

Principles for a Species Recovery Framework for England

Back from the Brink Programme version

Introduction

[Back from the Brink](#) (BftB) was a joint species recovery programme for England that brought together over 100 organisations, led by Natural England and the seven NGOs¹ that comprise Rethink Nature. The programme ran from April 2017 to February 2022. As well as aiming to secure improved conservation status for over 200 target species, the intention has been to leave a legacy of more effective collaboration across the conservation sector and beyond.

The conservation sector – inside and outside government – has a strong tradition of working together and adding value to each other's efforts and resources, based on a broadly shared view of the priority challenges we face. The long-running Species Recovery Programme by Natural England, amongst other initiatives, is an important example of this. Back from the Brink was set up to help consolidate that tradition, by learning together how we can collaborate even more effectively and put people at the heart of species recovery. While that broadly shared view exists, our effectiveness in addressing these challenges could be improved by a shared framework underpinning collaboration.

To help drive the sustained recovery of our species, and support policy and legislative opportunities such as the Environment Act and new Environmental Land Management Schemes, the Back from the Brink partner organisations have supported stakeholders nationally by offering lessons learnt and recommendations from the Programme's work. This takes the form of a framework for collaboration which can be developed further, owned and used by the whole sector going forward.

This final BftB Programme version of the Framework sets out a series of shared principles which Back from the Brink has worked to, and develops these under five headings. There could be more headings to be explored in future versions (including funding needs, for example) but these are the ones that BftB has sought to develop and get wider inputs on. This draft has benefitted from consultations with delivery partners and stakeholders as well as feedback from the BftB final conference *Rising to the Challenge: A Framework for Species Recovery* on 28th October 2021.

¹ Amphibian and Reptile Conservation, Bat Conservation Trust, Buglife, Bumblebee Conservation Trust, Butterfly Conservation, Plantlife and RSPB. Back from the Brink is funded by National Lottery, People's Postcode Lottery, Esmée Fairburn Foundation and several other trusts as well as the partners themselves.

Proposed Species Recovery principles for:

- **Priority-setting**
 - **Measuring species recovery success**
- **Delivering species recovery through available mechanisms**
 - **Species recovery data management**
 - **Widening participation**

1: Setting priorities for species recovery

Rationale

Resources need to be directed to where they can have optimal impact, which in practice means agreeing priority species and establishing a rationale for allocating resources in particular ways. In England, the c.1000-strong Section 41 list² of species has served this purpose but is deficient in several respects (see principles below). The approaches to priority listing currently differ across the four UK countries³ and the Framework aims to support a more consistent approach.

The broad approach of the 25 Year Environment Plan is to give priority to species in England that are threatened either globally or in the UK, or those that are internationally significant; and to improve the overall status of declining species groups, such as butterflies and other pollinating insects, birds, bats and wildflowers. Long term, there will be a need to review and refresh the priority list. Species that are currently more common but declining rapidly are less well covered and we need a clear basis for addressing this, for example to inform interventions under ELMS.⁴

Back from the Brink adopted Section 41 as an agreed list of priority species from which to select species for action. In practice, selecting around 100 primary focus species, including 12 for bespoke single-species projects, inevitably involved a degree of subjective or pragmatic considerations, negotiations and compromises. The seven BftB integrated projects enabled us to test approaches to multi-taxon delivery, such as biodiversity auditing (see Case Study 1).

Principles

- Species prioritisation requires a science-led risk assessment process that lists the species that require assistance. For the short term, cross-sectoral agreement on criteria⁵ or weighting would help establish accurately and comprehensively the species to be given greatest urgency and/or resourcing.
- We need a common system of species recovery priorities across the sector that gives appropriate weight to threat level, urgency and spatial scale (global, UK, England, local), characterised by:

² Section 41 of the Natural Environment and Rural Communities Act 2006

³ Section 7 of the Environment (Wales) Act 2016, Section 2(4) of the Nature Conservation (Scotland) Act 2004, and Section 3(1) of the Wildlife and Natural Environment Act (Northern Ireland) 2011.

