding.

It encompasses the endless, complex interactions that shape the landscape around us. Natural processes range from soil formation and the water cycle to herbivore grazing impacts, decomposition of carcasses or dead wood, and predators and prey.

ESSENTIAL INDICATORS:

- Hydrology
- Soil quality and structure

2.6 ECOLOGICAL RESILIENCE

Ecological resilience is an ecosystem's ability to absorb shocks and disturbances while still maintaining core ecological functions and processes without flipping to a different state. Assessing resilience is notoriously difficult to measure because two broad definitions have emerged: the rate at which a systems returns to a reference state after disturbance (Pimm 1984) and the amount of disturbance that can be absorbed before a system turns into another state (Holling 1973).

THEMES

2.7 HUMAN MANAGEMENT

Rewilding is about restoring natural processes so that nature can take care of itself, ensuring that people are part of and benefiting from the return of these natural processes. As natural processes return and nature is released from human control, the need for landscape management should reduce because the system will become self-sustaining and self-organising. While rewilding diminishes human governance over ecological systems, it doesn't equate to human absence, instead ensuring that communities that live, work and interact with those systems remain integrated into the landscape as active participants.

ESSENTIAL INDICATORS:

- Human intervention

INDICATOR: SPECIES DIVERSITY – PLANTS

WHY	Plants form the basis of habitats and ecosystems and plant diversity supports a range of ecosystem processes and functions in addition to providing food and habitats for other taxa. Greater plant diversity is also linked to increased soil microbial activity and carbon storage.
WHAT	Communities of flowering plants, ferns and horsetails, grasses, rushes and sedges, bryophytes and lichens.
WHEN	National Plant Monitoring Scheme (NPMS): twice a year – once in late spring or early summer and once in late summer. National Vegetation Classification (NVC): March–October, every three to five years.
WHO	Plant surveys should be conducted by a botanist, an experienced ecologist with botanical qualifications (e.g. someone with a Field Identification Skills Certificate) or a county recorder for the Botanical Society of Britain and Ireland (details can be found on its website). The NPMS is designed to enable citizen scientists with a required level of identification skills to carry out surveys.
HOW	The NVC is a standardised classification based on plant communities found within particular habitat types. It's widely used as a vegetation survey that allows an assessment of the condition of a habitat and is one of the Common Standards Approaches to monitoring protected areas (e.g. SSSIs) developed by the Joint Nature Conservation Committee. It should be noted that, in rewilding, NVC types should not be regarded as targets – as may be the case in ecological restoration – but rather as a useful way to summarise changing plant communities under rewilding. Changes in plant diversity and abundance more specifically can be monitored using the NPMS. A 1km square is placed across an area that captures the rewilding project well. This is then divided into five plots, within which plant species and abundance are recorded twice a year. Guidance on survey methods is available through the NPMS website below. Calculate diversity index using Simpson's Diversity Index (Simpson 1949), which takes into account diversity and abundance to understand "to what extent an assemblage is dominated by one of a few species" (McGurran 2021). The higher the output number, the more diverse the site or patch.
COST GUIDE	££
EXPERTISE	Plant identification skills to species level.
RECOMMENDED METHODOLOGY	National Vegetation Classification: Users' handbook, Joint Nature Conservation Committee (2006) NPMS Survey Guidance Notes, NPMS (2015)
ASKS	If a contractor is conducting the plant survey they should be asked for the survey report, a copy of the species list and abundance in a spreadsheet (rather than just the table in the report) and any GIS shapefiles detailing plant communities on site. This raw data will allow you to conduct future analysis or comparisons over time.

INDICATOR: SPECIES DIVERSITY – BUTTERFLIES

WHY	Invertebrates are important drivers of landscape-scale ecosystem functions such as decomposition and pollination (Eisenhauer et al. 2019). They are also important indicators because they respond rapidly to changes in the environment. Butterflies are a charismatic group and are considered to provide "a good indication of the broad state of the environment because they respond rapidly to changes in environmental conditions and habitat management, occur in a wide range of habitats, and are representative of many other insects, in that they utilise areas with abundant plant food resource" (JNCC 2025). The UK Butterfly Monitoring Scheme (UKBMS) has been running for a number of years and much of the data collected (predominantly by volunteers) is used by the UK Government to report biodiversity status.
WHAT	Number of different species and how many individuals of each of those species are observed along a transect.
WHEN	Once a week from April to September, annually.
WHO	Butterfly surveys can be done by expert volunteers (e.g. local butterfly groups), who are trained in conducting butterfly surveys in Britain. A local county recorder may also record species or support efforts at your site. Professional ecologists with good butterfly identification skills can also be engaged.
HOW	For a traditional transect (pollard walks), follow the UKBMS survey protocol to ensure consistency with national monitoring programmes. It details all you need to know about how to set up a transect and how to record the butterflies seen. This involves recording the species and number of butterflies along a fixed transect when weather conditions are suitable for butterfly activity (e.g. sunny day with little wind – avoid rainy or windy days). These butterfly transects record all butterflies seen (species and number recorded) using a crib sheet provided to allow volunteers to undertake the survey. This will link to the national butterfly monitoring survey (run by Butterfly Conservation). They should be about 1km in length and cover a variety of habitats. They should should be mapped so that the same routes can be followed each year. Undertake surveys during light winds and when the temperature is above 15°C. The UKBMS offers guidance on how to assess the habitat being surveyed. Calculate diversity index using Simpson's Diversity Index (Simpson 1949), which takes into account diversity and abundance to understand "to what extent an assemblage is dominated by one of a few species" (McGurran 2021). The higher the output number, the more diverse the site or patch.
COST GUIDE	**£:** If engaging volunteers, they may ask for a contribution to cover costs (fuel, lunch, etc.). **££:** If engaging a lepidoptera ecologist – (depending on site size and complexity).
EXPERTISE	Good butterfly identification skills to species level, and experience of UKBMS protocols.
STANDARDISED METHODOLOGY	UK Butterfly Monitoring Scheme Guidance & recording forms, UKBMS
ASKS	If a contractor is conducting the butterfly survey they should be asked for the survey report, a copy of the species list and abundance in a spreadsheet (rather than just the table in the report) and any GIS shapefiles detailing observations on site. This raw data will allow you to conduct future analysis or comparisons over time. Of note: invertebrates are incredibly important for naturally functioning systems. Other very useful groups to monitor include carabid beetles, aquatic macroinvertbates and spiders (see Cook et al. 2024). Butterflies are recommended here as a minimum.

INDICATOR: SPECIES DIVERSITY – BIRDS

WHY	Birds have long been used as an indicator taxon for landscape change. They are known to respond quickly to changes in habitat quality. They are relatively easy to record using established, standardised methods. The monitoring of birds has a long history in Britain; most formal surveys began in the 1970s. Birds are one of the most highly studied groups and are important indicators of wider habitat and vegetation changes. They are generally found high up the food chain. Understanding the different species present and in what numbers gives a great insight into changes at other trophic levels. Using the following approaches will allow change in populations and species composition to be measured over time as a means of measuring rewilding progress.
WHAT	Bird species' presence and relative abundance identified by calls/song and/or visual identification.
WHEN	**Breeding bird surveys:** April to mid-May and mid-May to end of June. **Bird acoustic monitoring:** March to end of June for breeding birds or extended to October for bats and migratory birds.
WHO	**Breeding bird surveys:** Volunteers or professional ornithologists with expertise in breeding bird surveys. **Passive acoustic monitoring** is an efficient way of collecting both bird and bat data and can be installed across the site to record species presence and activity. Acoustic monitoring of birds can be conducted by most projects and the resulting audio files can be checked manually or uploaded to software (e.g. BTO Acoustic Pipeline, BirdNET) for automated analysis. This will produce a list of species identified by the vocal signature with a confidence score (0–1) that correlates with the likelihood of a detection being accurate. The number of detections can be used to calculate vocal activity, which can indicate relative abundance. The relationships between acoustic activity and true abundance is a rapidly progressing field. Currently, robust measures of true abundance from activity are not possible, however. It is crucial that any automated analysis of acoustic recordings undergoes some manual verification by someone who is an expert in that species group.
HOW	**The Breeding Bird Survey (BBS)** is an established national programme run by the BTO that has well-developed methods for identifying bird species and abundance at a site. It involves three field surveys a year along a 1km transect and is important for understanding change in the distribution of taxa at the regional or national level. National-level trends have the potential to be used as a counterfactual (i.e. outcomes where rewilding isn't happening). For site-level change, it's recommended that additional bird surveys or acoustic surveys are undertaken. You're encouraged to continue to engage with the BBS if this is already part of your established monitoring programme. **For acoustic monitoring:** The following methodology is adopted from the pilot phase of the monitoring framework during which we collaborated with the BTO. The protocol allows passive acoustic recorders to record birds during the day, and to automatically trigger and record the calls of bats, small terrestrial mammals or ultrasound-producing moths during the night. Depending on the equipment used, the unit may need to be manually reprogrammed to record across ultrasonic and audible frequencies. Survey locations are based on a grid of 500m Ordnance Survey squares and are placed over the entire site. Half of the grid squares are randomly chosen as sampling squares to achieve good coverage across the site. Acoustic recorders are placed in the centre of the sampling squares. Recording can be done in every sampling square during a year or alternated between half of the sampling squares over two years. Recorders can be deployed in one square each year or moved between squares. Alternating between years and moving recorders to different squares reduces the amount of acoustic recorders needed by a project, and increases the amount of field deployment time. Below are examples of these options.

