Nature recovery targets:

Statutory targets to drive the recovery of nature in Scotland

A report for Scottish Environment LINK

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Scottish Environment LINK the voice for Scotland's environment

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A note on terminology: Scottish Natural Heritage *vs* NatureScot

The Scottish Government's official nature conservation agency is Scottish Natural Heritage (SNH), established by the Natural Heritage (Scotland) Act 1991. Since 2020, however, it has now adopted a new branding, leading it to be widely known as "NatureScot" - although its legal name (in section 1 of the 1991 Act) is unchanged. Thus, it remains Scottish Natural Heritage in legislation and, to have legal effect, documents, such as general licences, include the interpretation:

> *"NatureScot" means Scottish Natural Heritage acting under its operating name NatureScot and are signed "For Scottish Natural Heritage acting under its operating name NatureScot"*.

In this report, which focuses on proposals for legislation (a proposed Natural Environment (Scotland) Bill), the statutory/legal name (that is, Scottish Natural Heritage) as will need to be used in legislation is favoured. Scottish Natural Heritage (or SNH) is also used in reference to material published by the agency when that was both their name and brand. In places, however, both the historical/legal and current, informal/operating name are used to assist readers familiar with the agency's current branding.

Acknowledgements and status of report

Many thanks are due to Scottish Environment LINK's working group on nature targets for the opportunity to work on this report. Its writing has been greatly improved by discussions and constructive comment from members of that group, but especially Rebekah Strong (Scottish Wildlife

Trust), Juliet Caldwell (LINK), Prof Colin Reid (Professor of Environmental Law, University of Dundee), Annie Robinson (CIEEM), Rosie Simpson (JMT), Isobel Mercer and Paul Walton (both RSPB Scotland). In the preparation of this report, LINK has shared drafts, and undertaken discussions, with officials in both the Scottish Government and NatureScot – we thank them for constructive engagement.

This report sets out LINK's current thinking on nature recovery targets, and how a Natural Environment (Scotland) Bill might be drafted to introduce such targets on a statutory basis. However, as is clear from its content, it is not a "finished product", this is considered a 'first edition' and LINK would welcome feedback and further discussion with stakeholders – to inform future thinking and future iterations of this report (or proposals that flow from it).

Executive Summary

Scotland's biodiversity, or wildlife, is rich and diverse. This richness is often lauded – it is used to promote the tourism industry, food and drink products and is intrinsically linked with the Scottish identity. However, despite these positives, wildlife has suffered and declined considerably over the years and remains in danger.

Nature recovery is essential to safeguard the future of our societies and economies, as well as of the wildlife itself. This must now be acted on as an urgent priority. A main finding of an independent review, commissioned by HM Treasury, into the Economics of Biodiversity was that "*we have collectively failed to engage with nature sustainably, to the extent that our demands far exceed its capacity to supply us with the goods and services we all rely on*"[1]. As a collective of environmental organisations, we believe that there is a fundamental and moral imperative to save nature for its own sake. However, naturally diverse ecosystems support all life and without them, life on earth simply cannot survive. The pressures of climate change mean that our ecosystems need to be even more robust and resilient. The fact is they are neither.

The UN's commitment to biodiversity says "*biodiversity loss jeopardizes nature's vital contributions to humanity, endangering economies, livelihoods, food security, cultural diversity and quality of life, and constitutes a major threat to global peace and security*"[2]. There is an urgent need for decision makers and the public to commit to effective action to halt this loss and restore nature. Setting targets is one way to measure progress towards that goal, and better understand both our complete reliance on the natural world and the jeopardy facing our society and economy if we do not act.

Scientists and the Government in Scotland agree that our wildlife is in decline. There has also been increasing recognition in recent years that these declines are happening against a backdrop of much more significant degradation of nature. The 2020 Biodiversity Intactness Index (BII) found that Scotland is 28th from the bottom in a ranking of 240 countries and territories. Importantly, the BII reflects the historical context and allows us to look beyond the inadequate timescale of a few decades that humans tend to perceive and to truly understand the ecological and ecosystem changes that have occurred in recent centuries.

Despite this context, to date, policies, plans and legislation have failed to halt ecological decline, let alone reverse these trends. There have been examples of conservation success and good collaborative working but at the broad scale we are collectively failing to preserve our ecological life support systems. It is therefore hugely welcome that we have seen a shift in the global high-level ambition when it comes to tackling the nature and climate crisis holistically - as set out in the Kunming-Montreal Global Biodiversity Framework agreed at CoP15 of the Convention on Biological Diversity. We are pleased to see this global ambition is translating into ambition on the part of the Scottish Government. However, it is now essential that we see commitments turned into delivery – we need to walk the walk, not just talk the talk.

Targets are essential for driving change across all parts of Government and the economy. Whilst we know much more needs to be done to tackle the climate emergency, we have seen how the Net Zero targets have led to climate change being mainstreamed into the consciousness of governments and sectors and seen as a priority. Without a similar approach for nature, we run the risk of a fragmented and insufficient, rather than unified and effective, response to the nature emergency.

LINK and its member organisations have been campaigning for statutory targets for nature recovery[3] for a number of years. NGOs therefore welcomed the Scottish Government's commitment to the introduction of statutory targets for the recovery of nature to: "*put in place key legislative changes to restore and protect nature, including, but not restricted to, targets for nature restoration that cover land and sea, and an effective, statutory, target-setting monitoring, enforcing and reporting framework"* [4].

[1] https://www.gov.uk/government/publications/final-report-the-economics-of-biodiversity-the-dasgupta-review
[2] https://www.unesco.org/en/biodiversity/commitment
[3] https://www.fightforscotlandsnature.scot/
[4] https://www.gov.scot/publications/scottish-government-scottish-green-party-shared-policy-programme/

This paper explores the background to the concept of such targets, considers the global and regional context into which they will fit, seeks to further the debate about their nature and operation, and makes initial proposals for how such targets might be delivered through forthcoming legislation.

It has set out the features of such targets that should:

- Incorporate a clear date for achievement, and milestones leading to that date;
- Achieve *both* a reversal of current negative trends *and* an effective regeneration of biodiversity in relation to past and historic losses;
- Be relevant and specific to the outcome to be achieved;
- Be measurable – to allow clear monitoring and reporting of progress; and
- Be achievable and realistic – especially in relation to means/interim targets to underline and demonstrate the viability of the ultimate objective.

It has also sought to describe the content of such targets, addressing:

- Species abundance;
- Species distribution;
- Species extinction risk;
- Habitat quality and extent;
- Drivers of biodiversity decline; and
- Overall integrity, connectivity and resilience of ecosystems.

Further details of these target areas are set out in the summary table overleaf, in the report and are discussed in full in annex 2.

It also describes how such targets might be framed in legislation and the enabling framework of monitoring, reporting, accountability, funding and finance that is necessary to successfully deliver against these targets. The statutory framework, provided in the forthcoming Natural Environment (Scotland) Bill must, therefore, provide for an appropriate 'action planning cycle' (via amendments to the existing provisions for the Scottish Biodiversity Strategy, and its monitoring/reporting) as well as the allocation of new advisory functions to Environmental Standards Scotland.

One difference between the climate targets in Scottish legislation and this proposed approach to nature targets is that, the nature recovery targets require a wide range of interlinked targets (as opposed to one simple metric). This is necessary because of, and reflects, the complexity of nature. It also illustrates that adopting insufficiently wide-ranging, ambitious and robust targets risks inadequate coverage, failure to halt and reverse declines. Moreover, if over-simplification is attempted, inadequate targets have the potential to be counter-productive and generate damaging impacts.

We hope that this report is a useful contribution to the discussion halfway through the UN Decade of Ecosystem Restoration. The ideas and proposal presented will continue to evolve and we look forward to refining and discussing them with a wide range of stakeholders.

Summary of LINK's proposed targets for the recovery of nature

Target area	Targets to be proposed: (description and metrics)
Direct species and habitats targets ("ends")	
Species Abundance	• Overall species abundance; • Abundance of species at risk; • (Optional) abundance of other particularly important species or species group – e.g., seabird abundance. • (Additional 'means' target on increasing the number of species for which data is available/decreasing number that are 'data deficient')
Species distribution	• Overall species distribution; • Distribution of species at risk.
Species Extinction risk	• Targets to reduce number of species at risk of local extinction to zero in the long-term.
Habitat quality and extent	• Extent and quality of priority habitats[5]; • Protected area targets (area covered, and site condition, for both terrestrial and marine sites).
Targets related to conservation action ("means")	
Changing use of land and sea	• Targets related to the integration ("mainstreaming") of nature protection/recovery into agriculture, forestry, game/deer and upland management, and fisheries (freshwater and marine). • EU nature restoration law targets (and cross-reference to 30x30).
Direct exploitation of organisms	• Targets for population level of species subject to legal killing/capture. • Targets to reduce the indirect impact on species & habitats (including legal/illegal predator control) as a result of management to increase the numbers of (or access to) target species. • Targets for the prevention of bycatch.
Climate change	• For mitigation, adopt/cross-refer to targets set by the Climate Change (Scotland) Act 2009, as amended; • Adaptation/resilience targets (possible examples include riparian woodlands/planting, and/or a link to seabird populations in relation to marine resilience).
Pollution	• Targets to reduce chemical/pesticide use and increase freshwater, seawater and air quality.
Invasive non-native species (INNS)	• Targets to reduce the rate of introduction and establishment of invasive non-native species (INNS). • Targets for the eradication/control of INNS, with a priority for islands, and ongoing biosecurity.
Overall integrity, connectivity and resilience of ecosystems	
Overall ecological condition	• To further our understanding of and develop a route map to improve Scotland's Biodiversity Intactness Index (BII); leading to the adoption at a later date of BII as a target (as below). • To improve BII, either in absolute or relative terms.

[5] LINK's proposals for priority habitats were set out in 2021 paper, Scottish Biodiversity Strategy 2022: Key Elements for success; see https://www.scotlink.org/wp-content/uploads/2021/12/LINK-elements-of-success-for-Scottish-Biodiversity-Strategy-2022.pdf (page 2)

1. Introduction

The Scottish Government is committed to the introduction of statutory targets for the recovery of nature. It has pledged to "*put in place key legislative changes to restore and protect nature, including, but not restricted to, targets for nature restoration that cover land and sea, and an effective, statutory, target-setting monitoring, enforcing and reporting framework"* [6]. The Programme for Government has re-confirmed this commitment[7] and the recent Biodiversity Strategy refers to a delivery framework that includes ***"a Natural Environment Bill to put in place statutory targets for nature restoration"*** [8].

Environmental NGOs warmly welcome this commitment. Statutory targets for nature recovery have been a matter for which NGOs have long campaigned[9]. This paper explores the background to the concept of such targets, considers the global and regional context into which they will fit, seeks to further the debate about their nature and operation, and makes initial proposals for how such targets might be delivered through forthcoming legislation.