⁴ [Environmental Land Management Scheme](#)

⁵ Suggestions include consideration of whether the ecosystem service value of a species (e.g. pollinators, apex predators, keystone or indicator species) should factor; the need to address common threats (e.g. a well designed ELMS could fix the problems for many widespread declining species); and the urgency and feasibility of acting for the species (including in the face of climate change).

- Sensitivity to changing status/improved information
- Ease of review and amendment
- Applicability at various spatial scales above and below England/UK
- Value in determining spatial (locational/habitat) priorities
- Effectiveness of application through delivery mechanisms eg protected areas, Nature Recovery Network/Local Nature Recovery Strategies, ELMS
- Feasibility of recovery in view of assessed impact of climate change.
- Robust and consistent processes for incorporating species priorities into spatial strategies and plans such as Local Nature Recovery Strategies, management plans for National Parks and Areas of Outstanding Natural Beauty.
- Pragmatic evidence-based solutions to addressing the large number of priority species, such as: use of proxies to deliver assemblage-level benefits, optimising combined targets for species assemblages, as well as a single-species focus where bespoke measures are required.
- Biodiversity auditing techniques should be developed to support multi-taxon conservation delivery at both regional (ideally ecologically-coherent character areas) and management unit (eg nature reserve) scale.

**Case study 1: Biodiversity auditing in the
Cotswolds' limestone grassland.**

CASE STUDY TO BE ADDED

2: Success measures for species recovery

It is important to set defined outcomes for species recovery, and to monitor and report progress toward those outcomes. We do this consistently for other areas of conservation e.g. area of habitat restored, but less so for species. Species recovery may take a very long time and it may be impossible to measure a change over short-term project timescales. Activity is therefore often targeted at *improving the conservation prospects* of a species. Examples include increasing our understanding of its ecology, or increasing the area occupied by the species (intrinsic factors); or increasing awareness, enhancing habitat, or securing policy change (extrinsic factors). In such cases, recording progression through a recovery *process* and assessing improved prospects as a result of the activities undertaken may be more instructive.

Given that for some species there is no realistic likelihood of full restoration to previous levels, we have to set *ambitious targets for what recovery can mean in practice*. Targets for reducing extinction risk are a minimum goal and cannot be seen as a measure of real success unless they are accompanied by targets for recovery beyond merely avoiding extinction. The International Union for the Conservation of Nature (IUCN) Red List of Threatened Species was established to assess the global risk of extinction of a species. This has been further developed to include classifiers of conservation success with a new set of metrics – Green Status. This considers the extent to which a

species is present, viable and performing its ecological function in all parts of the range, and is therefore more focussed on measuring and supporting species recovery.

The two main types of approach in use at present are those that measure progress along a recovery process (especially the Species Recovery Curve (SRC) approach⁶) and those that measure actual conservation status based on ecological and demographic data. Back from the Brink commissioned BftB partner Amphibian and Reptile Conservation to convene a series of workshops and studies aimed at better relating recovery progress to conservation status: see *Measuring Success: What Does Species Recovery Look Like?*⁷. A follow-up study, *Measuring Success – a trial of different approaches to species recovery*⁸ was carried out by Footprint Ecology, and assessed the utility of IUCN Green Listing, Species Recovery Curves and Conservation Status Assessment as applied retrospectively to a small set of Back from the Brink species.

We recommend combining an assessment of recovery prospects using Species Recovery Curves with an appropriate outcome measure to determine range-level recovery success. Linking the two could be achieved through project-scale target-setting that allowed a reasonable projection of the outcome. We would not recommend Green Listing or Conservation Status Assessment for short-term, local project use but would look to standardise their use for national or whole-range assessment.

However, to gain greater sectoral confidence in IUCN Green List scoring and Conservation Status Assessment we need to clarify and standardise guidance, for example on applying them at sub-national/part-range scales and establishing simpler approaches to derive workable scores, such as by making more educated assumptions, short-cutting some of the issues of ecological understanding and data deficiency.