HOW	**Example one:** A 2000ha site equates to 80 squares. Eight squares are only partially covered by the rewilding site and so are discounted. Half of 72 (80-8) = 36 sampling squares. Thirty-six recorders are placed in each sampling square in March (to cover early breeding species such as woodpeckers, grouse and owls). Continue recording until mid to late June (or later for migratory birds and bats – see next section). SD cards and batteries are changed to make sure at least two weeks of recording takes place early in the season (March/April), mid-season (April/May) and late season (May/June). This will depend on the model of acoustic recorder, battery type used and capacity of SD cards. **Example two:** The same 2000ha site with 36 sampling squares. In year one, 18 sampling squares are surveyed using the protocol above. In year two, the other 18 sampling squares are surveyed, covering all sampling squares over two years. **Example three:** The same 2000ha site with 36 sampling squares. In year one, 18 sampling squares are surveyed but recorders are moved from 9 squares to another 9 across the three sampling periods (an additional sampling period is needed for bats). Recorders are deployed for two weeks in a sampling square and then moved to another square. Each square will have a sampling visit in each of the three survey periods (March/April, April/May, May/June). In year two, the process is repeated for the remaining 18 sampling squares. **Recorder settings:** Acoustic monitoring can be an excellent technique for surveying birds because it allows long-term data collection throughout the day. Recording settings should reflect this. From March–June set the recorder schedule to record continuous 1-minute intervals (in every 5, 10 or 15 minutes) 24/7. This will capture a broad temporal range but not be too data heavy. Record at the audible frequency for birds (22050Hz), amphibians and other taxa vocalising in the audible range (e.g. medium–large mammals). These settings will need to be changed for bats and small mammals (see next section). Metcalf et al. (2023) produced comprehensive best practice guidance on using acoustic recording for monitoring. Upload.wav files from SD cards to the BTO Acoustic Pipeline (for birds and some other taxa described) for species and acoustic activity (relative abundance metric). Similarly, files can be directly uploaded to BirdNet for bird species identification only; no abundance estimates will be provided. **Recorder positioning:** Recording units should be positioned 1–2m off the ground (e.g. mounted on a pole or fence post). Ideally, they are placed simultaneously in a control site (a similar site not undergoing rewilding) for the same period using the same process. **Diversity index:** Calculate diversity index using Simpson's Diversity Index (Simpson 1949), which takes into account diversity and abundance to understand "to what extent an assemblage is dominated by one of a few species" (McGurran 2021) The higher the output number, the more diverse the site or patch.
COST GUIDE	**£:** The BBS can normally be carried out by volunteers or trained ornithologists and is coordinated by the BTO. **Initially ££:** Significant (depending on site size and number of units required). As of 2026, acoustic recorders range in price from around £80 per unit to £1000, reflecting variations in technical features and capability. Most units require SD cards (e.g. 64gb) and batteries. The BTO pipeline and BirdNET are free to use. Verification is important for any acoustic recording and the BTO offers this as a paid-for service, although bird classifiers are free (see the BTO pipeline for more information). Be sure that you have suitable capacity on the SD card for the length of the recording period (or know when it needs to be replaced). An initial equipment outlay would require budget allocation but the equipment is then reusable each season.

EXPERTISE	Bioacoustics – free software is available that can process acoustic data and identify bird species recorded (e.g. BirdNET and BTO Acoustic Pipeline). Manual verification of the results by an expert is advised.
STANDARD METHODOLOGY	Breeding Bird Survey, BTO Site-level sampling design
RECOMMENDED METHODOLOGY	For context and background on general acoustic monitoring see Metcalf et al. (2023), 'Good practice guidelines for long-term bioacoustic monitoring in the UK'.
ASKS	If not already supplied as part of the report, ask the surveyor/service provider to provide the raw data in digital format (e.g. Excel) so that you can return to it in the future. If possible, save copies of the .wav files for each year.

INDICATOR: SPECIES DIVERSITY – BATS

WHY	Like birds, bats respond relatively quickly and are particularly sensitive to changes associated with land use. As such, they are useful indicators of the wider ecological changes that occur during rewilding. There are 18 bat species in Britain, occupying a range of habitats. They are ubiquitous, meaning that any project should be able to collect data (although species diversity is lower in northern Scotland).
WHAT	Acoustic recording of bat activity to identify species and activity.
WHEN	**Bat acoustic monitoring:** From April–October, but if combining with bird and amphibian acoustic monitoring consider recording at high frequency at night from June/July onwards. This will capture small mammal and high-frequency insect vocalisations too – minimum 14-day deployment/sampling square. Bat monitoring (and that for other high-frequency taxa) should be conducted from April–October, using different recorder settings during nocturnal hours to those used for birds. Following the described method will simultaneously collect bird and bat data and standardise the approach. The frequency of recorders should be set to triggered recording and a sample rate of 384kHz to capture bats. The maximum recording length should be five seconds. To record a wider variety of vocalisations than simply bat species, ensure that 'Save noise files' is enabled. Setting advice is available from the BTO for most common acoustic recorders.
WHO	Passive acoustic monitoring is an efficient way of collecting both bat and bird data and can be installed across the site to record species presence and activity. Acoustic monitoring of bats can be conducted by most projects and the resulting audio files can be checked manually or uploaded to software as detailed in the 'Birds' section.
HOW	Follow the same grid sampling approach and protocol as described for monitoring birds. Record for at least two weeks during suitable weather in summer and autumn. Some species are difficult to distinguish using acoustics (e.g. Brandt's and whiskered bats), unless diagnostic social calls are detected. However, the data collected will provide an overview of activity.
COST GUIDE	**£–££:** The same equipment can be used for bats and birds, as long as ultrasonic range is possible with each unit. Several PAMs are available, ranging in price from around £80 to £1000 (in 2025). These units can also be used to record soundscapes.
EXPERTISE	Knowledge and identification of UK bat species and calls is essential. Recordings can be processed by professionals using audio processing software such as Kaleidoscope. This process requires human validation of results to ensure that spurious data are identified. The BTO's acoustic pipeline can process acoustic recordings through machine-learning software. Some manual verification is strongly advised (as with bird recordings and BirdNET).
STANDARDISED METHODOLOGY	Site-level sampling design described in the 'How' section for Birds (Biodiversity).
RECOMMENDED METHODOLOGY	Good practice guidelines for long-term ecoacoustic monitoring in the UK: Metcalf et al. (2023)
ASKS	If a contractor is conducting the bat survey they should be asked for the survey report, a copy of the species list and abundance in a spreadsheet (rather than just the table in the report) and any GIS shapefiles associated with the survey. This will allow you to do future analyses and compare change over time.

INDICATOR: ECOLOGICAL COMPLEXITY – SOUNDSCAPES

WHY	Soundscapes are an emerging and exciting field that encompasses all of the sounds emitted from the landscape, ranging from bird song, bat calls and striations of insects to vocalisations of mammals and amphibians. It also includes other sounds in the landscape such as traffic noise, aircraft, rain, wind and people talking! As the field develops, soundscapes could provide a means to understand ecological patterns. Measuring the acoustic diversity of a site allows us to compare variation in the sounds emitted from a rewilding landscape with sites that are not being rewilded, and to understand how the landscape is recovering over time.
WHAT	Acoustic recording of the landscape as a whole. Soundscapes are increasingly being used as an efficient way of obtaining ecological information about a system. Soundscape metrics can be produced from the same methodology as those for bird acoustic recording, so there is no need for more than one survey for each metric. Soundscapes are generally generated from the audible spectrum, so this will not capture bats or small mammals, which will require different recorder settings.
WHEN	Soundscape indices can be generated from the monitoring protocol outlined in the Birds 'How' section.
WHO	Projects can collect and analyse soundscape data. Analysis of the audio files can be done by individuals who have knowledge of R. Alternatively, you can hire a contract ecologist. Some universities may offer these services and include unit set-up and audio file processing as well as their report.
HOW	The equipment used for ecoacoustics is the same for bird surveys. Use the same equipment across the project and in subsequent years. Follow the same protocol as described for the birds indicator. Following the described method will simultaneously collect bird and bat data and standardise the approach. A number of indices have been developed to classify the overall sounds in a landscape (soundscape) based on different factors. Resulting recordings can be analysed using acoustic indices such as the Acoustic Entropy Index (Sueur et al. 2008). Other indices describe different components of the soundscape (e.g. the Acoustic Complexity Index, Acoustic Diversity Index, Bioacoustic Index, Normalized Difference Soundscape Index; see Fuller et al. 2015) at frequency ranges suitable for the environment. The package 'soundecology' will provide appropriate code for analysis in R.
COST GUIDE	**£–££:** The data platform R is free to download and use. To analyse the audio files collected requires installation of the 'soundecology' package to provide the acoustic indices outputs (these are also free to download and use).
EXPERTISE	If you choose to analyse the data yourself, we highly recommend having a basic understanding of and competency in using R. Some companies offer these services, and universities or research institutions can be helpful too. Please contact us if you're interested in learning more.
STANDARDISED METHODOLOGY	Site-level sampling design described in the 'How' section for Birds.
RECOMMENDED METHODOLOGY	Good practice guidelines for long-term ecoacoustic monitoring in the UK: Metcalf et al. (2023). Soundecology: R package with functions to calculate indices for soundscape ecology and other ecology research that uses audio recordings: Villanueva-Rivera and Pijanowski (2018).
ASKS	If possible, retain the acoustic files (.wav) for each year to reassess where appropriate as indices mature, enabling you to compare change over time.

INDICATOR: ECOLOGICAL COMPLEXITY – VEGETATION STRUCTURE

WHY	Vegetation structural complexity is linked to greater ecosystem functioning, which is a key aim of rewilding. The introduction of large grazing and browsing herbivores into a site, for example, creates a physical disturbance, which affects the vegetation's physical structure and the extent of its cover and variation in dynamics (e.g. catalysing natural regeneration). This causes changes in ecosystem functions and biodiversity. The more structurally complex a habitat, the more likely it is to support more diversity (MacArthur and MacArthur 1961; Coverdale and Davies 2023). Monitoring the change in vegetation structure can, therefore, be a useful proxy for ecological function (LaRue et al. 2019) and has been used to demonstrate change at rewilding projects (e.g. WildVeg 2021).
WHAT	Spatial variation in vegetation height (canopy heights) diversity and extent, and change between time points. Remote sensing techniques are increasingly being used to monitor change at landscape scale because they can provide highly accurate structural (above-ground) data in a standardised and reproducible way. LiDAR is a remote sensing technique that uses pulses of light to accurately derive three-dimensional measurements. Vegetation can be identified and isolated from ground points through the analysis of pulse return characteristics, allowing the computation of extent, height and other structural metrics. Deploying LiDAR sensors using unmanned aerial vehicles (UAVs) facilitates the generation of outputs such as classified point clouds, digital terrain models (DTMs, which digitally depict the ground surface), digital surface models (DSMs, which digitally depict canopy surface) and canopy height models (CHMs) at landscape scales. Accurate three-dimensional models of vegetation can also be generated through UAV imagery by using a technique known as Structure-from-Motion photogrammetry. However, accurate ground model definition can sometimes be problematic in densely vegetated environments using photogrammetry, compromising canopy height estimation.
WHEN	Ideally, both leaf-on (April–Aug) and leaf-off (November–February) for both woody structures and herbaceous growth, at five-year intervals.
WHO	Specialist expertise is required. Some companies offer these services, and universities or research institutions can be helpful too. Please contact us if you're interested in learning more.
HOW	In England, the Environment Agency's national LiDAR programme provides freely available, downloadable, airborne LiDAR datasets. These are coarser resolution (typically 0.5–16 points per m^2 obtained during the leaf-off period) than those obtained from UAV LiDAR, but can provide baselines due to the availability of historic datasets. These can be used to quantify the change over time using subsequent LiDAR surveys, providing that the resolution corresponds. Some LiDAR data sets are available dating back to the late 1990s/early 2000s, but spatial resolution declines with age, repeat surveys are infrequent, and surveys may span multiple years for different areas of your site. Full coverage across England was achieved between 2017/18 and 2021/22, but repeat surveys are likely to be limited to areas with flood risk-related needs. Scotland does not yet have a comprehensive LiDAR programme to the extent of England. However, the Scottish Government has committed to establishing one and is currently undertaking surveys. The first data are due to be released in 2026. Commissioning a LiDAR or photogrammetric UAV survey will provide you with the expertise required. You may already be using a service provider who uses these methods for quantifying above-ground biomass, for example for carbon estimates. A key part of building the evidence that rewilding is going in the right direction is using a standardised approach each time the survey is required. This is one of the huge benefits of using technology in this way. Using LiDAR means measures of vegetation extent and heights over time (from a baseline) can be accurately tracked and compared over time.