Box 1

Recovery of nature: why and what?

It is widely acknowledged that biodiversity is in decline and has been for many years. It is also broadly agreed that efforts must be made to halt and reverse this decline. To this end, a range of international and national policies are in place, often supported by the efforts of NGOs, businesses, land managers and private citizens.

In many places, these efforts have started to be successful – the return of the red kite to the UK's skies or otters and salmon to our formerly polluted rivers being two obvious examples. However, overall progress has been decidedly unsuccessful – and the decline continues. Such a situation arises, in part, as legislation to date has largely focused on protecting the best of the remaining nature, rather than on reversing widespread declines and on restoration. The need to address this has led to the agreement to introduce targets – first to halt the decline and, secondly, to secure recovery. Despite not yet achieving the former, it is important to set out ambitions in relation to the latter – to underline long term vision and to focus efforts to achieve the former as a first step towards achieving the latter. It is obvious that 'business as usual' is insufficient, and targets can have the effect of ensuring that efforts are redoubled.

Thus, there is widespread agreement about a long term vision for the recovery of nature. However, recovery to what? The word 'recovery' suggests a return to a past state. In part, this is true – as it will need to include a reversal of declines. However, in addition, it will be forward looking – seeking to ensure that species and habitats are at "favourable conservation status"; being when all species reach an abundance and distribution that is consistent with their long-term survival and (semi)natural state in resilient and thriving ecosystems. In taking this approach, recovery will also address long-term, historical losses/declines that occurred before routine and systematic monitoring was developed.

So, the concept of recovery, while including a reversal of decline, does not depend on setting any one date in the past and seeking to recreate what existed then. Rather, while it will include some species/habitats reaching numbers/extents previously recorded, it is also about regenerating healthy ecosystems that are self-sustaining – and better able to provide ecosystem services to benefit the human population. This long-term aim is also reflected in the draft vision set out in the Scottish Biodiversity Strategy (see section 3).

[6] https://www.gov.scot/publications/scottish-government-scottish-green-party-shared-policy-programme/
[7] https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2021/09/fairer-greener-scotland-programme-government-2021-22/documents/fairer-greener-scotland-programme-government-2021-22/fairer-greener-scotland-programme-government-2021-22/govscot%3Adocument/fairer-greener-scotland-programme-government-2021-22.pdf
[8] https://www.gov.scot/publications/scottish-biodiversity-strategy-2045-tackling-nature-emergency-scotland/
[9] https://www.fightforscotlandsnature.scot/

This paper builds on the understanding of 'nature's recovery' summarised in box 1 and seeks to translate such a vision into practical policy – that should be and can be underpinned by statute to create "legally binding targets for the recovery of nature". It has been written and co-ordinated by Lloyd Austin, commissioned by and with the support and advice of a working group of Scottish Environment LINK members. As is clear from its content, it does not seek to provide an answer to every question but is offered for wider review and discussion by all relevant stakeholders, and as a contribution to the debate leading up to the formal consultation and proposed legislation on this issue. It seeks to explore the legislative options that might be available to implement this commitment, and the policy development that will be necessary to support and implement such a change in the law.

In this spirit, Scottish Environment LINK looks forward to further discussions with the Scottish Government, NatureScot, and other stakeholders – and would welcome feedback and further discussion with stakeholders – to inform future thinking and future iterations of this report (or proposals that flow from it).

2. Context

Global

International and co-ordinated action for biodiversity has a long history, through various international agreements such as the Ramsar Convention on the protection of wetlands[10]. However, at the 1992 world summit on sustainable development in Rio, this action took on a more comprehensive approach with the agreement of the Convention on Biological Diversity (CBD)[11].

Under this Convention, UN member states have agreed to targets for the conservation and protection of nature. At the 10th meeting of the Conference of CBD Parties (COP10), held in Japan in 2010, the Parties agreed the so-called "Aichi targets"[12]. These were applied and reported against, in Scotland, but, as discussed in section 4 below, the track record of achievement was poor:

Most recently, at COP15 in Montreal in late 2022, the Parties have agreed a successor framework to Aichi, known as the Kunming-Montreal Global Biodiversity Framework (GBF)[13]. It includes four goals and 23 targets to be achieved by 2050 and 23 action-oriented global targets for urgent action over the decade to 2030. These goals and targets are reproduced, for information, in Annex 1 of this paper. These targets do, to a great extent, reflect the views of UK NGOs in relation to a Global Goal for Nature and People[14].

These global biodiversity targets and overall policy fit within a wider UN-led process of promoting sustainable development – especially the Sustainable Development Goals[15]. This context highlights that, at global or national level, promoting and restoring nature, while being an intrinsically valuable objective, is also one that underpins social and economic ambitions.

European Union

Closer to home, these global objectives are now reflected in the proposed EU Nature Restoration Law[16] and the EU's Biodiversity Strategy for 2030[17]. At the time of writing, the regulations[18] to enact these proposals are still subject to EU procedure but it is expected that some form of the draft will be passed in due course (currently expected July 2023). Two helpful assessments of these EU proposals are available – from IUCN[19] and IEEP[20].

While the UK has now left the EU, its departure has led to a "Trade and Co-operation Agreement" which includes a range of limited measures on non-regression and the so-called "level playing field"[21]. It will also, of course, be subject to the 'Brussels effect' – being geographically adjacent to the EU bloc[22]. However, in relation to Scotland's devolved responsibilities, within the UK, the Scottish Government has committed to maintaining or enhancing EU environmental standards. To support this, the UK Withdrawal from the EU (Continuity) (Scotland) Act 2021 introduced powers for Scottish ministers to "keep pace" with areas of EU law where they choose to. The Act also requires ministers to have regard to an overall purpose of maintaining and advancing standards (including environmental), and to give due regard to the EU environmental principles.

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[10] https://www.ramsar.org/
[11] https://www.cbd.int/
[12] https://www.cbd.int/sp/targets/
[13] https://www.cbd.int/article/cop15-final-text-kunming-montreal-gbf-221222
[14] https://www.wcl.org.uk/docs/ELUK_Targets_2021_Briefing_29.01.21.pdf
[15] https://sdgs.un.org/goals
[16] https://environment.ec.europa.eu/topics/nature-and-biodiversity/nature-restoration-law_en
[17] https://environment.ec.europa.eu/strategy/biodiversity-strategy-2030_en
[18] https://environment.ec.europa.eu/system/files/2022-06/Proposal%20for%20a%20Regulation%20on%20nature%20restoration.pdf
[19] https://www.iucn.org/news/europe/202206/eu-nature-restoration-law-a-boost-biodiversity-and-climate
[20] https://ieep.eu/publications/the-proposed-eu-nature-restoration-regulation-the-path-to-natures-recovery/
[21] https://commission.europa.eu/strategy-and-policy/relations-non-eu-countries/relations-united-kingdom/eu-uk-trade-and-cooperation-agreement_en
[22] https://scholarship.law.columbia.edu/books/232/

Wider UK

The Environment Act 2021 has introduced provision for environmental targets, including in relation to biodiversity, for England and Wales. The detailed proposals were subject to consultation in 2022[23], and subsequently implemented, for England[24], by the Environmental Targets (Biodiversity) (England) Regulations 2022[25].

The IEEP UK (2022) has published a useful comparison of the biodiversity targets emerging in the EU and those for England – noting divergence between England proposals and those for EU[26]. While both the EU and English approaches are useful, it is likely that (given the policy/aspiration described above) the Scottish Government will wish to be consistent with the EU approach.

Elsewhere/other approaches

Housden (2020) in a report for Scottish Environment LINK[27] describes the development and application of nature recovery targets in New Zealand and in the Netherlands (as well as the above global, EU and UK developments, as they were at that time).

This context and other examples provide a valuable basis for the development and implementation of nature recovery targets in Scotland. Equally, if Scotland were to choose not to adopt this approach, it may become the only the country in the EU or UK (and rare in the developed world) not to do so.

In some countries and/or jurisdictions, other legislative or policy routes to nature recovery have been adopted. These include approaches such as 'Rights to Nature' as developed in e.g., parts of South/Central America, and described in a report commissioned by the European Parliament[28]. There is also considerable debate, including in Scotland, about the use and value of an 'ecocide law'[29]. Similarly, nature and access to a healthy and thriving natural world is a key substantive right within the human right to a healthy environment[30] – which will form part of the Scottish Government's Human Rights (Scotland) Bill[31], now subject to consultation[32].

These other approaches all have merit – and should be considered and implemented as appropriate. However, they should be seen as complementary to nature recovery targets, not as alternatives.

[23] https://www.gov.uk/government/news/delivering-on-the-environment-act-new-targets-announced-and-ambitious-plans-for-nature-recovery
[24] Although the framework of the 2021 Act applies to Wales, the implementation will be a matter for the Welsh Government.
[25] https://www.legislation.gov.uk/ukdsi/2022/9780348242966/pdfs/ukdsi_9780348242966_en.pdf
[26] https://ieep.eu/wp-content/uploads/2022/11/Divergence-Project-report-comparison-of-biodiversity-targets-Final.pdf
[27] https://www.scotlink.org/wp-content/uploads/2020/10/FINAL-UPDATED-report-On-a-path-to-recovery-Apr-2021.pdf
[28] https://www.europarl.europa.eu/RegData/etudes/STUD/2021/689328/IPOL_STU(2021)689328_EN.pdf
[29] https://www.stopecocide.earth/press-releases-summary/scotland-cross-party-support-for-ecocide-law-parliamentary-motion
[30] https://www.ercs.scot/our-work/
[31] https://www.gov.scot/news/new-human-rights-bill/
[32] https://www.gov.scot/publications/human-rights-bill-scotland-consultation/

3. Scottish Government policy development to date

The Scottish Government has formally recognised the climate emergency[33] - and this declaration has been followed by creation of a dedicated framework for tackling the climate emergency, involving statutory targets, policy programmes and associated funding. The language of a climate emergency has also been embedded in Scottish Government policy, such as the (then) Cabinet Secretary's statement in May 2019[34] and the 2019-20 Programme for Government[35]. It remains a key element of policy with one of the six chapters within the Scottish Government – Scottish Green Party Shared Policy Programme entitled "Responding to the climate emergency"[36]. However, in addition, it is also recognised that **the nature and climate crises are interlinked and that they should be addressed holistically**.