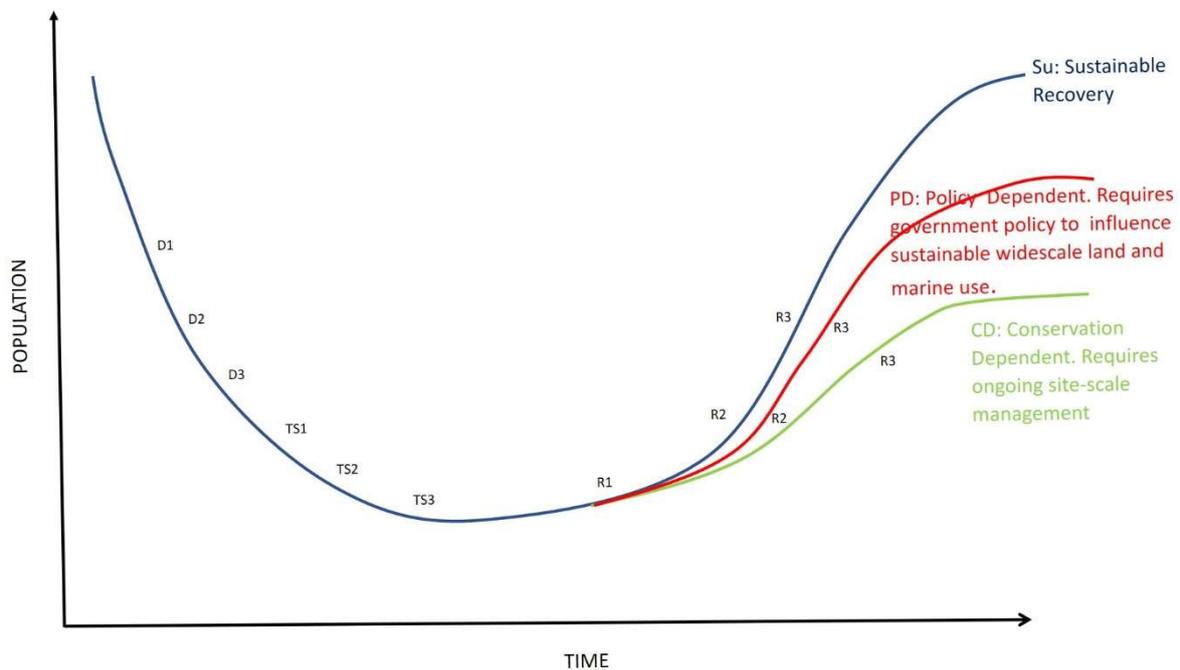
The ideal goal is for a species to not only recover to a target level, but for its range and population to be self-sustaining from that point into the future: the Red Kite is an example. Many species can only foreseeably recover to a point where their ability to sustain their populations depends on a supportive and stable land-use regime, which is itself dependent on a conducive policy and funding framework. The fact that there are currently few land-use affected species that have reached a satisfactory status to provide examples attests to the vulnerability of a large number of species to land-used engendered decline. However, any future recovery of farmland species such as Lapwing or Linnet will fall into this category. Many more species, for example the Bittern, may reach the point where they have recovered, subject to continued, perpetual targeted conservation intervention, such as management of particular habitat mosaics in nature reserves. A framework for defining the desired end-state in such a way that defines 'recovery' in these different circumstances is key to planning recovery programmes. The updated version of the Species Recovery Curve recently adopted by the RSPB represents these three 'tails' graphically (fig. X).

⁶ Species Recovery Curves were developed by the RSPB and adopted in a modified form by Natural England. Both use notional or actual scales such as population size at the X-axis and time at the Y-axis, with a curve tracing past (actual) population and future idealised/projected population. Points along the curve mark activity milestones such as initial status assessment, autecological understanding, solution testing and roll-out, sustainable management and 'recovery'.

⁷ reference

⁸ reference

Figure X: RSPB Species Recovery Curve with three 'tails' indicating three foreseeably achievable recovery states. Stages along the curve are divided into Diagnosis, Trial Management and Recovery, each with defined subdivisions.