COST GUIDE	**£–£££:** (every five years): Where the data are available, Environment Agency LiDAR data are free to access and download. LiDAR and photogrammetric surveys and analyses have significant costs at five-year intervals.
STANDARDISED METHODOLOGY	There is no formal standardised methodology but to make it easier for others to exactly repeat the study, consideration should be given to the following: type of sensor used, number of points per m^2, altitude, flight plan configuration and speed of survey (if using UAVs), and consistent preprocessing workflows. Geospatial analysis using GIS software is required to derive metrics from point clouds and/or CHMs. There is useful background to this in Kissling et al. (2024).
ASKS	Request raw classified point cloud data as well as derived raster products (DTMs, DSMs, CHMs) for vegetation heights, extents and change over time (if a repeat survey). To ensure consistency across time, request that repeat surveys be conducted under similar leaf conditions.

INDICATOR: HABITAT HETEROGENEITY AT LANDSCAPE SCALE – HABITAT HETEROGENEITY

WHY	The habitat heterogeneity hypothesis (MacArthur and MacArthur 1961) proposes that as the number of different habitats increases in the landscape, species diversity will increase in several ways. Landscapes that are heterogeneous reflect a wide range of ecological processes and support different species due to the number of available niches. These niches enable more species to coexist. As natural processes resume, a changing landscape made up of habitat mosaics will occur.
WHAT	The change in the number of different habitats in a rewilding landscape.
WHEN	Spring and summer months on days with less than 5% cloud cover for satellite images, to ensure you have a clear picture unobscured by clouds. Data can be accessed at any time. The UKHabitat Classification (UKHab) is an established way to classify habitats and is conducted between May and September.
WHO	Specialist expertise is required to process and analyse satellite imagery in order to quantify change over time. This requires an ecologist with a good understanding of the UK Hab protocol and plant identification.
HOW	*This indicator is under development. We would welcome feedback on the proposed methods.* Remote sensing is a cost-effective way of estimating changes in habitat heterogeneity over time at a landscape scale. It is increasingly being used for a variety of ecological applications. Freely available satellite imagery (10m resolution) provides a standardised and repeatable way of monitoring these changes and has the advantage of having historic images that can provide detail of conditions before rewilding (a baseline). Very high resolution (e.g. 50cm) imagery is available on a pay-per-tile basis from several suppliers. An alternative but less accurate method is using UKHab Level 4 to determine heterogeneity. UKHab Level 4 is a unified habitat classification system that involves a walkover survey to map existing habitats at a rewilding site. Habitats are ascribed particular codes relevant to the level of survey being undertaken. We recommend Level 4. The same dataset can be used to derive the connectivity measure (2.4).
COST GUIDE	**££:** Universities or research institutes should be contacted directly. Ecologists with remote sensing expertise usually charge by the hour. Sites can vary in size and complexity and costs reflect this.
EXPERTISE	Some universities have the expertise to help with these more scientific analyses, which are important aspects of rewilding. If you are interested in learning more about this, please get in touch with us. An ecologist with a good understanding of the UKHab protocol and plant identification is needed.
STANDARDISED METHODOLOGY	The satellite remote sensing standard approach is in development. Guidance on conducting a UKHab survey can be found at UK Habitat Classification.
ASKS	If using UKHab, ask for a GIS shapefile of the habitat classification to facilitate analysis of change over time when future surveys take place.

INDICATOR: CONNECTIVITY – STRUCTURAL CONNECTIVITY

WHY	Habitat connectivity relates to the number and size of habitat patches and how close together they are (Maskell et al. 2019). Rewilded landscapes are significantly better for biodiversity if they are part of an ecological network in which areas or patches of high biodiversity are connected to each other by high-quality ecological corridors. These ecological networks boost biodiversity and facilitate natural processes (Keeley et al. 2021).
WHAT	Structural connectivity is specifically concerned with how connected habitat patches are to the other areas of the same or similar habitat. (Functional connectivity, which is the likelihood of specific species being able to move through the landscape, is listed under Desirable metrics.) This is important for understanding the dispersal potential of organisms within the site, which contributes to resilience and function.
WHEN	Every five years (derived from heterogeneity and any other habitat mapping).
WHO	Expertise in connectivity mapping in GIS programmes.
HOW	Euclidean distance (the straight-line distance in metres between the nearest edges of each habitat patch) between habitat patches is the most basic approach. A reduction in distance over time indicates improved connectivity. More advanced analysis can be done using a range of landscape statistics. Recommended approaches include effective mesh size and more advanced least-cost methods (e.g. Keeley et al. 2021) using QGIS or R. The same dataset can be used to determine heterogeneity (2.3).
COST GUIDE	Dependent on the availability of in-house expertise.
EXPERTISE	Intermediate understanding of QGIS or R statistical software.
RECOMMENDED METHODOLOGY	Landscape Metrics for Categorical Map Patterns LecoS – Land cover statistics plugin for QGIS or 'landscapemetrics' package in R.
ASKS	Request shapefiles in addition to any reports commissioned so enable direct comparison over time.

INDICATOR: ECOSYSTEM FUNCTIONS/PROCESSES – HYDROLOGY

WHY	Rewilding supports the restoration of natural hydrological processes such as floodplain inundation and free-flowing channels, soil water storage and interception by increasing vegetation (Harvey and Henshaw 2023). These changes influence how water moves through the landscape, which has implications for both floods and low flow.
WHAT	River flow or 'discharge' (m3s-1) based on continuous measurement of flow velocity (ms-1) and stage (water surface level above a fixed datum, metres) measured at gauging stations in river (seconds) draining the site. Gauging stations are established at surveyed cross-sections, enabling the direct estimation of flow area from stage measurements. Discharge, Q, is then computed as Q = velocity x area. Typical measurement frequencies are every 15 minutes (although discharges are sometimes averaged over hourly or daily intervals). River stage (metres). This is a useful proxy for discharge where full gauging is not feasible. Depth to water table (metres). See the How section below for more information. The National River Flow Archive (NRFA) provides daily discharge data for a network of over 1600 flow gauging stations across the UK. However, there is not currently good coverage of rewilding sites. Projects should check NRFA data availability first, and if there is no existing provision, site-level gauges can be established. The NRFA also provides daily rainfall data for each gauging station to aid interpretation of discharge data.
WHEN	Continuous automated monitoring at 15-minute or hourly intervals to capture flood hydrographs is ideal. If manual recording of water levels is undertaken it should be timed to capture the magnitude and duration of floods and low flows.
WHO	In the first instance refer to the NRFA to check whether your project is covered in the monitoring scheme. Equipment can be installed by projects and manually recorded. If the project is using automated recorders the data are logged automatically once in place.
HOW	If you're particularly interested in the hydrology of your site and how this is changing over time, the best approach is to consider continuous monitoring of in-stream flows (discharge). Ideally a long-term pre-rewilding baseline data set would be available to facilitate comparison against post rewilding flows. Where this isn't possible, a paired catchment approach can be implemented to compare neighbouring streams with similar characteristics that drain areas unimpacted by rewilding activities. A range of sensors is available depending on budget. River discharge (m3s-1): For sites where suitable gauging stations are already in place via the NRFA, mean daily discharge data and daily rainfall data are free to download. If there is no existing provision, projects can install continuous monitoring equipment or take manual measurements. **Manual approaches:** The simplest way to measure river stage is by using a graduated staff gauge securely mounted to a post. Velocity can be measured using an impeller-style or electronic flow meter. Event-based sampling of velocities and stage can be used to build a stage-discharge relationship. You can also install automatic gauges on your project to monitor these parameters if resources allow. **Depth to water table:** This involves the installation of dipwells using 5cm-diameter PVC pipes, which are placed into the soil and left for one month before the first measurement is taken. The top of the tube should be covered with a plate to prevent external water sources entering.
COST GUIDE	**£–££:** depends on equipment sophistication.
EXPERTISE	Some of these measurements can be captured on site, but for more technical support on installation and data collection, commercial and/or universities and research institutes can offer paid-for services.

RECOMMENDED METHODOLOGY	National River Flow Archive Recommendations for methods for measuring water levels and velocity: Monitoring Water Levels and Flows at Wetland Sites, Environment Agency (2003). Recommendations for measuring depth from the surface to the water table: Hydrological monitoring protocol, Floodplain Meadows Partnership (2023).
ASKS	Ensure data are recorded on a spreadsheet if collecting data manually. Record date and previous and current weather conditions.

INDICATOR: ECOSYSTEM FUNCTIONS/PROCESSES – SOIL QUALITY AND STRUCTURE

WHY	Healthy soil carries out a range of functions such as carbon and nutrient cycling, water storage and filtering, and carbon storage, as well as supporting a huge diversity of microorganisms that contribute to these functions. Soil organic carbon (SOC) can be used as a direct measure of greenhouse gas fluxes in the soil. Soil structure is measured by assessing 'bulk density', which describes how compacted the soil is at a particular location. Uncompacted soil is important because it allows the movement of air and water, enabling the ecosystem processes described above. Other soil characteristics can be monitored to provide indications of health, including microbial communities, pH, key chemicals (e.g. nitrogen, phosphorous) and soil communities (Parliamentary Office of Science and Technology (POST) 2019). Worms are important for soil structure, decomposition and soil organic matter and for bacteria and fungi (Earthworm Society of Britain) and their presence and diversity is a key indicator of soil condition.
WHAT	Soil quality and structure: SOC (%) and bulk density; worm counts.
WHEN	Every five years (all survey approaches). Each repeat survey must be undertaken at the same time during spring – for example, repeat every five years each April in the second week.
WHO	SOC samples can be collected by project teams or volunteers and sent off to a lab for analysis. Sampling for bulk density and earthworm surveys can also be carried out by practitioners on site following specific protocols. There are numerous companies, research institutes and universities that offer this sampling as a paid-for service, on its own or as part of a more comprehensive suite of soil sampling (including pH or soil nutrient content) to support carbon calculations.
HOW	**Soil organic carbon (%) and bulk density:** The Dumas test is a standardised laboratory test for measuring SOC. It's important that a number of samples are taken across each sampling location, ensuring that the diversity of conditions is included. If taking a baseline, do not take samples if land has been disturbed within the last six months. Samples are collected at a set depth using a core, then sieved, dried and weighed. **Worm counts** – 20 x 20 x 20cm pits – should be dug as part of this survey and there should be regular samples across the project (matched to soil testing sample numbers). Any worms should be identified and counted. If restoring peat, please follow the monitoring guidance in the IUCN Peatland Code Field Protocol. It's worth mentioning that there is a burgeoning area of research that explores whether ecoacoustics can be used to monitor soil quality (Robinson et al. 2024).
COST GUIDE	**£–££:** Depends on whether contractors are engaged and lab analysis.
EXPERTISE	Minimal expertise required for this sampling approach as long as protocols are followed. Use of field identification guides for earthworms.
RECOMMENDED METHODOLOGY	Testing soils for organic matter, The Farm Carbon Toolkit (2020). National Earthworm Recording Scheme, The Earthworm Society of Britain.
ASKS	In addition to requesting the raw data, ensure that the sampling strategy proposed captures the highly variable properties of soil across the area.