> *"The challenges facing biodiversity are as important as the challenge of climate change, and I want Scotland to be leading the way in our response".*
> Rt. Hon. Nicola Sturgeon MSP, July 2019 [37]

To address the biodiversity challenge, the current legislative framework consists primarily of: -

- Wildlife and Countryside Act 1981, as amended[38];
- Nature Conservation (Scotland) Act 2004;
- Wildlife and Natural Environment (Scotland) Act 2011 (mostly amending 1981 and 2004 Acts),
- Various aspects of 'Retained EU Law' (especially regulations and caselaw, implementing the Birds and Habitats Directives, the EIA Directives, Water Framework Directive, Marine Strategy Framework Directive, etc; and
- Other species-specific, sector-specific or procedural legislation such as the Deer (Scotland) Acts, Protection of Badgers Act 1992, Marine (Scotland) Act 2012, and EU Withdrawal and Continuity Acts.

This legislation, in places, provides a guide or steer for what is to be achieved by its implementation. For instance, in the general biodiversity duty or marine recovery duty. However, a clearer articulation of overall objectives is available in policy statements such as the 2020 Environment Strategy for Scotland[39], which is an overarching environmental policy framework and sets out current broad long-term environmental aims to 2045. These include the objective that ***"Scotland's nature is protected and restored with flourishing biodiversity and clean and healthy air, water, seas and soils"***. This strategy now has a statutory basis, under section 47 of the UK Withdrawal from the European Union (Continuity) (Scotland) Act 2021.

In relation to nature, the draft Biodiversity Strategy to 2045[40], published in December 2022 during the Montreal COP, has a Strategic Vision that:

> *"By 2045 we will have substantially restored and regenerated biodiversity across our land, freshwater and seas. Our natural environment of plants, animals, insects, aquatic life and other species will be richly diverse, thriving, resilient and adapting to climate change. Everyone will understand the benefits from and importance of biodiversity and will play their role in the stewardship of nature in Scotland for future generations".*

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[33] https://www.bbc.co.uk/news/uk-scotland-scotland-politics-48077802
[34] https://www.gov.scot/publications/global-climate-emergency-scotlands-response-climate-change-secretary-roseanna-cunninghams-statement/
[35] https://www.gov.scot/news/protecting-scotlands-future/
[36] https://www.gov.scot/publications/scottish-government-and-scottish-green-party-shared-policy-programme/
[37] Letter to Scottish Environment LINK: https://www.scotlink.org/wp-content/uploads/2019/07/FM-response-to-cross-sector-letter.pdf
[38] Sections/amendments that extend to and apply to Scotland.
[39] https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2020/02/environment-strategy-scotland-vision-outcomes/documents/environment-strategy-scotland-vision-outcomes/environment-strategy-scotland-vision-outcomes/govscot%3Adocument/environment-strategy-scotland-vision-outcomes.pdf
[40] https://www.gov.scot/publications/scottish-biodiversity-strategy-2045-tackling-nature-emergency-scotland/

The Biodiversity Strategy also has two milestones, which align with the commitment on nature restoration targets, to:

- "reverse biodiversity loss by 2030 (in line with the Leaders' Pledge for Nature); and
- deliver the Vision by restoring and regenerating biodiversity by 2045".

The draft Strategy also sets out a number of long-term (2045) outcomes for the rural environment, marine environment, freshwaters, coasts, urban areas, and across land and seas (i.e., overall ecosystem health, resilience and connectivity). However, as reported by IEEP (2022)[41], these outcomes "are actually a mix of biodiversity outcomes and measures that are not clearly defined or quantified in SMART terms. For example, the farmland outcome is that 'practices have changed resulting in a substantial increase in biodiversity, ecosystem and soil health and markedly reduced carbon emissions while sustaining high quality food production'". IEEP (2022) thus observe that, as currently defined, the proposed biodiversity outcomes cannot be compared in a meaningful or reliable way to the targets proposed for the EU, England and Northern Ireland.

The commitment to a Natural Environment Bill arises from the August 2021, 'Bute House Agreement', which indicates that the Bill will introduce binding nature recovery targets, as well as key legislative changes to protect and restore nature. The "Shared Policy Programme"[42] indicates that the Bill will:

- *"put in place key legislative changes to restore and protect nature, including, but not restricted to, targets for nature restoration that cover land and sea, and an effective, statutory, target-setting monitoring, enforcing and reporting framework*
- *contain targets based on an overarching goal of preventing any further extinctions of wildlife and halting declines by 2030, and making significant progress in restoring Scotland's natural environment by 2045*
- *contain targets that are achievable and challenging, reflecting the priority for early action in this agreement. These targets will be developed in consideration of available evidence and through consultation and are expected to include outcome targets that accommodate species abundance, distribution & extinction risk, and habitat quality and extent. The targets will reflect the challenges of a changing climate*
- *cover key actions to deliver our targets, including our agreement to protect 30% of Scotland's land and seas by 2030, and highly protect 10%."*

This commitment to "introduce a Natural Environment Bill, putting in place key legislative changes and statutory targets to restore and protect nature" was included in the 2021-22 Programme for Government (which also set out the legislative programme for the current Parliament)[43]. It was not, however, included in the legislative programme for 2022-23[44] and, it is now expected that such a Bill will be introduced in 2024, in line with the 'year three' commitment in the Scottish Government/Scottish Green Party shared policy programme[45]. This timetable and the intention to introduce such a Bill in 2024 has now been confirmed by Lorna Slater MSP, Minister for Green Skills, Circular Economy and Biodiversity, in a letter, dated 20th February 2023, to the Biodiversity Stakeholder Engagement Group.

[41] https://ieep.eu/wp-content/uploads/2022/11/Divergence-Project-report-comparison-of-biodiversity-targets-Final.pdf
[42] https://www.gov.scot/publications/scottish-government-scottish-green-party-shared-policy-programme/
[43] https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2021/09/fairer-greener-scotland-programme-government-2021-22/documents/fairer-greener-scotland-programme-government-2021-22/fairer-greener-scotland-programme-government-2021-22/govscot%3Adocument/fairer-greener-scotland-programme-government-2021-22.pdf
[44] https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2022/09/stronger-more-resilient-scotland-programme-government-2022-23/documents/stronger-more-resilient-scotland-programme-government-202223/stronger-more-resilient-scotland-programme-government-202223/govscot%3Adocument/stronger-more-resilient-scotland-programme-government-202223.pdf
[45] https://www.gov.scot/publications/scottish-government-and-scottish-green-party-shared-policy-programme/pages/our-natural-environment/

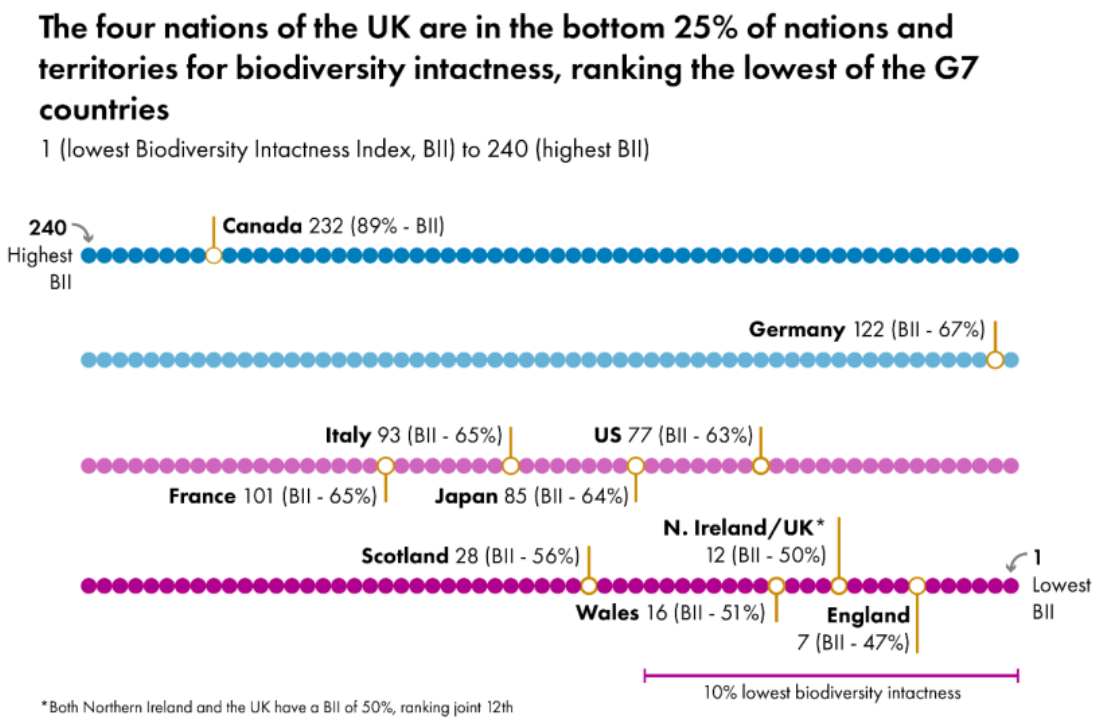
4. Discussion

The 2019 State of Nature report[46], the Biodiversity Intactness Index (BII)[47] and the 2020 Scottish Marine Assessment[48] are now treated by NGOs, Government and NatureScot as a "shared evidence-base" of biodiversity outcomes (that is, the abundance and health of species and habitats), and for use in devising strategy. These are all important measures – but the State of Nature is based on a baseline of the 1970s and therefore is unable to take account of historic declines that took place before this date (e.g., as a result of forest clearance, agricultural intensification and industrialisation through the 18th, 19th and early 20th centuries). The creates and poses a 'baseline challenge' – that is, because our high-quality datasets begin in the 1950s, 1970s or, even, 1990s (depending on taxon), relying on restoring species abundance to those baseline values will not regenerate the overall integrity, connectivity and resilience of ecosystems.

The BII, by contrast, does capture - indirectly but quantitatively - these historic aspects and as such is uniquely valuable in setting context and informing the scale of the nature recovery challenge. It has also been adopted by the CBD and IPBES for use in measuring global progress. It estimates how much of an area's natural biodiversity remains[49] and helps us understand past, current, and future biodiversity changes. On latest evidence, it demonstrates that Scotland is 28th from the bottom in a ranking of 240 countries and territories[50].

Figure 1: Biodiversity intactness: Nations' rankings

(Image from https://spice-spotlight.scot/2021/06/04/how-does-scotlands-biodiversity-measure-up/)



[46] https://nbn.org.uk/stateofnature2019/ (note: an updated and similarly agreed 'State of Nature' report is expected later in 2023).

[47] https://www.rspb.org.uk/globalassets/downloads/about-us/48398rspb-biodivesity-intactness-index-summary-report-v4.pdf

[48] http://marine.gov.scot/sma/

[49] https://www.nhm.ac.uk/our-science/data/biodiversity-indicators/biodiversity-intactness-index-data?future-scenario=ssp2_rcp4p5_message_globiom&georegion=001&min-year=1970&max-year=2050&georegion-compare=null&future-scenario-compare=null&show-uncertainty=true

[50] https://spice-spotlight.scot/2021/06/04/how-does-scotlands-biodiversity-measure-up/

SNH's last interim report (2017) on progress towards meeting the Aichi targets in Scotland indicated that only 7 out of 20 were "on track" to meet their objective by 2020[51]. Meanwhile, "insufficient progress" was being made in 12 areas, and in one area (funding for biodiversity), progress was negative. A final report on progress to 2020, for submission to COP15, was published in 2021 – this shows that targets were met in just 9 out of 20 areas, with "insufficient progress" in 11[52].