Principles

Species recovery measures should ideally meet the following criteria:

- applicability across taxa
- applicability across spatial scales
- suitability for use over typical project timescales but also able to inform longer term direction
- ease of use including with low levels of data, for example based on expert opinion
- demonstrating and measuring success of both activities and outcomes
- focus efforts on the recovery goal
- compatibility of measures used for different interventions covering the same species

Case study 2: Improving the conservation prospects of the Northern Dune Tiger Beetle

CASE STUDY TO BE ADDED

3: Mechanisms for delivering species recovery

Rationale

Self-evidently, species decline and its causes should be prevented in the first place and if it occurs, the underlying causes should be modified so that recovery is sustainable in the long term. Deploying

a wide range of mechanisms coherently is the best way to ensure this, and this needs long-term commitment and consistency of funding and policy support.

Species Recovery has often been seen as a separate, specialist field within biodiversity conservation, with its own programmes and funding. Activities that are defined spatially (location) or functionally (protective designation, habitat, land-use) have not always delivered species recovery effectively or to the required extent. There are even examples of these being counter-productive (e.g. tree planting/regeneration on grasslands with a diverse and characteristic flora and fauna). Designing such schemes with defined species outcomes from the start represents a huge opportunity to deliver much more nature gain for the investment provided. In this way species recovery could be a measure of success for such investment.

Systematically addressing the pressures and threats to biodiversity is key to addressing the sheer number of threatened species, especially those widespread species in sharp decline. Removing pressures and threats is not always possible, but action to manage and mitigate them can be taken.

The first principle, below, that species outcomes are an essential measure of success, should serve as a unifying principle across otherwise disparate categories and types of designation. It should also enable the necessary integration of species recovery into spatially-focused strategies and plans such as Local Nature Recovery Strategies, Green Infrastructure strategies and National Park and Area of Outstanding Natural Beauty management plans.

Many activities have biodiversity conservation as a secondary goal or by-product, notably food production and other farm-based activities that incorporate public funding for conservation; or coastal flood risk investment that leads to the creation of new habitat. By better integrating species outcomes into guidance and criteria for initiatives such as new Environmental Land Management Schemes there is an opportunity to harness these activities to contribute significantly to national priorities for species recovery.

It is essential to ensure that the technical advice available to support, for example, farm-level decisions or spatial planning adequately reflects relevant species priorities and opportunities. At the same time, bespoke projects that focus resources onto highly targeted actions for individual species or assemblages remain vital, especially for urgent cases and for species that are highly specialised whose needs would not normally be met in any other way.

As stated in the previous section, long-term sustainability of recovery needs. Furthermore, recovery will always be subject to new threat factors, in particular future climate effects. Species' ability to adapt through population movements, and techniques available to facilitate this will be an increasingly important aspect of feasibility planning. Landscape-scale interventions and 'wilder' management options are likely to play an important role.

Principles

- For activities where biodiversity is a primary objective, in particular protected species and protected area mechanisms, the recovery of all relevant species should be an essential measure of success. Species recovery is not limited to bespoke, focussed projects and activities, rather it should be adopted as a goal of any activity that directly or indirectly delivers significant biodiversity outcomes, in keeping with the principle⁹ that:

⁹ Lawton, J. (2010) *Making Space for Nature*. Report to DEFRA

“...there is no surrogate metric that can reliably assess conservation success or failure without knowing what is happening to populations of plants and animals in the landscape.”

- For policies and delivery mechanisms in which biodiversity is a secondary or shared objective or a by-product, the aim should be to integrate relevant outcomes and objectives for species which are appropriately supported and reported on.

**Case study 3: Farming and conservation for the
Grey Long-eared Bat**

CASE STUDY TO BE ADDED

4: Biological Data management for species recovery

Rationale

Fundamental to building confidence in species recovery interventions is the ability to monitor, evaluate and report success, all of which is data-dependent.