INDICATOR: HUMAN MANAGEMENT – HUMAN INTERVENTION

WHY	According to the principles of rewilding, human management should gradually reduce over time as the natural processes re-establish at the rewilding site and the ecosystem becomes increasingly self-sustaining. It is expected that for most projects there will be a period of activity to start some of these natural processes and it is these activities that should decline over the coming years. Some management may need to continue if parts of the site are managed for conservation interest (e.g. Special Areas of Conservation) and/or restoration activities are taking place to kick-start these processes (e.g. ditch filling, fence removal.)
WHAT	Records of time spent (total hrs/week) and cost (total £) of rewilding interventions/activities. Some examples may include: agricultural or forestry management and costs related to production; carrion or deadwood removal; population reinforcement (i.e. (re-)introduction of native or proxy species, herd management (e.g. predator replacement); invasive non-native species removal activities on site, fence removal/addition and maintenance.
WHEN	Report annually.
WHO	Project records.
HOW	*This indicator is under development. We would welcome feedback on the proposed methods.* Record the total hours per week spent on ongoing management of the site (e.g. feeding, maintenance, clearance, etc.) and associated costs (e.g. staff time, equipment, feed, etc.).
COST GUIDE	None.
EXPERTISE	None.
STANDARDISED METHODOLOGY	We have produced a basic template table outlining time (total hours/week) and cost (total £) attributed to management activities that could be associated with rewilding. Examples of management activities are adapted from Torres et al. 2018 in Appendix 2.
ASKS	Keep weekly records using the template in digital formats to make it easier to refer back to.

OBJECTIVE 3: PEOPLE AND NATURE TOGETHER

PEOPLE AND NATURE ARE SUPPORTED TOGETHER SO THAT ECOLOGICAL RESTORATION AND COMMUNITY BENEFITS ARE MUTUALLY REINFORCING.

Rewilding is about all of us finding ways to work and live within healthy, flourishing ecosystems. Rewilding can enrich lives and help us to reconnect with wild nature while providing a sustainable future for local and wider communities.

CONTENTS

TABLE OF ESSENTIAL AND DESIRABLE INDICATORS

Tick marks indicate whether an indicator is Essential (recommended minimum) or Desirable (additional indicators where resources allow), following the framework's two-tier approach.

THEME	INDICATOR	ESSENTIAL	DESIRABLE	METRIC(S)	METHOD
3.1 HEALTH AND WELLBEING	**Connection to Nature**	✓		Inclusion of nature in self (INS)	Questionnaire/images
			✓	Nature Connection Index (NCI)	Standard methodology
	Time spent in nature		✓	Duration of visit (hours per week); number of visits (per year); activity type	Standard methodology
	Change in physical and mental health and wellbeing (by group)		✓	Self-reported assessment (pre, during): people who volunteer regularly, people who participate in regular activities and local people who visit often	WEMWBS or participatory (e.g. Most Significant Change)
	Mental health		✓	Mental Well-Being Scale (WEMWBS) (pre, during, post) engagement with rewilding project (per year) Number of green prescription activities Number of participants at rewilding project (per year)	Standard methodology Project records
	Physical health		✓	Self-reported physical activity levels for regular visitors (per week)	Standard methodology
	Health costs/ savings		✓	Estimated healthcare cost savings over five years attributable to rewilding activity (social return on investment)	SROI analysis (e.g. green prescribing)
3.2 MEANINGFUL COMMUNITY PARTICIPATION	**Community involvement in decision-making**	✓		% of the governance body held by people from the local community/being community members? Diversity of community representation on governance boards (e.g. age, gender, locality, stakeholder group)	Project governance records
			✓	Number of consultations/co-production meetings where decisions about rewilding are made (per year) Number of community members attending those meetings	Project records
	Attitudes of local communities towards the rewilding landscape	✓		Local community knowledge and attitudes Community/stakeholder aspirations and priorities for the landscape (before/after)	Social media/focus groups/workshops or Participatory (e.g. Most Significant Change)
			✓	Extent to which stakeholders agree on project objectives and activities	Project governance and community involvement

THEME	INDICATOR	ESSENTIAL	DESIRABLE	METRIC(S)	METHOD
3.2 MEANINGFUL COMMUNITY PARTICIPATION	**Total numbers of volunteers**		✓	Total number of volunteers per year Number who volunteer regularly (> 1 month) Number of long-term volunteers (> 6 months) and one-time only volunteers % of volunteers from the local community Hours per week	Volunteer records/platform
	Stakeholder groups		✓	Number and type of stakeholders engaged in the project per year	Project records
	Access		✓	Number (total per year) and characteristics of visitors (e.g. demographics, location)	Observations/automated counting device/QR code to online questionnaire
	Local community engagement		✓	Number of local people attending public events hosted by project (e.g. open days, demonstrations, tours) (per year) Local community reporting 'high' or 'very high' trust in governance (%)	Event records/registration questionnaire
	Human–wildlife coexistence		✓	Number and type of reported interactions (positive/negative) and response (per year)	Project log
3.3 COMMUNITY OWNERSHIP	**Land/asset – perceived ownership**	✓		Perceived ownership of space and sense of belonging to the community ("How far do you feel the initiative serves the community and is of and for the community?")	Questionnaire
	Land/asset – actual ownership		✓	% of rewilding land under community control/management or transferred to the community as a result of community buyout (every five years)	Project record
	Community use of rewilding site and involvement in it		✓	Frequency and types of site use (e.g. recreation, cultural events) (per year)	Standardised methodology
	Cultural values		✓	Diversity of values held by the community (e.g. historical locations, traditional use, recreations, nature, aesthetics) Cultural benefits and impacts (e.g. number of cultural events: history, language, artistic opportunities per year)	Participatory mapping Project records

THEME	INDICATOR	ESSENTIAL	DESIRABLE	METRIC(S)	METHOD
3.4 EDUCATION	**Educational events**		✔	Number and type of events per year (e.g. citizen science, nature walks, workshops, lectures) Number of participants per event per year Total hours of engagement per year % of participants/visitors with self-reported better knowledge of rewilding post event	Event records/register/sign-up
	Educational visits		✔	Total number (per year) taking part in educational visits (e.g. schools, higher education, interest groups); % of urban schools	
	Research collaborations		✔	Number of research projects (university/school/other) per year Number of partnerships formed (per year)	Project records

THEMES

3.1 HEALTH AND WELLBEING

Spending time in nature is consistently linked to a range of positive health outcomes, including reductions in depression, anxiety and stress, and improvements in physical health (Jimenez et al. 2021). Beyond direct interactions with nature, the degree to which individuals feel connected to the natural world is also associated with enhanced wellbeing, pro-environmental behaviours and positive attitudes towards nature (Richardson et al. 2019). Psychological wellbeing may increase with greater species richness and vegetation cover, indicating that even early ecological changes can provide measurable benefits (Cox et al. 2017; Hammoud et al. 2024).

Monitoring health and wellbeing outcomes identifies wider co-benefits beyond ecological restoration alone. Demonstrating such impacts can also strengthen future funding applications and support advocacy efforts.

ESSENTIAL INDICATORS:

- Connection to nature

3.2 MEANINGFUL COMMUNITY PARTICIPATION

Meaningful community participation is a long-term and ongoing process that goes beyond consulting the community and is more about encouraging people to work with you in a more substantive way. By aiming to engage communities in rewilding projects you can unlock potential supporters and partners and better understand any concerns. Engaging with diverse groups and perspectives builds strong links between the local community and your rewilding project and encourages community ownership of outcomes, and will have significant benefits in the long term (Wynne-Jones et al. 2018).

ESSENTIAL INDICATORS:

- Community involvement in decision-making
- Attitudes of local communities towards rewilding

3.3 COMMUNITY OWNERSHIP

Perceived community ownership of rewilding areas are a useful indicator for monitoring the social impacts of rewilding. This is because it is associated with intangible benefits such as pride, local knowledge, and connection to and stewardship of the landscape. Perceived and actual ownership (see 'Desirable' indicators) are associated with the long-term success of rewilding projects where it is seen as a route to community empowerment and sustainability (Lawrence and Maddix 2025).

ESSENTIAL INDICATORS:

- Land/asset – perceived ownership

THEMES

3.4 EDUCATION

Nature-based educational opportunities can drive pro-environmental behaviour change and as such are considered to play an important role in how connected people feel to nature (Whitburn et al 2023; also see theme 3.1). Educational opportunities also build capacity and knowledge within the community by sharing and developing knowledge and skills. Monitoring educational engagement provides information on whether educational opportunities are open and available to all. It provides robust evidence that rewilding can deliver lasting, equitable social benefits and build local capacity.

INDICATOR: HEALTH AND WELLBEING – CONNECTION TO NATURE

WHY	Understanding how connected people are to nature is a useful indicator for predicting a number of wellbeing and sustainability outcomes such as pro-environmental behaviour (Martin et al. 2020) reduced stress and anxiety (Madera et al. 2025). Nature connection can change depending on experiences and is therefore important to measure repeatedly over the long term to detect meaningful change. It is increasingly being recognised as an important factor in successful nature recovery. Understanding people's interactions with wilder nature and their connection to it could catalyse positive change.
WHAT	Inclusion of Nature in Self Scale (INS) (Schultz 2002) assesses connection to nature by using a pictorial scale that measures the extent to which an individual includes nature within their views of themselves (Salazar et al. 2020).
WHEN	Annually from pre-rewilding baseline (long term); before/after (short term).
WHO	Anyone can use this tool because it requires minimal resources and analyses.
HOW	This simple, quick and highly repeatable assessment can be used for both children (from age seven years) and adults. It is sensitive to short-term and long-term shifts in nature connection. Participants are shown seven pairs of circles labelled 'nature' and 'self' that increasingly overlap. They are asked the question "How connected are you with nature?" and are invited to select a picture that best describes their relationship. Each image is scored between 1 and 7. Regular visitors to the the site and/or long-term volunteers
COST GUIDE	**£–££:** Depending on whether a consultant is engaged or expertise sought to support the process.
EXPERTISE	Interpretation of results and understanding of the process.
STANDARDISED METHODOLOGY	In Practitioner Guide to Assessing Connection to Nature (Salazar et al. 2020) Also see: Natural England (2026). Healthy Outdoors - A guide for measuring health outcomes when evaluating outdoor interventions. Natural England Commissioned Report NECR725.