Moreover, it is telling to compare those areas where targets are claimed to be met, with those where progress has been insufficient. As shown in the table 1 below, using a sample of half the twenty targets that can be easily categorised, those that have been met are those focused on process or publicity, whereas where financial drivers or biological outcomes are concerned the progress has been generally insufficient.

Table 1: Progress against Aichi targets, as reported in 2020 NatureScot report, for those targets easily categorised.

Biodiversity "outcomes"	Financial drivers	Process and publicity
5. Habitat loss halted 6. Sustainable marine management 7 Sustainable land management 9. Control of INNS 11. Protected areas	3. Incentives reformed 20. Funding increased	1. Awareness raised 17. Strategy and plan produced 19. Knowledge sharing
All "Insufficient progress"	All "Insufficient progress"	Targets met

On the basis of the above review, Scottish Environment LINK's *From Rhetoric to Reality: revisited* report concluded that **there has been a historic decline in biodiversity, and no/inadequate recovery in the past 20-30 years. The current biodiversity duty and the strategies have therefore failed to halt loss or generate any recovery**, and the targets for 2010 and 2020 were, especially as related to outcomes, both missed. It continued:

> *"The new post-COP15 framework must rise to the challenge and deliver a step change in action for biodiversity. This reinvigorated policy context must explicitly recognise the current, depleted nature of Scotland's biodiversity. The new strategy and the legally binding targets must ensure that the Government, NatureScot, Marine Scotland and others are focused on improving performance in the areas highlighted [in the From Rhetoric to Reality: revisited] report".*[53]

Among the recommendations of the above report were:

- *"The proposed Natural Environment Bill should ensure the nature recovery targets are legally binding (to provide a real incentive to deliver the strategy outcomes). Likewise, the Bill should require the strategy to set out the policies, actions, and timelines required to meet the targets (in the same way that the CCP sets out how net zero carbon targets are to be met), with mechanisms to require reporting and remedy where targets are not met.*
- *The Bill process should also review and enhance the biodiversity duty – both the duty itself, and the statutory processes set out for strategy publication, actions to deliver outcomes and reports on implementation."*

[51] https://www.nature.scot/sites/default/files/2018-05/Aichi%20Report%20Interim%202017.pdf

[52] https://www.nature.scot/doc/scotlands-biodiversity-progress-2020-aichi-targets-final-report#AICHI+TARGET+11+%E2%80%93+PROTECTED+AREAS+INCREASED+AND+IMPROVED

[53] https://www.scotlink.org/publication/rhetoric-to-reality-report-2022/

These recommendations were based on the analysis in the report, but also previous work by, or commissioned by, LINK's wildlife group, including: Housden (2020) *Putting Scotland on a Path to Recovery - The case for nature recovery targets in Scotland*[54]; and LINK's "Fight for Scotland's Nature" campaign, which pressed for action to protect and improve our natural environment following Brexit, included making the case for statutory nature recovery targets[55].

Since the publication of *From Rhetoric to Reality: revisited*, LINK has continued to develop its thinking in relation to biodiversity policy which has included LINK (2021) *Key elements of success for Biodiversity Strategy*[56]; and LINK (2022) *A response to the consultation on the biodiversity strategy*[57].

In the light of the above, Scottish Environment LINK and its members, have warmly welcomed recent developments (as described above) to move forward with statutory nature recovery targets. This report seeks to describe what such targets should be, how they should be developed, the key features of such targets, and how they might be made operable via an improved biodiversity strategy process.

The current statutory basis for the Biodiversity Strategy, as well as actions to deliver its aims, needs to be updated. This update should address three issues:

1. The establishment of statutory targets for nature recovery;
2. An improvement in the 'action planning cycle' to underpin the strategic and operational delivery of those targets; and
3. A process informed by high-quality scientific advice, including data collection/collation, monitoring and reporting.

These three issues are discussed, in turn, below.

4.1 Statutory targets

(a) The nature of any targets

As outlined above, targets (for nature) are an accepted approach to both the development and implementation of policy for nature conservation. They have been developed and adopted at global level, in a number of multi-national settings (in particular the EU), and in a range of other jurisdictions. The Scottish Government is now, in principle, committed to the introduction of such targets.

To be effective, targets (or objectives) need a number of features. In 'management', these features are often characterised as being SMART; that is, specific, measurable, achievable, relevant or realistic, and timely or time bound. There are various interpretations of this, potentially hackneyed, description of an effective target. Using this approach, albeit, with some adjustments, effective nature recovery targets will need the following features:

1. **Targets should include clear dates for their achievement and milestones en route to those dates**:
   - The long-term targets for 'full recovery' should be both distant enough to provide enough time for it be achievable, but close enough to focus minds on the need for action – and prevent further deterioration as a result of inaction in the short term.

     The global long term targets relate to 2050 and are set out in the CBD "2050 Vision for Biodiversity" (see annex 1). Environment Links UK (ELUK)[58] also pressed for a long term UK/English target to be

[54] https://www.scotlink.org/wp-content/uploads/2020/10/On-a-Path-to-Recovery-nature-targets-report-Oct-2020.pdf
[55] https://www.fightforscotlandsnature.scot/why-scotland-must-set-targets-for-natures-recovery/
[56] https://www.scotlink.org/wp-content/uploads/2021/12/LINK-elements-of-success-for-Scottish-Biodiversity-Strategy-2022.pdf
[57] https://www.scotlink.org/wp-content/uploads/2022/09/SBS-consultation-response-FINAL.pdf
[58] ELUK is the named adopted to describe the four links of the UK (Wildlife and Countryside Link, Scottish Environment LINK, Wales Environment Link and Northern Ireland Environment Link) working together on behalf of eNGOs throughout the UK.

aligned with this global goal[59]. However, the current Scottish Biodiversity Strategy sets a long term vision and outcomes for 2045, and 2045 is also the date used in the Bute House Agreement.

This 'earlier ambition' in Scotland is similar to that adopted for climate, where global and UK targets are to reach 'net-zero' by 2050, but Scotland is seeking to reach this point by 2045. By contrast, the UK/England targets for nature relate to different dates for different targets, being 2030, 2042 and 2043 (but not all are for full recovery, and thus may be better described as interim targets)[60].

In LINK's view, Scotland's long term target should be to secure 'full recovery' by 2045[61]. This date would be consistent with both the long-term target for net zero climate emissions and the various policy commitments for biodiversity (e.g., Bute House Agreement and Scottish Biodiversity Strategy).

In considering and defining this long-term target, it is also important to recognise what is meant by 'full recovery' (see box 1 above). It must include both a reversal of current negative trends and an effective regeneration of biodiversity in relation to past and historic losses. In so doing, it must include recognition the 'baseline challenge', discussed above, and that 'full recovery' will have occurred only when the full integrity, connectivity and resilience of ecosystems has been re-established. This will not be when species and habitats return to the levels recorded at their baseline (1950s, 1970s, etc, depending on taxon) but when biodiversity intactness is restored. This is essential if we are to **achieve *both* a reversal of current negative trends *and* an effective regeneration of biodiversity in relation to past and historic losses.**

- Interim targets and/or milestones should be set – primarily, to enable and require regular monitoring and checks on progress, to ensure that the appropriate actions are being taken and, if necessary, to amend/add new actions if progress is insufficient. This would be akin to the interim targets for the reduction of climate emissions which were set for 2020 and 2030.

  Given the global framework (see annex 1) focuses targets on 2030, it would seem sensible to set an interim target for 2030 – and for that target to be built around addressing the deterioration of nature and reversing the decline – as well as, if possible, beginning on the path to recovery.

  The climate target framework, of course, also includes annual targets to provide monitoring, reporting and adjustment on a regular basis. For nature, this might be too frequent, given (a) the data collation/assessment demands for reporting and (b) the need to account for natural inter-year variability. To date, for instance, the State of Nature reports have adopted a three-yearly cycle, with the most recent published in 2019 and the next due later in 2023 (a pandemic-related delay).

  In LINK's view, Scotland's interim target should be to have reversed the declines in nature by 2030. Milestones, at regular intervals to 2030 and between 2030 and 2045, should also be set. The intervals between these milestones should be wide enough to permit appropriate data collation and account for natural variability, but they should be sufficiently frequent to ensure focus is maintained. It is probable that a three-yearly cycle, similar to the State of Nature cycle, would be most appropriate – but sufficient flexibility should be built into the system to allow these years to be adjusted (albeit not removed).

2. **Targets should be relevant and specific**; that is, they must address those features of nature that demonstrate that recovery has occurred and/or that decline has been reversed, and they should be sufficiently detailed to allow certainty. In this regard, targets should address two issues:
   - "Ends" – the desired state for habitat and species abundance and distribution;
   - "Means" – the delivery of policies and actions designed to secure the above ends (e.g., the establishment and management of protected areas and action, such as ecosystem restoration, to address the drivers of decline)

[59] https://www.wcl.org.uk/docs/ELUK_Targets_2021_Briefing_29.01.21.pdf
[60] https://www.legislation.gov.uk/ukdsi/2022/9780348242966/pdfs/ukdsi_9780348242966_en.pdf
[61] The nature of "full recovery", and how it may be described/measured is addressed in part (b) of this section.

On the basis of the above, LINK considers that targets should be developed to address:

(a) Species abundance;
(b) Species distribution;
(c) Species extinction risk;
(d) Habitat quality and extent;
(e) Drivers of biodiversity decline[62]; and
(f) Overall integrity, connectivity and resilience of ecosystems.

3. **Targets need to be measurable:** this means that the quantity/quality of the feature(s) of nature used in the target has to be measurable. While 'nature' and 'nature's recovery' may be phrases that relate to issues of considerable complexity and, to some extent, matters of opinion and judgement, disaggregating this complexity can identify features that contribute to the opinion or judgement. The process of setting the targets needs to identify these features (or metrics) and both determine what they are and how they will be measured, as well as agree their current and desired states.

4. **Targets should be achievable/realistic.** To some extent, this element applies to the means/interim targets, rather than the ultimate objective. Our targets are about achievable actions (means) and intermediate steps towards an ultimate objective (nature's recovery[63]) that is, to some extent, pre-determined and a vision/belief (that nature is intrinsically valuable and should be permitted/encouraged to recover). Thus, while achievability does not determine the ultimate objective, demonstrating that intermediate targets are achievable will help underline that the ultimate objective is not unrealistic or "pie in the sky".