Whilst lack of monitoring and baseline data (and the imbalance between taxa) is a significant issue, there will be a finite limit on the resources available for species recovery. Therefore, we have to find a balance between gathering data and commissioning informed actions for species recovery based on best available evidence. However, for some taxon groups such as lichens, data gaps, for example basic distribution data at national scale, are a serious handicap.

Issues relating to data-deficiency include:

- For certain taxa, historical data is often lacking; or there are differing opinions on historic range, affecting reintroduction criteria
- Lack of both data and specialist expertise available to form opinion; and having flexible methods for taking that opinion on board to inform early action
- Confidence in using action (“getting on with it”) to also facilitate data-gathering (vs. data gathering before action)
- Comparability of recorder effort is lacking, undermining data quality

Data deficiency is sometimes due to data having been gathered to a high standard but not shared or curated in a way that makes it easily accessed and used subsequently. The reasons for this are many and include incompatibility of data systems, perceived sensitivities, control, ownership, charging and licencing.

The sector should work together to address shared issues in assessing recovery of and setting targets for poorly understood and low-data species. The underlying issues might include how to deal with uncertainty; lack of trained recorders to gather data; lack of ecological knowledge. Shared solutions could include initiatives to generate volunteer interest in poorly known species; commissioning of research that could address knowledge gaps (e.g. airborne eDNA may be useful for a range of species).

While data poverty can be a serious barrier to accurately determining priorities and planning actions, there are often circumstances where good natural history knowledge or taxon expertise is a sufficient basis for taking action. Developing future generations of natural historians and passing on acquired expertise is a strategic priority.

The [National Biodiversity Network](#) and [Local Record Centres](#) are a shared resource for a sector that works largely through individual organisations' projects and programmes, or bespoke partnerships. For many taxon groups, suppliers of data are often individuals working in amateur, academic, or specialist professional capacities unattached to statutory or NGO conservation organisations who are the main users of their data.

Principles

- Data strategies should ensure that data gathered and stored across the sector is appropriate for the purposes of monitoring, evaluating and reporting success at both project level and nationally over time.
- The data held across the conservation sector should, where at all possible, be regarded as open access,¹⁰ or at least FAIR (Findable, Accessible, Interoperable, Re-useable).
- Some degree of streamlining and investment in shared data networks is required to support, for example:
 - Periodic reviews of priority lists such as (currently) section 41 species in England, as well as national/subnational status reporting
 - Addressing gaps in baseline data
 - Measuring progress and evaluation
 - Passing on status information between successive programmes of work
 - Using data to support spatial conservation planning
- Data recording, management and sharing systems need to be standardised across taxa where possible and appropriate and fully compatible across the UK, if not shared at UK level, and should fit within recognised international systems.
- Investment in the people (very often volunteers) and systems behind the data is crucial to achieving the good data availability and open access needed for species recovery projects.
- There is a need for consistent protocols on what is appropriate to measure, and these are lacking for certain taxa: e.g. seedbank or above-ground plants? Invertebrates at which stage of their life-cycle?
- Funders should recognise that baselining and other data and information gathering, including autecological research, may be an important part of guaranteeing effectiveness of their investments.

**Case study 4: working with Local Record Centres in
Dorset's Heathland Heart**

CASE STUDY TO BE ADDED

¹⁰ See <https://www.library.yorku.ca> for a definition



5: Widening participation, ownership and support

Rationale

With each generation the scale of past biodiversity losses is less well understood, at least through direct contact, and there is a real risk that loss is becoming either normalised as part of the human experience or is going unrecognised as a symptom of ‘shifting baseline syndrome’.

Lack of engagement with nature, ‘nature-deficit disorder’, weakens ecological literacy and environmental stewardship which can lead into a vicious cycle of biodiversity loss. Environmental education – both formal and experiential – is essential to combat this.

The benefits to people and society as a whole of having access to diverse nature experiences are well documented, but often this translates into bland provisioning of low-quality ‘green space’. There is a continual need to reinforce the case for species-richness as a mark of experiential quality and local distinctiveness.