INDICATOR: MEANINGFUL COMMUNITY PARTICIPATION – COMMUNITY INVOLVEMENT IN DECISION-MAKING

WHY	Governance is the framework by which decisions are made. A clear understanding of who will be affected and how and ensuring diverse and appropriate representation on boards or advisory groups is essential (Martin et al. 2023). Community involvement in decision-making builds local support and long-term project sustainability by incorporating local knowledge and fostering a sense of ownership. Meaningful engagement also creates the opportunity to understand aspirations and concerns, to build trust and to strengthen relationships among community members, project teams and other stakeholders. The stakeholder analysis process will support this.
WHAT	Percentage of governance positions held by local community members. Diversity of community representation on the governance body (e.g. age, gender, locality, stakeholder group).
WHEN	Annual reporting cycle.
WHO	Project team.
HOW	Project governance records: decide which aspects of diversity are important. As standard, age, gender, locality and stakeholder/community group are recommended. Record changes in board/advisory membership and assess appropriate representation from all groups identified through stakeholder analysis. Ensure that there is input from under-represented groups and that power imbalances are addressed.
COST GUIDE	**£–££:** Dependent on whether a consultant is engaged or expertise sought to support the process.
EXPERTISE	Basic records can be maintained with minimal expertise.
RECOMMENDED METHODOLOGY	Hafferty et al. 2023; Nixseaman and Cook (n.d.), SDCD (2015); Scottish Land Commission (2023); IAP2 (2020 and 2024); Scottish Rewilding Alliance (2025).
ASKS	Make workshop details, meeting minutes, and governance membership publicly accessible to ensure transparency.

INDICATOR: MEANINGFUL COMMUNITY PARTICIPATION – ATTITUDES OF LOCAL COMMUNITIES TOWARDS REWILDING

WHY	Monitoring community attitudes to rewilding is important because public support strongly influences the feasibility and long-term success of rewilding. Projects which understand the extent to which stakeholders agree upon project objectives and activities and addressing community attitudes are more likely to gain long-term support and reduce conflict (Auster et al. 2020; Butler et al. 2021). Diverse stakeholders often hold different visions of the future, according to their individual priorities and experiences, which are, in turn, shaped by cultural values and 'sense of place' (Wynne-Jones et al. 2018; Holmes et al. 2022). Attitudes also change over time as people gain experience of projects; for instance, community support for beavers often increases once ecological and flood-mitigation benefits become visible (Auster et al. 2019). Tracking these shifts enables practitioners to respond to concerns or misinformation (Redpath et al. 2013) thereby demonstrating that projects have been able to adapt and respond to community concerns. Attitude monitoring therefore ensures rewilding remains resilient and aligned with local priorities (Keenleyside et al. 2012).
WHAT	Local knowledge and attitudes of the local community, or Most Significant Change approach. Number of media coverage articles (positive/negative) (e.g. newspaper, TV) per year.
WHEN	Ideally at baseline before rewilding activity starts, and repeated annually with an ongoing commitment to address concerns and community feelings towards the rewilding project during the intervening time.
WHO	The project team can conduct and analyse surveys or you may want to engage a specialist consultant to support the process.
HOW	Attitudes survey that captures community attitudes towards the rewilding project from the outset. You can use videos, talking heads, workshops and questionnaires that use a standard Likert scale, such as those used in the People in Nature Survey (see below). **Most Significant Change:** This involves the collection of personal stories and the selection from and by the local community of the most significant changes since the project began. These are collectively identified and evaluated through an established process (Davies and Dart 2005).
COST GUIDE	**£–££:** (depending on consultant fees).
EXPERTISE	Interpretation of results and understanding of the process.
RECOMMENDED METHODOLOGY	Community voice method (Acott et al. 2023) Most Significant Change (Davies and Dart 2005); People in Nature Survey (Natural England 2025) E.g. Hafferty et al. 2023; Nixseaman and Cook (n.d.), SDCD (2015) Scottish Land Commission (2023); IAP2 (2020 and 2024); Scottish Rewilding Alliance (2025); ELSP (2025).

INDICATOR: COMMUNITY OWNERSHIP – LAND/ASSET – PERCEIVED OWNERSHIP

WHY	Where people feel a sense of ownership they are more likely to care for and protect a space (Wang et al. 2023; 2025). A higher sense of perceived ownership influences the extent of people's willingness to engage in project activities such as volunteering or governance (Nijs et al. 2022). This sense of ownership is also associated with wellbeing through a shared sense of belonging.
WHAT	Perceived ownership of space and its sense of belonging to the community.
WHEN	Ideally at baseline before rewilding starts and repeated annually.
WHO	Project team can conduct and analyse surveys or you may want to engage a specialist consultant to support the process.
HOW	A survey to gather community perceptions usually via a questionnaire that includes the question "How far do you feel the initiative serves the community and is of and for the community?" Respondents score their questions using a Likert scale (1 = strongly disagree; 5 = strongly agree). To expand on this further, you may wish to use qualitative methods such as the Most Significant Change approach to understand why people in the community feel the way they do.
COST GUIDE	**£– ££:** (depending on consultant fees).
EXPERTISE	Interpretation of results and understanding of the process.
RECOMMENDED METHODOLOGY	Questionnaire which includes the question "How far do you feel the initiative serves the community and is of and for the community?"

OBJECTIVE 4: CREATE RESILIENT ECONOMIES

REWILDING CREATES OPPORTUNITIES FOR RESILIENT NEW NATURE-BASED ECONOMIES SO THAT LIVELIHOODS THRIVE ALONGSIDE, AND ENRICH NATURE.

Monitoring changes in livelihoods, such as employment and businesses, allows policymakers and communities to assess whether rewilding is broadening income sources, improving economic resilience and supporting a just transition. It also highlights where additional support or policy adjustments are needed to ensure that communities share the benefits of landscape-scale restoration.

CONTENTS

TABLE OF ESSENTIAL AND DESIRABLE INDICATORS

Tick marks indicate whether an indicator is Essential (recommended minimum) or Desirable (additional indicators where resources allow), following the framework's two-tier approach.

THEME	INDICATOR	ESSENTIAL	DESIRABLE	METRIC(S)	METHOD
4.1 ENTERPRISE	Nature-based businesses	✓		Diversity (number and type) of new nature-based businesses directly associated with the rewilding project (e.g. camping, birdwatching, safaris, hiking, cafes)	Project records
			✓	Percentage change in revenue of existing nature-based businesses directly associated with the rewilding project (annual)	
			✓	Visitor spend on travel to visit a landscape as a reflection of value	Questionnaire
4.2 EMPLOYMENT	Jobs and skills	✓		Number of employees (FTE) and contract type (e.g. short term, permanent, seasonal) % employees from the local community	Project records
			✓	Number of new jobs and apprenticeships created by type (e.g. ranger, guide, trainee) over last 12 months	
			✓	Expenditure on full salary and wage costs (per year)	
			✓	Number of employees earning above the real Living Wage	
			✓	Average hours of training per employee over last 12 months	
			✓	Reskilling: number of employees who have been retained but changed roles (prior to rewilding) e.g. gamekeeper to wildlife guide	
4.3 LIVELIHOODS	Livelihoods and revenue streams	✓		Diversity of income streams (number by type)/new income streams (type and value (£)) e.g. public money (ELM, BPS, other subsidies); carbon/nature credits	Project financial records
			✓	New livelihoods created (by sector e.g. education, ecotourism, ecology; H&W; recreation) over last 12 months	Project records
			✓	Total sum (£) and type of investment and income	Project financial records
			✓	Project cost savings every year (project) (e.g. reduction in inputs, fencing); cost/benefit analysis: maintenance costs £/year	

THEME	INDICATOR	ESSENTIAL	DESIRABLE	METRIC(S)	METHOD
4.4 LOCAL ECONOMY	Supporting local economies		✓	Annual project spend with local businesses and contractors (£)	Project financial records
			✓	Proportion of carbon/biodiversity credits flowing back into the community	
			✓	Avoided costs – reduction in properties at medium/high risk of flooding	Flood risk map
			✓	Gross value added to local economies each year (%)	Standard methods
			✓	Changes in income/employment in the community linked to rewilding (e.g. unemployment levels)	ONS
			✓	Population stability/migration	
			✓	Changes in local property values (%)	
			✓	Estimated value of visitor expenditure to the local economy (amount of local spend (£) per year)	Standard methodology
4.5 NATURAL CAPITAL*	Ecosystem services		✓	Provisioning: wild meat (£); weight in tonnes (wholesale)	Project accounts
			✓	Provisioning: timber (£; tonnes); volume of timber brought to market per annum	
			✓	Regulating: carbon sequestration (above-ground tC/ha); total sequestration rate: tCO2/year	See vegetation structure 2.2
			✓	Valuation of ecosystem Services (£)*	ONS
			✓	Value of food produced in per year (£)*	Project accounts
			✓	Avoided costs (e.g. reduction in properties at medium/ high risk of flooding)	Consultant

*Potential extended analysis could include long-term benefits associated with rewilding weighted against costs, for example of land use change, management cessation, potential loss of income from existing land use (Faure et al. 2024)

THEMES

4.1 ENTERPRISE

Wilder nature provides many opportunities to create and build on new nature-based enterprises and there are already a huge variety of examples emerging, such as nature-based tourism and innovative food and drink production and restorative aquaculture (Rewilding Britain 2021). These generate value for the local economy whilst rebuilding ecological processes. New enterprises should be aligned with 'leave no trace' activities.

ESSENTIAL INDICATORS:

- Nature-based enterprises

4.2 EMPLOYMENT

Monitoring changes in local employment can provide information about whether new 'green jobs' are being created and who is benefiting from them as a direct consequence of rewilding activity. This is associated with a 'just transition' whereby a shift towards a low carbon economy is creating fair and inclusive economic opportunities in addition to environmental gains (KCI 2022). Implementation of just transition and economic diversification strategies: a compilation of best practices from different countries. Bonn: UNFCCC.