   This need for achievability/realism will mean that different targets will need varying times to be achieved – to recognise the variability in the lag times between intervention and results. While there is a need for a clear set of targets for 2045 and 2030, the level at which those targets are set (and what comes after 2045, if necessary – see section 4.4) will need to be thoroughly assessed. This assessment must ensure that efforts are focused on matters that achieve positive outcomes – not just those that are easiest to measure and improve. In addition, the target setting needs to recognise the 'lag time' between action and outcomes.

The proposed legislative wording for nature recovery targets (annex 3) seeks to ensure that the targets, and the process to determine those targets, fulfil the five criteria derived from the above discussion; that is, that they should:

- Incorporate a clear date for achievement, and milestones leading to that date;
- Achieve *both* a reversal of current negative trends *and* an effective regeneration of biodiversity in relation to past and historic losses;
- Be relevant and specific to the outcome to be achieved;
- Be measurable – to allow clear monitoring and reporting of progress; and
- Be achievable and realistic – especially in relation to means/interim targets to underline and demonstrate the viability of the ultimate objective.

These ideas for legislative framing are based on both the existing legislative framework (see above), but also on LINK's ideas for targets, including how 'nature's recovery' might be described and measured. These issues are discussed below.

[62] In 2019, the IPBES (the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services) identified five *direct* drivers of global biodiversity loss, and two *indirect* drivers (see https://ipbes.net/global-assessment). The direct drivers are changing use of land and sea, direct exploitation of organisms, climate change, pollution, and invasive non-native species. NatureScot recognise that "these global drivers are also affecting Scotland's nature and its most special natural features" (see https://www.nature.scot/scotlands-biodiversity/key-pressures-biodiversity).

[63] The nature of "full recovery", and how it may be described/measured is addressed in part (b) of this section.

(b) Proposed content of targets for nature recovery

Housden (2020) *Putting Scotland on a Path to Recovery - The case for nature recovery targets in Scotland*[64], as well as making the case for such targets in principle, set out LINK's early thoughts on the content of such targets. It suggested that targets should address:

Ecological ends targets:

- Species Abundance – keeping common species common and recovering depleted species populations.
- Species Distribution – keeping widespread species abundant and recovering and/or maintaining species range, avoiding contraction and fragmentation.
- Species Extinction Risk – ensuring that extinctions and the threat of extinctions as a result of human activity have ceased.
- Habitat Quality and Extent – recovery and/or maintenance of the size and good ecological status of natural and semi-natural habitats.

Means targets:

- Connectivity – to establish a world leading Scottish Nature Network[65], that links and expands priority habitats, through restoration at a landscape scale and establishment of local nature networks, with European and other protected sites at its heart.
- Domestic nature-based solutions to climate change – seeking to ensure that nature benefits from solutions to avoid or mitigate climate change impacts.
- Mainstreaming – action to achieve nature recovery targets to be integrated across government portfolios, particularly in all land and sea activity.

Building on these potential targets, and also considering the global goal proposals developed by ELUK and published in January 2021[66] as well as the global, EU and other developments described above, **LINK has now developed a comprehensive proposal that, it is hoped, addresses the issues and meets the criteria described above. This is set out in full in annex 2** and summarised in table 2 below – in advance of which, Box 2 sets out the approach to terminology used in this paper (and by eNGOs more generally).

Box 2

Targets: some thoughts on terminology/structure

Targets are statements describing an outcome. They may also be described as objectives, and should be specific, measurable, achievable, relevant or realistic, and timely or time bound. A set of targets or objectives (often in less measurable form) may be brought together a form a 'vision' for the future.

Targets are often sub-divided into two categories: -

- **Ends objectives** – these are, in relation to nature, the biological outcomes that are sought; that is, for instance, the population size of a (or a group of) species or the area covered by a habitat type. In LINK's proposals below, these are most of the "direct species and habitats targets" and the "overall integrity, connectivity and resilience of ecosystems" target.
- **Means objectives** – these targets for actions/activities that must be carried out in order to achieve the ends objectives, and necessary as a measure of effort (and to monitor progress). In LINK's proposals below, these include the "targets related to conservation action". However, some means objectives are also included within the "direct species and habitats targets" where it is related to (and acts to improve the value of) the "ends objectives" rather than being a means to address the drivers of biodiversity decline.

[64] https://www.scotlink.org/wp-content/uploads/2020/10/On-a-Path-to-Recovery-nature-targets-report-Oct-2020.pdf
[65] https://www.scotlink.org/wp-content/uploads/2020/03/Nature-Networks-Briefing-FINAL-2.pdf
[66] https://www.wcl.org.uk/docs/ELUK_Targets_2021_Briefing_29.01.21.pdf

In developing targets, there is a need to acknowledge overlap (and/or interactions) with existing legally binding targets (e.g., climate emissions' targets, Water Framework Directive targets for water body status), and the monitoring frameworks associated with those existing targets. An ideal set of targets for nature's recovery will recognise and build on these existing systems, not seek to replicate them.

Metrics and indicators are the means by which a target (and progress towards that target) is measurable (and can be measured). Sometimes, an indicator and a metric, for specific target, are the same. However, a metric is a measure of a specific biological/physical feature (e.g., absolute numbers of animals, area of habitat, or sum of money allocated/spent on a policy); whereas, an indicator can be (a) comprised of a number of metrics (combined by appropriate statistical method) and/or (b) calculated as an 'index' to demonstrate variation from historic baseline (often set to 100). Many targets will be measurable by use of an indicator but, when this is the case, the metrics that comprise that indicator (and how they are combined) should be defined.

An example from outside the field of nature conservation would be governments' economic targets:

- Government often sets a target for inflation (for instance 2%);
- This is measured by a 'price index' (retail or consumer) – which is an indicator; and
- The price index is comprised of many metrics – the actual price of each item in the defined 'basket of goods'.

The above example (and many others that are available) from other fields of public policy, as well as organisational and corporate management demonstrate the widespread use of targets (and the associated action planning – see section 4.2, below).

Table 2 Summary of potential nature recovery targets

(To be read alongside the detailed proposals, set out in full in annex 2)

Target area	Targets to be proposed: (description, metrics, etc)	Links to EU law & policy and/or Scottish legislation & policy.	Links to Global Biodiversity Framework (GBF) targets.
Direct species and habitats targets ("ends")			
Species Abundance	• Overall species abundance; • Abundance of species at risk; • (Optional) abundance of other particularly important species or species group (e.g., seabirds). • (Additional 'means' target on increasing the number of species for which data is available/decreasing number that are 'data deficient')	To be based on "State of Nature" metrics.	Goal A and target 4 of GBF
Species distribution	• Overall species distribution; • Distribution of species at risk.	To be based on "State of Nature" metrics.	Goal A and target 4 of GBF
Species Extinction risk	• Targets to reduce number of species at risk	To be based on IUCN categories and reducing (to zero by 2045; and by	Goal A and target 4of GBF

	of local extinction to zero in the long-term.	50% by 2030) the number of species in CR, EN, VU categories.	
Habitat quality and extent	• Extent and quality of priority habitats[67]; • Protected area targets (area covered, and site condition, for both terrestrial and marine sites).	The general habitats target could be similar to JNCC's biodiversity indicator C3ai[68] (but adjusted to cover all such habitats, not just that within protected areas). Protected area targets to be based on "30x30" commitments, and on condition of those sites.	Goal A and target 1, 2, 3 of GBF
Targets related to conservation action ("means")			
Changing use of land and sea	• Targets related to the integration ("mainstreaming") of nature protection/recovery into agriculture, forestry, game/deer and upland management, and fisheries (freshwater and marine).	EU nature restoration law targets (and cross-reference to 30x30).	Goal B and target 1 of GBF
Direct exploitation of organisms	• Targets for population level of species subject to legal killing/capture. • Targets to reduce the indirect impact on species & habitats (including legal/illegal predator control) as a result of management to increase the numbers of (or access to) target species. • Targets for the prevention of bycatch.		Goal B and target 5 of GBF
Climate change	• For mitigation, adopt/cross-refer to targets set by the Climate Change (Scotland) Act 2009, as amended; • Adaptation/resilience targets (e.g., potentially riparian woodlands/planting, and/or link to seabirds re marine resilience).		Target 8 of GBF

[67] LINK's proposals for priority habitats were set out in 2021 paper, Scottish Biodiversity Strategy 2022: Key Elements for success; see https://www.scotlink.org/wp-content/uploads/2021/12/LINK-elements-of-success-for-Scottish-Biodiversity-Strategy-2022.pdf (page 2)

[68] https://jncc.gov.uk/our-work/ukbi-c3a-european-habitats/#key-results-figure-c3ai-conservation-status-of-uk-habitats-of-european-importance-2007-2013-and-2019

Pollution	• Targets in relation to chemical/pesticide use, fresh/seawater quality, air quality, etc.	GES under WFD/WEWS GES under MSFD, and regs/Marine Acts. Air quality (CAF2)?	Target 7 of GBF
Invasive non-native species (INNS)	• Targets to reduce the rate of introduction and establishment of INNS. • Targets for the eradication/control of INNS, with a priority for islands, and ongoing biosecurity.		Goal A and target 6 of GBF
Overall integrity, connectivity and resilience of ecosystems			
Overall ecological condition	• To further our understanding of and develop a route map to improve BII; leading to the adoption at a later date of BII as a target (as below). • To improve Scotland's Biodiversity Intactness Index (BII), either in absolute or relative terms.		Goal A of GBF

Table 2 above has sought to summarise the "ends" and "means" targets discussed at greater length in annex 2. In addition to "ends" and "means" targets, it also includes a target related to an overarching measure of the "integrity, connectivity and resilience" of our ecosystems (a phrase used in Goal A for the Global Biodiversity Framework). Such a measure would also chime with the overall objectives of the EU Nature Restoration Law, as well as the Scottish Government's biodiversity policy. At present, the best indicator of overall "integrity, connectivity and resilience" is the Biodiversity Intactness Index, which takes account of historical declines and has been adopted by the CBD and IPBES for use in measuring global progress (see above). It also helps us address the 'baseline challenge' described above.

Thus, the targets should also include one for overall ecological condition, based on BII; this may be to increase Scotland's BII (currently at 56%[69]). Such a target might be expressed in absolute terms (to increase BII to X% by 2030 and Y% by 2045) or in relative terms (to increase BII by 10% [i.e., to 61.5%] by 2030 and by Z% by 2045), or in comparison with other states (to be higher in league table). In terms of determining at long-term target for the BII, it should be noted that 90% has been identified as the "safe limit" to maintain the ecological processes such as pollination and nutrient cycling that are vital to our survival[70]. By that measure, 'full recovery' by 2045 would require Scotland's BII to rise from 56% to 90%+. This may seem a huge transformation, but that should be a deterrent to adopting the targets we know we need to achieve.