People have an increasingly important role to play in conservation delivery through voluntary local action and could contribute significantly to current gaps that have been identified in the framework, e.g. monitoring, advice provision and providing a sustainable legacy through activities such as wardening. We therefore need to give communities a voice in shaping nature recovery right from the development of strategies and plans and then taking them forward.

Restoring species diversity and abundance, and improving the prospects of threatened species, are outcomes that make local conservation measures relevant to people. Species richness enhances the depth and quality of experience, contributing to local distinctiveness, and making tangible the results of local effort and support.

Back from the Brink’s engagement was built around a ‘Discover, Value, Act’ model. Simply put, we wanted people to discover Back from the Brink and take them on a journey to value and act for our species. Back from the Brink was designed to involve as many people as possible, through diverse means, whether as volunteers, active supporters from local communities or visitors to events, arts and learning opportunities.

This model was then combined with recent research on [‘nature connections’](#) by the University of Derby. Back from the Brink adopted a ‘pathways to connectedness’¹¹ approach and integrated it with our engagement model. The pathways entail building public engagement around five routes to enhancing personal connection to nature: senses, emotion, compassion, meaning and beauty, with correspondingly reduced emphasis on traditional, but less effective, fact-based interpretation.

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Pathway	Definition
Contact	The act of engaging with nature through the senses
Beauty	The perception of aesthetic qualities including shape, colour and form that please the senses
Meaning	Using nature or natural symbolism to communicate a concept that is not directly expressed
Emotion	An affective state or sensation that occurs as a result of engaging with nature
Compassion	Extending the self to include nature, leading to a concern for other natural entities that motivates understanding and helping/co-operation

Some successful BftB work based on this approach included the community arts programme, in which five artists worked with our 19 projects and local communities. Activities that encouraged a creative response to the species had a strong positive impact on our ability to promote less obviously charismatic species. Telling their stories, along with those of the people involved, fostered a close connection locally as well as wider public appeal supported by a strong social media presence and high-quality imagery. We also organised and hosted a series of talks from young environmentalists and naturalists about the issues and topics important to them which drew in new audiences inspired by the speakers we worked with.

As part of the suite of Back from the Brink outputs, we used Frames Analysis to develop a toolkit for communications about the sometimes complex-seeming world of species recovery, and the less-loved, lesser-known species that rarely grab attention.

Principles

- Whilst some species recovery work may take place with little public engagement, for logistical, safety, sensitivity or even financial reasons, species recovery as a concept depends on public support and active involvement should be encouraged wherever possible.
- The conservation sector should maximise its appeal, based on a commitment to equality, diversity and inclusiveness, and employ creative solutions working with a diverse and inclusive group of collaborators from other sectors to engage as large and wide an audience as possible.
- While knowledge-based and fact-based teaching and interpretation has its place, the aim should be to promote and restore people's connectedness to nature through the most effective pathways, including engagement based on beauty, emotional appeal, compassion, meaning, and sensory experience.
- Monitoring and evaluation of engagement work is essential in order to ensure efficacy and to determine the success of novel strategies.
- Novel framing of communications, such as story-telling, is essential to overcome challenges such as complexity, obscurity of species, and relating to a wide range of audiences

Case study 5: Creative Communities

CASE STUDY TO BE ADDED

Conclusion

This framework of principles comes directly from the experience of planning, implementing and evaluating a very wide range of conservation interventions, including people engagement, across a wide range of taxa, locations, communities and organisations. This experience in turn builds on those and other organisations' long track record of delivering species recovery on the ground, and advocating wider change to support nature's recovery.

Penultimate Draft: finished version to be uploaded in late January 2022

The conservation sector and interested other parties must now take this forward and build upon it, adding new sections (such as funding) and expanding on details, as well as carrying out further analytical work to help inform future collaboration.

Meanwhile, the urgency of rebuilding the abundance and diversity of wildlife in the UK means we cannot hold up continuing this vital work as the framework is improved and refined. The combined experience and expertise available to the sector is enough to give confidence that success is achievable in many cases, given enough resources and a supportive public policy framework.

TEMPORARY DRAFT