ESSENTIAL INDICATORS:

- Jobs and skills

4.3 LIVELIHOODS

In Britain, transitioning land to rewilding can produce ecological benefits that may take time to emerge (e.g. biodiversity, carbon storage, flood mitigation) (Navarro & Pereira 2012), potentially resulting in deferred economic gains. At the same time, short-term economic impacts, such as reduced agricultural output or changes in farm income, may be felt more immediately (Benayas & Bullock 2012). Long-term monitoring of livelihoods and revenue streams helps capture these dynamics, providing evidence about trade-offs between short-term losses and long-term gains.

ESSENTIAL INDICATORS:

- Livelihoods and revenue streams

THEMES

4.4 LOCAL ECONOMY

Rewilding can support communities by generating income, employment and investment, and by supporting a transition from extractive land uses towards diversified nature-based economies (Rewilding Britain 2021). Monitoring changes in the local economy helps identify whether these new activities are increasing local employment, strengthening local supply chains and retaining income within communities. Rewilding projects can then demonstrate wider community benefits, adapt management where needed, and support a just transition toward sustainable, nature-based livelihoods.

4.5 NATURAL CAPITAL

Rewilding is anticipated to provide bundles of ecosystem services (e.g. provisioning, regulating) by enhancing natural capital assets (Pettorelli et al 2018). The indicators demonstrate whether applying rewilding principles is improving the delivery of multiple key ecosystem services through increasing carbon storage, mitigating hydrological extremes. Monitoring changes in natural capital also provides information on which services are being reduced and which are improving.

INDICATOR: ENTERPRISE – NATURE-BASED ENTERPRISES

WHY	New enterprises indicate that nature recovery is generating significant economic activity. They provide a clear indication that rewilding is supporting viable, long-term livelihoods. This may be particularly informative where communities are dependent on a small number of industries (e.g. livestock grazing) and are more vulnerable to economic and climate shocks as well as changes in government policy.
WHAT	Diversity (number and type) of new nature-based businesses directly associated with the rewilding project (e.g. camping, birdwatching, safaris, hiking, cafes).
WHEN	Annually.
WHO	Project team.
HOW	Project records of new nature-based businesses directly associated with rewilding activity and outcomes.
COST GUIDE	None.
EXPERTISE	Basic records can be maintained with minimal expertise.

INDICATOR: EMPLOYMENT – JOBS AND SKILLS

WHY	Restoring ecosystem processes can increase biodiversity and result in more ecologically diverse landscapes. This in turn can result in the creation of sustainable green job opportunities and employment through increased nature-based tourism, diversification of roles and recreation opportunities (Thomas et al. 2024). Growth in local jobs serves as a useful indicator of how rewilding activity and investments are supporting tangible benefits for people. Jobs and skills data provide a reliable way of demonstrating wider community benefit though provision.
WHAT	Number of employees (FTE) within the rewilding project; % employed from the local community; Contract type (e.g. short term, permanent, seasonal); Number of new jobs and apprenticeships created in the last 12 months (by sector).
WHEN	Annually.
WHO	Project team.
HOW	Annual records and ensuring that records are updated if jobs change or people leave or join the project.
COST GUIDE	None.
EXPERTISE	Basic records can be maintained with minimal expertise.

INDICATOR: LIVELIHOODS – LIVELIHOODS AND REVENUE STREAMS

WHY	Monitoring changes in the rewilding project detects whether new revenue streams are emerging (e.g. visitor spending, payments for ecosystem services, carbon or biodiversity markets) and who receives them. This is an important component in benefit-sharing and long-term project security and success. Having a diversity of income streams may support project resilience in the future and demonstrate what the real economic value of rewilding is (Faure et al. 2024).
WHAT	Diversity of income streams (number by type)/new income streams (type and value (£) e.g. public money (ELM; BPS; other subsidies); carbon/nature credits.
WHEN	Annually with project accounting cycle or reporting cycle if required for funding (e.g. ELM).
WHO	Project team.
HOW	Annual project records.
COST GUIDE	**£**
EXPERTISE	None.

OBJECTIVE 5: SECURE BENEFITS FOR THE LONG TERM

BENEFITS ARE SECURED IN THE LONG TERM, ENSURING THE CONTINUED BENEFITS OF REWILDING AREAS, WHICH ARE KEY TO A HEALTHY, PROSPEROUS FUTURE.

CONTENTS

*Although not essential, based on practitioner interest we have added additional details to these desirable indicators.

TABLE OF ESSENTIAL AND DESIRABLE INDICATORS

Tick marks indicate whether an indicator is Essential (recommended minimum) or Desirable (additional indicators where resources allow), following the framework's two-tier approach.

THEME	INDICATOR	ESSENTIAL	DESIRABLE	METRIC(S)	METHOD
5.1 REWILDING COMMITMENTS	**Protected by legal status**		✓	Conservation covenants	Project records
			✓	Rewilding project plan in place	
	Funding security		✓	Length of current funding contracts (months)	
			✓	Social return on investment	

THEME

5.1 REWILDING COMMITMENTS

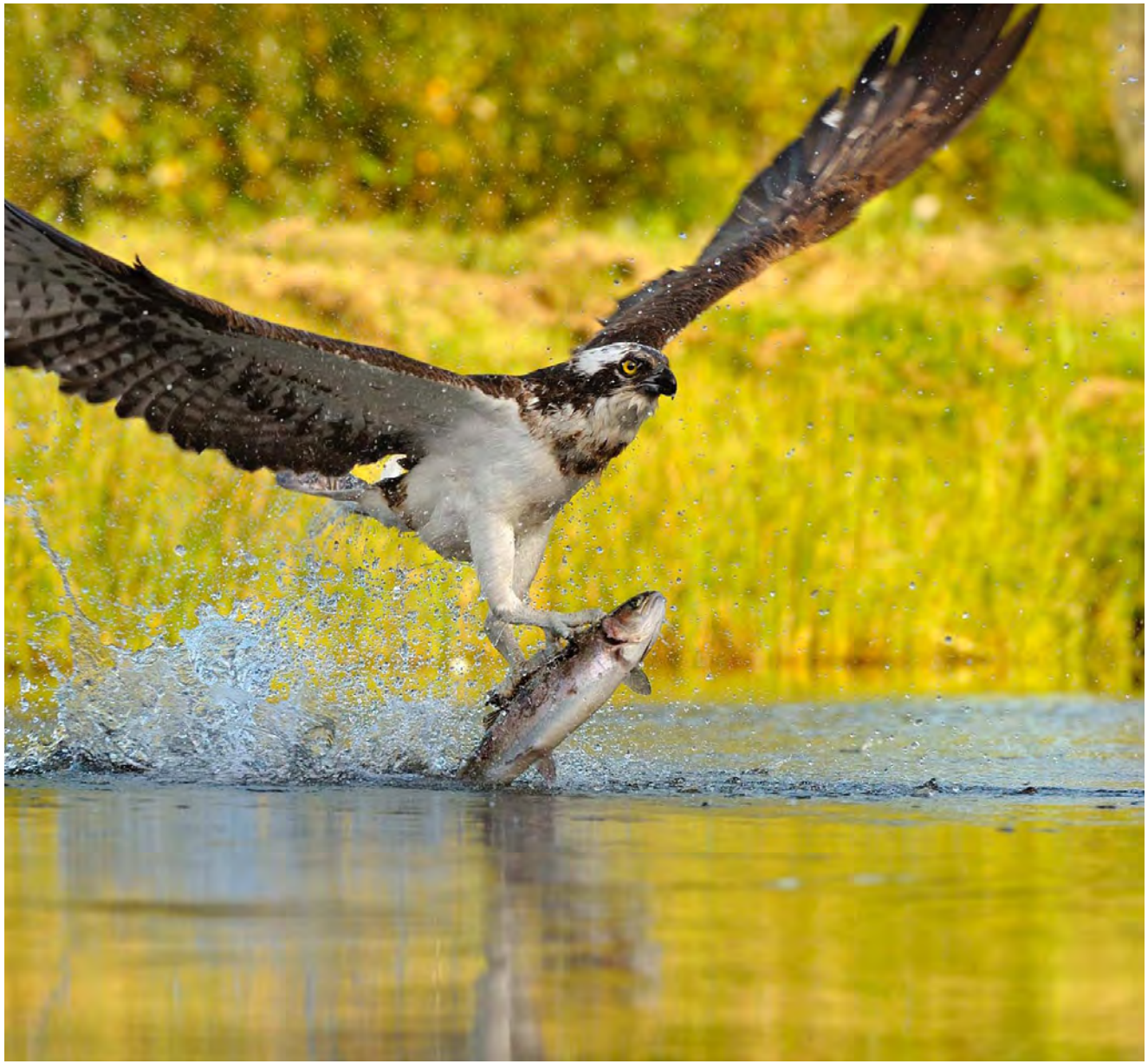
Long-term benefits include economic, social and ecological dimensions. Ecological changes may occur over long periods, leading to benefits including increased biodiversity and self-sustaining ecosystems. Social and economic benefits incorporate embedded community support and involvement, cultural and education value and improved wellbeing. Economic benefits encompass sustainable livelihoods, reduced costs and climate resilience.

The longevity of these benefits depends on institutional security and ecological change. Earlier changes in legal status and funding can signal whether long-term ecological change is plausible. Rewilding success is, in part, dependent on long-term finance and policy commitments. Rewilding is an ecological intervention and a transformation in land use priorities, power structures and human–nature relationships. Monitoring rewilding commitments captures this broader transition.

OTHER CONSIDERATIONS

To ensure the benefits are sustained, regularly review your data from the Rewilding Monitoring Framework and remain adaptive. Adjust your approaches in line with rewilding principles if negative outcomes arise across ecological, social or economic domains. Key questions to guide your review include:

- Are key ecological processes becoming self-sustaining?
- Are benefits equitable, increasing, stable or declining?
- Are legal and financial protections still in place?
- Do communities still support the project?
- Can monitoring continue beyond short-term grant funding?



INDICATOR: REWILDING COMMITMENTS – PROTECTED BY LEGAL STATUS

WHY	Legal protections ensure that land under rewilding is at reduced risk of land designations being reversed due to change in ownership, intergenerational changes or political cycles. They also helps remove uncertainty for financial markets.
WHAT	Protected by change in conservation/legal status.
WHEN	Every five years.
WHO	Project team.
HOW	Notification from public body for protected landscapes and features or conservation covenant or burden agreement with responsible body.
COST GUIDE	£
EXPERTISE	None; requires external support.
RECOMMENDED GUIDANCE	Scotland Conservation burdens and legal protections England and Wales Conservation covenants

INDICATOR: REWILDING COMMITMENTS – FUNDING SECURITY

WHY	Long-term funding reflects the confidence of funders/investors to make long-term investment decisions and achieve a 30% rewilding vision (Rewilding Britain 2024).
WHAT	Current length of funding contracts that directly support rewilding (months).
WHEN	Every five years.
WHO	Project team.
HOW	Project records.
COST GUIDE	None.
EXPERTISE	None.