However, notwithstanding the ideal of the above suggestion, it is also recognised that the BII is an indirect measure – and that, it may unclear (in the short term) what actions are necessary to increase its value (beyond those required for other targets). So, while recognition of the BII as a uniquely valuable tool in setting context and informing the scale of the nature recovery challenge, it may be defining an absolute/relative target for BII is either inappropriate or premature. If this is the case, the target (or commitment?) could perhaps be a 'means'-related target for BII – such as "to develop a route map for improving Scotland's Biodiversity

[69] https://spice-spotlight.scot/2021/06/04/how-does-scotlands-biodiversity-measure-up/
[70] https://www.nhm.ac.uk/discover/news/2021/october/analysis-warns-global-biodiversity-is-below-safe-limit.html#:~:text=This%20is%20significantly%20below%20the,are%20vital%20to%20our%20survival

Intactness Index" which would include doing the necessary work to define the ultimate absolute/relative target (which should, at that stage, be adopted).

Whatever approach to 'integrity, connectivity and resilience of ecosystems' is adopted, some target under this heading is needed to ensure that the targets collectively achieve *both* a reversal of current negative trends *and* an effective regeneration of biodiversity in relation to past and historic losses.

The targets, as described above (and in annex 2), should both be required and further developed by the provisions of the Natural Environment Bill, and any regulations made under that Act (when enacted). Thus, in developing these ideas, an assessment had to be made of the benefits/disbenefits of primary and secondary legislation, and the balance those approaches (see box 3).

Box 3

Primary legislation vs secondary legislation vs policy

While targets of some nature have been in place as a matter of policy (for instance, in the form of vision, goals, aims, etc in the Biodiversity Strategy), these have been proven to be ineffective in driving sufficient action. The momentum towards, and now agreement in principle, statutory targets has been based on the contention that such targets (especially if accompanied by rigorous monitoring and reporting) provides greater incentives to deliver effective action. While this is no absolute guarantee (as demonstrated by missed climate targets), the experience of climate and other targets suggests that the 'political jeopardy' of having to report failures to meet targets does provide such an incentive and increases the likelihood of effective action.

Having determined that targets should be statutory, the issue then arises as to how these should be drafted – and, in particular, how much content should be in the main, primary legislation (the Natural Environment Bill) and how much should be addressed in subsequent secondary legislation. The approach, referred to in section 2 above, for the UK/England targets was for the Environment Act 2021 to set a framework for targets – which were then developed in much more detail in subsequent regulations[71]. This meant that, albeit subject to consultation[72], the final form of the targets was, in effect, a matter for the UK Government and the result was disappointing to NGOs[73].

The UK/England experience highlights one challenge: if the primary legislation is 'too generic', the decisions rest entirely with Government, who can be unwilling to set targets that are challenging (and, given the way in which secondary legislation is considered/approved, it is then hard to seek improvements). On the other hand, seeking to incorporate the full detail into primary legislation can be equally problematic because there needs to be a degree of flexibility (as can be provided by regulations) and primary legislation, establishing processes/principles, is often enacted before all the data/information to complete the task is (or could be) available.

The approach taken in annex 3 is a 'halfway house' – more detail/structure of proposed targets is suggested in for primary legislation (especially the proposed Schedule) than adopted in the UK/England approach. However, exact numeric metrics for the features to be addressed are, it is suggested, a matter for subsequent secondary legislation.

[71] In relation to biodiversity and nature, in any case. The Act did include very specific targets for particulate ($PM_{2.5}$)

[72] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1125278/Environmental_targets_consultation_summary_of_responses_and_government_response.pdf

[73] https://www.wcl.org.uk/publication-of-new-environment-targets.asp

4.2 The 'action planning cycle'

The widely accepted process to achieve any objective might be called an 'action planning cycle'. Such an approach is common to both corporate strategies, whether in business or in NGOs, as well as to project management frameworks. A planning cycle is widely taught as part of management or business studies[74], and diagrammatic summaries of the concept are widely available, such as the example below.

Figure 1: Illustration of a planning process from a business studies text[75].

Such a planning cycle is also a common feature of a number of public policy process, such as the corporate strategies of public bodies, the Town & Country Planning system, the River Basin Management Planning system, etc. Many such processes are based on statutory underpinning; for example, the Climate Change (Scotland) Act 2009 (Parts 2 & 3) sets out a comprehensive structure to receive advice on targets, progress reports, responses to progress reports, as well as a plan of policies/proposals for actions to achieve targets (including wide-ranging specifications, in section 35, of the issues that those actions must address).

However, for biodiversity, while some aspects of the 'planning cycle' have been in place, it is noticeably less complete than for other public policy processes – and its statutory underpinning is even more incomplete. Indeed, during the passage of the (then) Nature Conservation (Scotland) Bill, the (then) Scottish Executive resisted and voted against amendments to 'flesh out' the provisions of Part 1 to require Ministers to set out actions to be taken for the delivery of the strategy's goals, or for the reporting mechanisms to include reports on how/if those actions were taken and their success[76]. There is also no statutory requirement to adapt/amend actions if progress is insufficient.

The introduction of statutory targets for nature recovery (and thus better specification of what the biodiversity strategy and its delivery plans are to achieve) provides an opportunity to revisit this statutory framework. The proposed legislative wording for targets (annex 3) therefore also includes proposals to amend sections 1, 2 and 2A of the 2004 Act to ensure that, once enacted, future strategies and delivery plans for biodiversity are (like the Climate Change Plan) built around the principle of an 'action planning cycle'.

4.3 Advisory functions

Any target setting and action planning cycle need to be informed by high-quality, independent, scientific advice, including data collection/collation, monitoring and reporting. In the area of climate policy, this function

[74] For instance, https://fourweekmba.com/planning-cycle/
[75] https://www.toppr.com/guides/business-studies/planning/planning-process/
[76] https://archive.scottish.parliament.uk/business/committees/environment/or-04/ra04-0302.htm#Col636

is assigned to the UK Climate Change Committee (CCC). In Scotland, the CCC is designated as the advisory body for Scottish climate change targets and policy under section 24 of the Climate Change (Scotland) Act 2009.

In England (and UK in relation to any reserved issues), the Office for Environmental Protection (OEP)[77] has the statutory role of advising on progress towards meeting targets set under the Environment Act 2021[78]. The OEP also provided authoritative advice on the setting of those targets[79] - this advice was seen to be the "advice from persons the Secretary of State considers to be independent and to have relevant expertise" under section 4 of the 2021 Act.

These examples (from climate policy in Scotland and nature recovery in England/UK) demonstrate the need for, and value of, independent advice in relation to the setting of and monitoring progress towards targets. This is also recognised in the draft Scottish Biodiversity Strategy which states: "an independent body will assess and report on progress towards meeting the statutory targets"[80].

The question, therefore, in relation to new nature recovery targets in Scotland is "who should provide this independent advice/oversight?". The question needs to be considered in the context of:

(a) A general (political) presumption against the establishment of new public bodies given the complexity of the administrative landscape and the costs of new bodies;
(b) The current functions and expertise of existing bodies and the extent to which it would appropriate and/or possible to add this new advisory function to their existing functions.

Given this context the possible candidates to take on this role would include the CCC (expanding its remit in Scotland from climate to climate and nature), SNH/NatureScot (the existing nature conservation agency) and ESS (the environmental standards oversight body for Scotland created following the UK's exit from the EU). Others may be considered but these three appear to be the most likely options, along with the OEP that might be asked to extend its 'reserved matters role' to this new devolved function.

In considering these options, LINK has concluded that **ESS' remit and functions should be expanded to enable it to provide the independent advice and monitoring progress functions necessary for the implementation of statutory nature recovery targets**. In reaching this conclusion, LINK has considered:

(i) For CCC, this would be an entirely new subject and area of expertise, and adding these new functions would, in practice, be akin (except in a minor administrative sense) to the establishment of a new body. The CCC is also a UK-wide body, established by UK legislation, who's Scottish functions are allocated to it under the Climate Change (Scotland) Act 2009. In the event of reform, or even abolition, of the CCC, by a future UK Government, these Scottish functions would need to be allocated to a new or another body. This complication would also apply to any responsibilities in relation to nature recovery targets.

(ii) SNH/NatureScot is "Scotland's nature agency"[81]. It is an Non-departmental Public Body with a range of statutory duties, powers and functions in relation to nature conservation. It may seem, at first sight, therefore, the ideal candidate. However, it must also be recognised that SNH/NatureScot is part of the 'government family', can be directed by Scottish Ministers and is responsible for (much of) the delivery of nature recovery efforts. If the role of independent/scientific advisor were added, it would then be in a position of "marking its own homework".

(iii) Theoretically, the OEP might be asked to take on an advisory role in relation to Scottish nature recovery targets, in the same or similar way to which it undertakes the role for England (and UK

[77] https://www.theoep.org.uk/
[78] Section 28 of Environment Act 2021.
[79] https://www.theoep.org.uk/report/oep-response-consultation-environmental-targets
[80] https://www.gov.scot/publications/scottish-biodiversity-strategy-2045-tackling-nature-emergency-scotland/ (Section 4.3, p.52)
[81] https://www.nature.scot/about-naturescot

in relation to any reserved issues). However, this would expand its remit into devolved matters – and matters where, in relation to oversight, the Scottish Government has established ESS.

(iv) ESS is, by contrast to SNH/NatureScot, already an oversight/advisory body, with a degree of statutory independence from the Scottish Government[82]. It also already concentrates on devolved matters and Scottish environmental law. With many of ESS' existing functions being similar to that of OEP, it is logical that OEP's advisory functions also be replicated (or improved?) as new functions for ESS.

If this recommendation to expand ESS' remit and functions is accepted, it would (by inference) include recognition that ESS would need additional capacity and expertise to adequately resource this new role.

In addition to the formal advisory process, outlined above, it is important that targets are developed (and progress monitored) with the full participation of the public, especially those actively engaged in monitoring and protecting our biodiversity. A huge proportion of our knowledge of the state of wildlife in Scotland (and the wider UK) is based on thousands of hours of volunteer time – these are the amateur naturalists who undertake surveys and monitor their local plants, birds, butterflies, etc. These data are then compiled by the various specialist societies to provide the national overviews. Although many such schemes now receive public funding and support from, for instance, NatureScot, who recognise their value, without these volunteers and the NGOs who coordinate the schemes, our information base would be considerably poorer. The value and importance of this 'citizen science' is acknowledged in the draft Scottish Biodiversity Strategy[83].

Thus, as the targets are developed – and subsequently as progress is monitored and reported – it is essential that Ministers and the relevant agencies are required to consult the public, NGOs with expertise and other interested parties, and to report the submissions received and how these have been (or have not been) considered.

4.4 Implementation

The sections above have considered implementation in relation to formal advice (both about the setting of and actions to meet targets) and the action planning necessary to (seek to) meet those targets. However, that leaves a number of implementation question unanswered, such as:

- What happens if a target is missed?
- What happens in, and after, 2045?

The issue of "what happens if the target is missed" is important. These will be statutory or legal targets insofar as they will, subject to the ongoing commitment of the Scottish Government and Parliamentary approval, be set out in legislation (either primary or secondary or both). However, to be effective and useful, that legislation must also set out some form of action or consequence should one or more of the targets be missed.

The nearest (legislative) comparison is the climate change targets and their basis in the Climate Change (Scotland) Act 2009, as amended. Here, if a target is missed, the 'consequence' is simply that "the Scottish Ministers must lay a report before the Scottish Parliament setting out proposals and policies to compensate in future years for the excess emissions" – that is, to set out the action that will be take, in subsequent years, to 'catch-up' and 'get back on track' on the path to net zero[84].

A similar approach should be adopted in relation to nature recovery targets – and ideally be expanded to require that the report be accompanied by Ministerial statement (and thus cross-questioning from MSPs, and/or scrutiny by a relevant Parliamentary Committee). This provides a political and media spotlight and a

[82] See Para 1, Schedule 1 of the UK Withdrawal from the European Union (Continuity) (Scotland) Act 2021; although note also that LINK sought greater independence/separation from Government considering that ESS' governance should have been in the form of Parliamentary Commissioner (akin to Scottish Information Commissioner).
[83] https://www.gov.scot/publications/scottish-biodiversity-strategy-2045-tackling-nature-emergency-scotland/ (Section 5.2, p.58)
[84] Section 36(2) of the 2009 Act, as amended.

'consequence' for a failure to meet targets – a consequence that, in relation to climate, campaigners have exploited on a regular basis. In addition, of course, if one or more targets are being missed, it would be clear that this aspect of environmental law was either not being complied with or was proving ineffective. As such, it would be possible for ESS (on its own volition or as a result of a representation received) to produce and submit an "Improvement Plan" requiring a response from Government (and/or other relevant public body).

Given that the legislation setting such targets will be administrative law, placing duties on Ministers (and others) and setting out procedures to be followed, as well as a range of discretionary powers/functions, it is difficult to envisage a more severe 'penalty' or 'consequence'. Failing to meet a target will not be a criminal offence so Ministers/officials will not be jailed or fined. However, it might be possible to develop more detailed requirements in relation to setting out proposals and policies to ensure 'catch-up'. For instance, the legislation could set out that this must be credible, including details of costs/expenditure, and what actions will be taken by whom, where and when.

The 'credibility' of such a plan should be judged on a similar basis to that of the Biodiversity Strategy (and associated Delivery Plans), which need to be credible in relation to the delivery of the targets. In the way that the Climate Change Plan is the vehicle to meet the climate change targets, the Biodiversity Strategy (and associated Delivery Plans) will be the vehicle for the delivery of the nature recovery targets. This underlines the importance of linking the targets with this 'vehicle' and the statutory basis for the Biodiversity Strategy (see above under 'action planning' and Section 7 of the 'outline provisions' in annex 3). There are also analogies with the EU Air Quality plans, where in the event of missing targets, there is a requirement to produce a plan to get back on track and the clear process of producing catch-up plans is why ClientEarth has been successful in its litigation in this area (see similar issue below), or ESS's power to require improvement plans where they find flaws in compliance with environmental laws.

Although there has been no such case in Scotland, in UK/England, the UK Government's "Net Zero Strategy" (its version of a Climate Change Plan) was recently subject to legal challenge and found not to be credible (that is it was found that "the Government had failed to show that its policies will reduce emissions sufficiently to meet its legally binding carbon budgets")[85]. Subject to access to justice issues, this approach to the Biodiversity Strategy (especially if the amendments suggested above and in annex 3 are made) would allow NGOs (or individual citizens) to challenge a Strategy (or plan to 'catch-up') if it was not credible. This would be a form of legal redress that could make the 'consequences' of failing to meet a target more significant.

The second question, asked above, relates to the issue of what, if any, targets/actions should be foreseen for after 2045. This might be viewed as an academic or unnecessary issue (at least until the early 2040s) but may be one that is asked as part of a discussion in relation to the development of any system of targets/actions to apply between now and 2045. Further, there will need, of course, to be two responses: (a) for a situation where the targets have been achieved and (b) one where some/all of the targets are yet to be achieved.

Should the latter situation arise or be anticipated in the years running up to and in 2045, provision should be made for a process (similar to that above related to missed targets within the period to 2045) for reporting on the progress made, analysing why it was insufficient and putting in place actions to 'catch-up'. This will also include the need to set a new date for securing the long term target of the recovery of nature.

While the above provision should be made – it must also be hoped that it will not need to be used as the long term target will be met. So, if that is the case, what should, then, 'replace' the targets and associated provisions? Such a question is certainly academic at present – and, for comparison, the Climate Change (Scotland) Act 2009 includes no specific provision or duties for the post-2045 period if/when the target of net zero is reached. Presumably (and this is implied by the policy background that underpins the purpose of the climate change legislation), it is implicit that the goal will be to maintain net zero emissions in all years after 2045.

Thus, in relation to nature, if nature has recovered by 2045, it would be implicit that this 'recovered' state should be maintained. There may be a case for stating this explicitly. However, of course, nature is somewhat

[85] See https://www.clientearth.org/latest/latest-updates/news/clientearth-are-suing-the-uk-government-over-its-net-zero-strategy/ and https://www.bailii.org/ew/cases/EWHC/Admin/2022/1841.pdf

more complex than greenhouse gas emissions (illustrated by the complexity, and number, of targets). In addition, nature is also inherently variable – thus, maintaining a long term 'recovered' state may not be as simple as ensuring everything remains static. The description, therefore, of a long-term 'recovered' state needs to take account of both natural variability in population, distribution and, possibly, changes in species present (due to natural or climate induced colonisation/extinction). This issue links back to the understanding of "what nature's recovery looks like" (see box 1).

Given the challenges of defining this long term 'recovered' state (other than by defining targets for 2045) and the need to focus on those targets and the actions needed to achieve them, this paper makes no attempt to do so. It may be that the 2045 targets would serve as, in effect, the targets for every milestone thereafter – or there may be a need for revision. However, while not seeking to define this long term 'recovered' state, it should be noted that this will be a process that should be built into the long term programme.

The ideas set out in section 8 of the potential legislative provisions (annex 3) seek to suggest how the "2045 and beyond" questions might be addressed.

5 Conclusions

The Scottish Government is committed to the introduction of statutory targets for the recovery of nature, with the Programme for Government (2021-22) indicating that ***"a Natural Environment Bill to put in place statutory targets for nature restoration"*** will be introduced during the current Parliament. The current target is for such a Bill to be introduced during 2024.

Environmental NGOs warmly welcome this commitment. Statutory targets for nature recovery have been a matter for which NGOs have long campaigned[86]. This paper explores the background to the concept of such targets, considers the global and regional context into which they will fit, seeks to further the debate about their nature and operation, and makes initial proposals for how such targets might be delivered through forthcoming legislation.

It has set out the features of such targets that should:

- Incorporate a clear date for achievement, and milestones leading to that date;
- Achieve *both* a reversal of current negative trends *and* an effective regeneration of biodiversity in relation to past and historic losses;
- Be relevant and specific to the outcome to be achieved;
- Be measurable – to allow clear monitoring and reporting of progress; and
- Be achievable and realistic – especially in relation to means/interim targets to underline and demonstrate the viability of the ultimate objective.

It has also sought to describe the content of such targets, addressing:

- Species abundance;
- Species distribution;
- Species extinction risk;
- Habitat quality and extent;
- Drivers of biodiversity decline; and
- Overall integrity, connectivity and resilience of ecosystems.

It also describes how such targets might be framed in legislation and how they should be integrated with the current biodiversity and strategy (with the statutory provisions for that duty and strategy updated accordingly).

This paper has been written and co-ordinated by LINK Fellow, Lloyd Austin, with the support and advice of a working group of Scottish Environment LINK members. It does not seek to provide an answer to every

[86] https://www.fightforscotlandsnature.scot/

question, it is offered for wider review and discussion by all relevant stakeholders, and as a contribution to the debate leading up to the formal consultation and proposed legislation on this issue.

Indeed, LINK is aware that, while support for such statutory targets is widespread, it is not universal[87]. It is hoped that this report will contribute to addressing concerns such as those expressed by the GWCT blog (unintended consequences and the interdependencies of natural factors). Indeed, it illustrates that these issues are best addressed by appropriate framing/drafting of targets, and action planning to meet them, rather than an argument against targets *per se*. Indeed, should a target not be achieved due to unintended consequences and the effect of unanticipated natural factors, these would be addressed in the reporting process and 'catch-up plan' provisions, and are not an argument for having no targets at all (as suggested in this blog).

In this spirit, Scottish Environment LINK looks forward to further discussion with the Scottish Government, NatureScot, and other stakeholders – and considers this paper to be a 'first edition' to be developed, through further iterations, as a result of those discussions. Updated versions of this paper and/or its summary/conclusions, will be produced and published as/when appropriate.

[87] https://www.gwct.org.uk/blogs/news/2021/september/why-a-legally-binding-target-for-nature-may-be-counter-productive/

ANNEX 1

The goals and targets agreed as part of the Global Biodiversity Framework

The "Kunming-Montreal Global Biodiversity Framework" (GBF)[88] includes four goals and 23 targets to be achieved by 2030. The text below is taken from the final version of the framework, which include four long-term goals for 2050 (based on the 2050 Vision for Biodiversity) and 23 action-oriented global targets for urgent action over the decade to 2030.

The framework's four overarching global goals are:

GOAL A

- The integrity, connectivity and resilience of all ecosystems are maintained, enhanced, or restored, substantially increasing the area of natural ecosystems by 2050;
- Human induced extinction of known threatened species is halted, and, by2050, extinction rate and risk of all species are reduced tenfold, and the abundance of native wild species is increased to healthy and resilient levels;
- The genetic diversity within populations of wild and domesticated species, is maintained, safeguarding their adaptive potential.

GOAL B

- Biodiversity is sustainably used and managed and nature's contributions to people, including ecosystem functions and services, are valued, maintained and enhanced, with those currently in decline being restored, supporting the achievement of sustainable development, for the benefit of present and future generations by 2050.

GOAL C

- The monetary and non-monetary benefits from the utilization of genetic resources, and digital sequence information on genetic resources, and of traditional knowledge associated with genetic resources, as applicable, are shared fairly and equitably, including, as appropriate with indigenous peoples and local communities, and substantially increased by 2050, while ensuring traditional knowledge associated with genetic resources is appropriately protected, thereby contributing to the conservation and sustainable use of biodiversity, in accordance with internationally agreed access and benefit-sharing instruments.