APPENDICES

APPENDIX 1: ADDITIONAL RECOMMENDATIONS

Desirable metrics recommended in this document are those considered to be adding depth and detail to the Essential metrics outlined above. These additional methods for monitoring species diversity (Theme 2.1) cover other taxa that could be relevant to your project or of interest as part of understanding the trophic complexity of your site. These include mammals, moths, ground beetles and soil communities.

INDICATOR: SPECIES DIVERSITY – GROUND BEETLES (CARABIDS)

WHY	Carabid beetles are sensitive to changes in their environment and are important components of the terrestrial food web. Therefore, any impacts on carabids may have cascading effects at lower trophic levels (i.e. impact populations of prey items).
WHAT	Number of different species and how many individuals of each of those species within each sample.
WHEN	Continuously from beginning of May to early November, annually. General invertebrate surveys take place from May to mid-September.
WHO	Ecologist or volunteer groups with invertebrate identification skills.
HOW	Establish transects within broad habitats at the site, ideally within the same transects used for botanical monitoring. Place pitfall traps along the transect and leave for two weeks. Then count and identify all carabid species present. The NEON methodology is a useful approach to sampling carabids.
COST GUIDE	**£**
EXPERTISE	Carabid identification to species level; familiarity with establishing transects and appropriate number and distribution of pitfall traps.
RECOMMENDED METHODOLOGY	Standards and Best Practices for Monitoring and Benchmarking Insects, Montgomery et al. (2021).
ASKS	Ask the surveyor for a copy of the species list and numbers (abundance) in a spreadsheet for your records.

INDICATOR: SPECIES DIVERSITY – MOTHS

WHY	Moths provide an excellent dataset to indicate habitat variability and vegetation structure, and indicate the health of prey availability for other animals.
WHAT	Number of different species and how many individuals of each of those species within each sample.
WHEN	March to November, annually.
WHO	Moth surveys can be done by expert volunteers (e.g. local moth groups) with good knowledge of British moth species, who are trained in conducting moth surveys. A local county recorder may also come to the site and record species or support efforts. Professional ecologists with good moth identification skills can also be engaged.
HOW	Moth traps to identify different species collected and the number of each. Moth traps will be deployed across the project area for at least one week in total in spring, summer and autumn. Revisit the same sites throughout this time and ensure that disruption to feeding and/or mating patterns is limited. Volunteers will visit the traps each morning and will record species present and their numbers. Mobile apps such as iNaturalist and crib sheets will be used to improve ID.
COST GUIDE	**£:** volunteers, who may ask for a contribution to cover costs (fuel, lunch, etc.). **££:** Lepidoptera ecologist – cost variable depending on site size and complexity.
EXPERTISE	Moth identification.
RECOMMENDED METHODOLOGY	Butterfly Conservation Moth Recorders Handbook, Butterfly Conservation (2009).
ASKS	If engaging a professional surveyor, ask for a copy of the species list and numbers (abundance) in a spreadsheet for your records (raw data) to allow you to conduct analyses in the future. Ask volunteers to use the standard template provided in the standardised methodology.

INDICATOR: SPECIES DIVERSITY – SOIL COMMUNITIES

WHY	Soil microbiota underpin ecosystem function and have long been proposed as indicators of success for monitoring the spectrum of ecological restoration (Harris 2003, 2009). The composition of the soil community can give insights into how the soil ecosystem is functioning and reflect fine-scale ecological changes.
WHAT	Number of different species and how many individuals of each of those species within each sample.
WHEN	Once per season, annually, but eDNA kit suppliers will advise on a site-by-site basis.
WHO	Samples can be collected by anyone as long as the kit protocols are followed closely.
HOW	You will be provided with comprehensive methods for soil sampling as part of the process of the eDNA kit. Some companies also offer a bespoke service to help you design your sampling approach. It is really important that you avoid contaminating any samples collected with other types of DNA. Be sure to wear gloves at all times and follow the guidance. Once collected, your samples are ready to be sent off for laboratory analysis.
COST GUIDE	**£**
EXPERTISE	None – eDNA kits come with comprehensive instructions, making them accessible to all skill levels.
RECOMMENDED METHODOLOGY	These are included with the sampling kits.
ASKS	eDNA reports do not generally provide the underlying data. It is important to ask for this as part of your report to track change over time. Also ask for your species inventories to be functionally annotated so that you can get a better understanding of the functional diversity of soil.

INDICATOR: SPECIES DIVERSITY – MAMMALS GENERAL

WHY	Larger mammal species can play a significant role in the shaping of ecosystems, ranging from the impacts of keystone species such as beaver to the cascading trophic impacts of top predators. The presence of some species can provide an indication of the recovery of a healthy, functioning system.
WHAT	Number of different species and how many individuals of each of those species.
WHEN	Twice a year, repeated annually at the same times.
WHO	Projects and volunteers can set out camera traps and record the species and number of mammals captured on footage.
HOW	Camera traps are static recording units positioned in a known area of mammal activity and are triggered when there is movement. They can be programmed to take images or videos. Camera traps should be left out for 30 days – one per 2km^2 of suitable habitat in summer. Camera traps are low-cost and effective ways to monitor mammals across a site, and also provide good engagement material for supporters to interact with the site remotely. This method can help with species identification and can identify behaviour and therefore indicate grazing pressure. MammalWeb is a citizen science platform (University of Durham) that allows projects to be set up through which volunteers can assist with the ID of animals from camera trap footage. This is a low-cost and interactive way to monitor general wildlife populations on the project site.
COST GUIDE	**£–££:** Depending on number of camera traps required). Camera traps vary in cost depending on the specification.
EXPERTISE	Basic mammal identification skills.
RECOMMENDED METHODOLOGY	Camera-trapping for conservation: a guide to best practices, WWF, (2017). MammalWeb will guide you through the steps of setting up a project so that images from camera traps can be uploaded and identified.
ASKS	Contact MammalWeb in the first instance to be set up as a project. Also ensure that you have continued access to the data for future analysis.

APPENDIX 2: HUMAN MANAGEMENT METRICS

A recommended template for recording data for the Human management metric, which measures direct human inputs and outputs.

Table 3 is adapted from the 'Pressure and State variables for direct human inputs/outputs' table in Torres et al. 2018.

PRESSURE/STATE VARIABLES	NOTES	COSTS (TOTAL £ PER INTERVENTION/ ACTION)	TIME (TOTAL HOURS PER INTERVENTION/ ACTION)
Artificial feeding of wildlife	Any feeding or supplementary feeding		
Population reinforcement	Species (re-)introductions		
Agricultural production	Cropland area and farming intensity		
Forestry production	Forest area dedicated to forestry production (e.g. wood, timber, pulp and forest management)		
Grassland production	Grassland area dedicated to hay and livestock production and intensity of production (not including free-ranging ungulates)		
Mining	Area devoted to mining and intensity of the impacts of mining on the ecosystem		
Harvesting of terrestrial wildlife	Shooting activity (not including deer control as part of a deer management plan)		
Harvesting of aquatic wildlife	Fishing activity		
Carrion removal	Number of removals (and cost/time)		
Deadwood removal	Number of removals (and cost/time)		
Invasive species removal	Area removed (and cost/time)		
Traditional conservation management (e.g. scrub removal)			

Table 3: Suggested template for recording human management activities related to rewilding metric 'Human management'

APPENDIX 3: SUMMARY OF OTHER APPROACHES TO MONITORING

These may be useful to consider as part of the long-term assessment of more 'intangible' or nuanced aspects of communities and rewilding.

APPROACH	DETAIL	METHOD
Most Significant Change	A participatory and evaluation technique that uses personal stories to understand the most significant impacts of a project (e.g. rewilding)	MSC methodology
Intangible benefits indicator	An indicator that is currently under development which can be used to understand how rewilding is affecting people's perceptions, beliefs and emotions	Rewilding Europe (publication date to be confirmed)
Community-based monitoring	"observation and measurement activities involving participation by community members and designed to learn about ecological and social factors affecting a community" Bliss et al. 2008	WWF guidance
Community science	This refers to "scientific research and monitoring driven and controlled by local communities, characterized by place-based knowledge, social learning, collective action and empowerment" Charles et al. 2020	Tweddle et al. 2012
Social impact assessment	This measure helps identify and manage the impacts of a project on people and communities	Schreckenberg et al. 2010
PRISM	A means of assessing the outcomes and impacts of small- and medium-sized conservation projects	PRISM

GLOSSARY

Acoustic Complexity Index: The Acoustic Complexity Index (ACI) is a metric used to quantify the structural intricacy of soundscapes. It can serve as a proxy for biodiversity and ecosystem health. It measures the variability of sound intensity or 'busyness' across different frequency bands over time and identifies biological sounds by detecting rapid, fluctuating changes in intensity, ignoring constant, monotonous noise from human activity or wind. A high ACI number generally corresponds with rich biological activity with stronger ecological function. However a lower ACI number may indicate environmental degradation or high anthropogenic (human) noise pollution, which can disrupt natural soundscapes (Pieretti, Farina and Morri, 2011).

Acoustic Diversity Index: The Acoustic Diversity Index (ADI) is a metric used to quantify the distribution of sound across the frequency spectrum. It can serve as a proxy for biodiversity and ecosystem health. It measures how spread out the sound is across the entire range of pitches (frequencies) by dividing a recording into specific frequency 'bins' (typically 1kHz each) and applying the **Shannon Diversity Index** to calculate how spread out the sound is across those bins. A high ADI number generally corresponds with and indicates a 'full' and healthy ecosystem where birds, insects and mammals are contributing to different parts of the soundscape. However, a lower ADI number may indicate a simplified sound environment, which often suggests a loss of species diversity, a habitat dominated by a single species or a site where the quietness indicates environmental degradation (Villanueva-Rivera et al. 2011).

Agricultural schemes: Government-supported programmes that provide funding, grants or incentives to farmers for adopting sustainable practices, enhancing biodiversity, improving environmental quality (air, soil, water) and boosting rural economic growth. These initiatives, often known as agri-environment schemes or sustainable farming subsidies, aim to reward farmers for protecting the environment and providing public goods (Orford, 2015).

BACI (Before-After Control-Impact): A scientific study design that compares a restoration or rewilding site (Impact) to a non-intervention, management-as-usual area site (Control) before and after work begins. By monitoring both locations simultaneously, researchers can filter out external 'noise', such as a particularly wet year or a regional decline in species, which would affect both sites equally (Fisher et al. 2019). This provides a robust 'scientific safety net', allowing rewilding projects to prove that improvements in biodiversity are a direct result of their specific management actions rather than broader environmental trends.

Baseline data: The initial data collected before a project begins. This serves as a benchmark or 'Before' measure to allow for comparison and evidence of change over time (CIEEM, 2018).

Beta (β) diversity: Refers to the difference in species composition between ecosystems. It quantifies how species diversity changes from one habitat to another, providing insights into the spatial patterns of biodiversity (Whittaker, 1960).

Bioacoustic Index: The Bioacoustic Index (BI) is a metric used to measure the total intensity or 'volume' of biological sound. It is calculated by measuring the area between the mean spectrum curve and a threshold value (the minimum value of the curve). Because this range is where most birds and many insects vocalise, the index filters out low-frequency human noise like traffic and high-frequency static to focus on the specific frequency channel used by wildlife. A high BI value indicates a high level of 'acoustic biomass', meaning a loud, active environment such as a crowded dawn chorus. A low BI value suggests a quiet landscape with very little biological activity, even if the area is otherwise noisy with wind or man-made noise (Boelman et al. 2007; Andrews and Dick 2021).

Biodiversity credits: A measurable unit of biodiversity sold to organisations and individuals to help them improve biodiversity. In practice it means that when you buy a credit, the money funds projects that improve biodiversity (BES 2024).

Biodiversity Net Gain: An approach to development that makes sure that habitats for wildlife are left in a measurably better state than they were before the development (Defra 2025).

Carbon credits: A carbon credit is a tradable permit or certificate representing the removal, reduction, or avoidance of greenhouse gases (GHG) from the atmosphere. Businesses or individuals purchase these credits to 'offset' their own unavoidable emissions, effectively paying someone else to lower the total amount of GHG in the air on their behalf (Broekhoff, Gillenwater and Colbert-Sangree 2024).

Community of interest: A group of people who share a common interest in a rewilding project but do not necessarily live within its immediate geographical vicinity (Scottish Rewilding Alliance 2025).

Community of place: People linked by their physical proximity to a rewilding site. For this framework it is generally defined as those living within a 10-mile radius (Scottish Rewilding Alliance 2025).

Community wealth building: A people-centred approach to local economic development, which redirects wealth back into the local economy and places control and benefits in the hands of local people (Centre for Local Economic Strategies 2025).

Connectivity: A key element of naturally functioning ecosystems (alongside trophic complexity and natural disturbance). It refers to the degree to which species and ecological processes can move freely across a landscape. It is divided into structural connectivity, which focuses on the physical links between habitats or areas, and functional connectivity, which describes how easily a specific species can actually navigate those links (Martínez-Richart et al. 2024).

Control area: A 'management-as-usual' site with similar characteristics to the rewilding site, used in monitoring to provide a point of comparison (Fisher et al. 2019).

Conservation burden: Similar to conservation covenants, conservation burdens are legal, long-term conditions embedded in property title deeds to protect the architectural, historical or environmental characteristics of land. Primarily used in Scotland, they are enforceable by specific conservation bodies (e.g. local authorities, National Trust for Scotland) or Scottish Ministers (Rewilding Britain and The Lifescape Project 2023).

Conservation covenant: A legally binding, private agreement in England between a landowner and a 'responsible body' (such as charity or public body) to protect or enhance the natural or heritage features of land, ensuring conservation efforts continue even if the land changes hands. These bespoke agreements can include positive actions (e.g. restoring a woodland) or restrictions (e.g. not using certain pesticides) and bind future owners for public good and long-term environmental benefit (Defra 2024).

Desirable indicators: Optional, more indicators, metrics or methods that projects can choose to track if they have additional resources or specific interests beyond the minimum requirements.

Dispersal: Biological dispersal refers both to the movement of individuals (animals, plants, fungi, bacteria, etc.) from their birth site to their breeding site ('natal dispersal') and the movement from one breeding site to another ('breeding dispersal'). The term also encompasses the movement of seeds and spores. Technically, dispersal is defined as any movement that has the potential to lead to gene flow (Ronce 2007).

Ecoacoustics: A fundamental and applied science that investigates the ecological role of sound across levels of ecological organisation (Metcalf et al. 2022).

Ecological indicators: A specific species, process or metric used to gauge the overall health and condition of an ecosystem. They are often non-quantitative measures used to track the state of ecosystem assets, such as biodiversity levels or the restoration of natural processes (Kurtz, Jackson and Fisher 2001).

Ecosystem: A community in which all living organisms (biotic factors such as plants, animals and fungi) interact with each other and their non-living environment (abiotic factors, such as sunlight, soil, water and climate). These components are linked together through nutrient cycles and energy flows (Chapin, Matson and Vitousek 2011). In a rewilding context, an ecosystem is viewed as a dynamic, self-regulating system and the goal is often to restore these natural interactions so that the land can sustain itself without constant human intervention.

Ecosystem services: The many and varied benefits to humans provided by the natural environment and from healthy ecosystems, for example clean air and water, food and carbon capture (NatureScot 2025).

Essential indicators: The minimum set of measures (ecological, social and economic) that Rewilding Britain encourages all projects to monitor to ensure national-level data consistency.

Governance: "...includes the structures that guide decisions about people and nature, shaping the success or failure" (Nature-based solutions Initiative 2023).

Grants: Non-repayable funds awarded based on specific criteria, typically used to support initiatives with social or environmental benefits.

Indicator: Often used interchangeably with Metric. Indicators are interpreted, often aggregated data that signal the health, trend or change of a system. They often use one or more metrics. For example, the presence of a specific butterfly is an indicator of a healthy, diverse meadow (Burkmar and Bridge 2017).

Just land use transition: A vision for how we can seek to protect our vital natural systems while providing the food, timber and other resources on which we depend. It does so in a fair and inclusive way that enhances resilient livelihoods, encourages sustainable production, restores critical ecosystems and rewards people for the actions they take to protect the environment (Energy and Climate Change Directorate 2025).

Keystone species: Species that have a disproportionately large effect on their natural environment relative to their abundance, often targeted for reintroduction to reinstate natural processes (Power et al. 1996).

Metric: Often used interchangeably with **Indicator**. A quantitative (numerical) measure of an indicator, which includes specific units of measurement. It is raw data, such as 'number of singing birds recorded' or 'decibels of sound'. A metric tells you exactly what is there but not necessarily what it means for the wider environment (Burkmar and Bridge 2017).

Natural disturbance: Environmental fluctuations (such as floods or fallen trees) that rewilding seeks to reinstate to create dynamic, healthy ecosystems (Trees for Life 2014).

Natural processes: The focus of rewilding. These are the self-regulating, continuous physical, chemical and biological interactions that shape ecosystems and sustain life without direct human intervention. Also known as ecological processes, they include nutrient cycling, energy flow, predation and succession, which maintain biodiversity and ecosystem resilience (Southgate 2020).

Natural regeneration: The regrowth of woodland through the germination of trees dispersed and seeded via natural processes, rather than the planting of trees by humans (Woodland Trust n.d.).

Normalised Difference Soundscape Index: The Normalised Difference Soundscape Index (NDSI) is an ecoacoustic tool used to estimate the level of human disturbance within a soundscape. It calculates the ratio between biological sounds (biophony) and human-made noise (anthrophony) by comparing their intensities across specific frequency bands. The index produces a value between -1 and +1. A +1 indicates a purely natural soundscape, while a -1 signifies one entirely dominated by human activity (Kasten et al. 2012; Andrews and Dick 2021).

Nutrient neutrality credits: A mechanism in England allowing developers to offset nutrient pollution (such as nitrogen or phosphorus) from new developments by funding projects that reduce pollution elsewhere (Defra 2024).

Philanthropic funding: Philanthropic funding involves the provision of financial resources, assets, or dedicated support from charitable foundations, trusts or high-net-worth individuals to advance specific causes (often social or ecological). This funding operates outside traditional commercial or governmental financial streams (UNESCO 2025).

Practitioners: The individuals or groups actively managing and delivering rewilding projects, including land managers, farmers and NGOs.

Qualitative data: Descriptive, non-numerical data that capture nuance, emotion and personal experiences (e.g. stories from a community) (McLeod 2025).

Quantitative data: Numerical data that can be measured and compared statistically (McLeod 2025).

Rewilding: The large-scale restoration of ecosystems to the point where nature is allowed to take care of itself. Rewilding seeks to reinstate natural processes and, where appropriate, missing species, allowing them to shape the landscape and the habitats within (Rewilding Britain 2020).

Rewilding Network: A community of rewilding practitioners across Britain including land and sea managers, charities and community groups. Supported by Rewilding Britain, it's designed to help rewilding practitioners connect, and share experiences, ideas and expertise. The community ranges from landowners and farmers to charities and national parks (Rewilding Britain 2023).

Rewilding Spectrum Assessment: A tool designed by Rewilding Britain based on our Rewilding Journeys and Principles of Rewilding. It is available to Network members and can be used to assess baseline, vision and progress to show where they sit on the rewilding spectrum as well as key data.

Shannon Diversity Index: A measure of biodiversity that accounts for the number of species present and how evenly distributed the individuals are among those species (Rain 2025).

Simpson's Diversity Index (D): A measure of biodiversity that accounts for both species richness (number of species) and species evenness (relative abundance) within a habitat, with values ranging from 0 to 1.

Soundscape: A soundscape is the total collection of sounds emanating from a landscape, composed of three distinct sources: biophony (sounds from living organisms such as birds and insects), geophony (natural non-biological sounds including wind, rain and water) and anthrophony (human-generated noise) (Pijanowski et al. 2011).

Species richness: Species richness is the simple count of how many different types of species exist in a specific area or ecological community, serving as a basic measure of biodiversity. It doesn't consider the abundance of each species (Levin 2013).

Stakeholders: Individuals or groups who can affect or are affected by rewilding decisions, ranging from local residents to policymakers (Manuel-Navarrete and Modvar 2016).

Stratified random sampling: A sampling strategy whereby a grid is applied to a site and locations are selected randomly within each grid square to ensure all variable conditions of the land are represented (Bisht 2024).

Trophic complexity: Refers to the number of layers in a food web (trophic levels) and the intricacy of the connections between them. It measures how energy flows through an ecosystem, from primary producers such as plants up to apex predators, and accounts for the diversity of species performing different roles within that web. Restoring this is a key goal of rewilding (Svenning, Buitenwerf and Le Roux 2024).

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Scientific and technological advancements for monitoring continue to progress at pace and we have endeavoured to present what is currently the most up to date information as of 2026. With this in mind, we've designed the Rewilding Monitoring Framework to be an evolving toolkit, which we will review and reissue at intervals over the coming years. If you have any feedback or questions on this March 2026 iteration of the framework.

Please contact us at **network@rewildingbritain.org.uk**

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