GOAL D

- Adequate means of implementation, including financial resources, capacity-building, technical and scientific cooperation, and access to and transfer of technology to fully implement the Kunming-Montreal global biodiversity framework are secured and equitably accessible to all Parties, especially developing countries, in particular the least developed countries and small island developing States, as well as countries with economies in transition, progressively closing the biodiversity finance gap of $700 billion per year, and aligning financial flows with the Kunming-Montreal Global Biodiversity Framework and the 2050 Vision for Biodiversity.

The framework's 23 action-oriented global targets for urgent action over the decade to 2030, set out in three groups, are:

1. Reducing threats to biodiversity

TARGET 1

Ensure that all areas are under participatory integrated biodiversity inclusive spatial planning and/or effective management processes addressing land and sea use change, to bring the loss of areas of high biodiversity importance, including ecosystems of high ecological integrity, close to zero by 2030, while respecting the rights of indigenous peoples and local communities.

[88] https://www.cbd.int/article/cop15-final-text-kunming-montreal-gbf-221222

TARGET 2
Ensure that by 2030 at least 30 per cent of areas of degraded terrestrial, inland water, and coastal and marine ecosystems are under effective restoration, in order to enhance biodiversity and ecosystem functions and services, ecological integrity and connectivity.

TARGET 3
Ensure and enable that by 2030 at least 30 per cent of terrestrial, inland water, and of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem functions and services, are effectively conserved and managed through ecologically representative, well-connected and equitably governed systems of protected areas and other effective area-based conservation measures, recognizing indigenous and traditional territories, where applicable, and integrated into wider landscapes, seascapes and the ocean, while ensuring that any sustainable use, where appropriate in such areas, is fully consistent with conservation outcomes, recognizing and respecting the rights of indigenous peoples and local communities including over their traditional territories.

TARGET 4
Ensure urgent management actions, to halt human induced extinction of known threatened species and for the recovery and conservation of species, in particular threatened species, to significantly reduce extinction risk, as well as to maintain and restore the genetic diversity within and between populations of native, wild and domesticated species to maintain their adaptive potential, including through in situ and ex situ conservation and sustainable management practices, and effectively manage human-wildlife interactions to minimize human-wildlife conflict for coexistence.

TARGET 5
Ensure that the use, harvesting and trade of wild species is sustainable, safe and legal, preventing overexploitation, minimizing impacts on non-target species and ecosystems, and reducing the risk of pathogen spill-over, applying the ecosystem approach, while respecting and protecting customary sustainable use by indigenous peoples and local communities.

TARGET 6
Eliminate, minimize, reduce and or mitigate the impacts of invasive alien species on biodiversity and ecosystem services by identifying and managing pathways of the introduction of alien species, preventing the introduction and establishment of priority invasive alien species, reducing the rates of introduction and establishment of other known or potential invasive alien species by at least 50 percent, by 2030, eradicating or controlling invasive alien species especially in priority sites, such as islands .

TARGET 7
Reduce pollution risks and the negative impact of pollution from all sources, by2030, to levels that are not harmful to biodiversity and ecosystem functions and services, considering cumulative effects, including: reducing excess nutrients lost to the environment by at least half including through more efficient nutrient cycling and use; reducing the overall risk from pesticides and highly hazardous chemicals by at least half including through integrated pest management, based on science, taking into account food security and livelihoods; and also preventing, reducing, and working towards eliminating plastic pollution.

TARGET 8
Minimize the impact of climate change and ocean acidification on biodiversity and increase its resilience through mitigation, adaptation, and disaster risk reduction actions, including through nature-based solution and/or ecosystem-based approaches, while minimizing negative and fostering positive impacts of climate action on biodiversity.

2. Meeting people's needs through sustainable use and benefit-sharing

TARGET 9
Ensure that the management and use of wild species are sustainable, thereby providing social, economic and environmental benefits for people, especially those in vulnerable situations and those most dependent on

biodiversity, including through sustainable biodiversity-based activities, products and services that enhance biodiversity, and protecting and encouraging customary sustainable use by indigenous peoples and local communities.

TARGET 10
Ensure that areas under agriculture, aquaculture, fisheries and forestry are managed sustainably, in particular through the sustainable use of biodiversity, including through a substantial increase of the application of biodiversity friendly practices, such as sustainable intensification, agroecological and other innovative approaches contributing to the resilience and long-term efficiency and productivity of these production systems and to food security, conserving and restoring biodiversity and maintaining nature's contributions to people, including ecosystem functions and services.

TARGET 11
Restore, maintain and enhance nature's contributions to people, including ecosystem functions and services, such as regulation of air, water, and climate, soil health, pollination and reduction of disease risk, as well as protection from natural hazards and disasters, through nature-based solutions and ecosystem-based approaches for the benefit of all people and nature.

TARGET 12
Significantly increase the area and quality and connectivity of, access to, and benefits from green and blue spaces in urban and densely populated areas sustainably, by mainstreaming the conservation and sustainable use of biodiversity, and ensure biodiversity-inclusive urban planning, enhancing native biodiversity, ecological connectivity and integrity, and improving human health and well-being and connection to nature and contributing to inclusive and sustainable urbanization and the provision of ecosystem functions and services.

TARGET 13
Take effective legal, policy, administrative and capacity-building measures at all levels, as appropriate, to ensure the fair and equitable sharing of benefits that arise from the utilization of genetic resources and from digital sequence information on genetic resources, as well as traditional knowledge associated with genetic resources, and facilitating appropriate access to genetic resources, and by 2030 facilitating a significant increase of the benefits shared, in accordance with applicable international access and benefit-sharing instruments.

3. Tools and solutions for implementation and mainstreaming

TARGET 14
Ensure the full integration of biodiversity and its multiple values into policies, regulations, planning and development processes, poverty eradication strategies, strategic environmental assessments, environmental impact assessments and, as appropriate, national accounting, within and across all levels of government and across all sectors, in particular those with significant impacts on biodiversity, progressively aligning all relevant public and private activities, fiscal and financial flows with the goals and targets of this framework.

TARGET 15
Take legal, administrative or policy measures to encourage and enable business, and in particular to ensure that large and transnational companies and financial institutions:

(a) Regularly monitor, assess, and transparently disclose their risks, dependencies and impacts on biodiversity including with requirements for all large as well as transnational companies and financial institutions along their operations, supply and value chains and portfolios;
(b) Provide information needed to consumers to promote sustainable consumption patterns;
(c) Report on compliance with access and benefit-sharing regulations and measures, as applicable;

in order to progressively reduce negative impacts on biodiversity, increase positive impacts, reduce biodiversity-related risks to business and financial institutions, and promote actions to ensure sustainable patterns of production.

TARGET 16
Ensure that people are encouraged and enabled to make sustainable consumption choices including by establishing supportive policy, legislative or regulatory frameworks, improving education and access to relevant and accurate information and alternatives, and by 2030, reduce the global footprint of consumption in an equitable manner, halve global food waste, significantly reduce overconsumption and substantially reduce waste generation, in order for all people to live well in harmony with Mother Earth.

TARGET 17
Establish, strengthen capacity for, and implement in all countries in biosafety measures as set out in Article 8(g) of the Convention on Biological Diversity and measures for the handling of biotechnology and distribution of its benefits as set out in Article 19 of the Convention.

TARGET 18
Identify by 2025, and eliminate, phase out or reform incentives, including subsidies harmful for biodiversity, in a proportionate, just, fair, effective and equitable way, while substantially and progressively reducing them by at least500 billion United States dollars per year by 2030, starting with the most harmful incentives, and scale up positive incentives for the conservation and sustainable use of biodiversity.

TARGET 19
Substantially and progressively increase the level of financial resources from all sources, in an effective, timely and easily accessible manner, including domestic, international, public and private resources, in accordance with Article 20 of the Convention, to implement national biodiversity strategies and action plans, by2030 mobilizing at least 200 billion United States dollars per year, including by:

(a) Increasing total biodiversity related international financial resources from developed countries, including official development assistance, and from countries that voluntarily assume obligations of developed country Parties, to developing countries, in particular the least developed countries and small island developing States, as well as countries with economies in transition, to at least US$ 20 billion per year by 2025, and to at least US$ 30 billion per year by 2030;
(b) Significantly increasing domestic resource mobilization, facilitated by the preparation and implementation of national biodiversity finance plans or similar instruments according to national needs, priorities and circumstances
(c) Leveraging private finance, promoting blended finance, implementing strategies for raising new and additional resources, and encouraging the private sector to invest in biodiversity, including through impact funds and other instruments;
(d) Stimulating innovative schemes such as payment for ecosystem services, green bonds, biodiversity offsets and credits, benefit-sharing mechanisms, with environmental and social safeguards
(e) Optimizing co-benefits and synergies of finance targeting the biodiversity and climate crises,
(f) Enhancing the role of collective actions, including by indigenous peoples and local communities, Mother Earth centric actions and non-market-based approaches including community based natural resource management and civil society cooperation and solidarity aimed at the conservation of biodiversity
(g) Enhancing the effectiveness, efficiency and transparency of resource provision and use;

TARGET 20
Strengthen capacity-building and development, access to and transfer of technology, and promote development of and access to innovation and technical and scientific cooperation, including through South-South, North-South and triangular cooperation, to meet the needs for effective implementation, particularly in developing countries, fostering joint technology development and joint scientific research programmes for the conservation and sustainable use of biodiversity and strengthening scientific research and monitoring capacities, commensurate with the ambition of the goals and targets of the framework.

TARGET 21
Ensure that the best available data, information and knowledge, are accessible to decision makers, practitioners and the public to guide effective and equitable governance, integrated and participatory management of biodiversity, and to strengthen communication, awareness-raising, education, monitoring,

research and knowledge management and, also in this context, traditional knowledge, innovations, practices and technologies of indigenous peoples and local communities should only be accessed with their free, prior and informed consent, in accordance with national legislation.

TARGET 22
Ensure the full, equitable, inclusive, effective and gender-responsive representation and participation in decision-making, and access to justice and information related to biodiversity by indigenous peoples and local communities, respecting their cultures and their rights over lands, territories, resources, and traditional knowledge, as well as by women and girls, children and youth, and persons with disabilities and ensure the full protection of environmental human rights defenders.

TARGET 23
Ensure gender equality in the implementation of the framework through a gender-responsive approach where all women and girls have equal opportunity and capacity to contribute to the three objectives of the Convention, including by recognizing their equal rights and access to land and natural resources and their full, equitable, meaningful and informed participation and leadership at all levels of action, engagement, policy and decision-making related to biodiversity.

ANNEX 2

Potential nature recovery targets for Scotland, as developed by LINK members.

This annex details the potential structure and content of statutory nature targets that members of Scottish Environment LINK believe would make the most positive change for nature and allow Scotland to deliver its responsibility to achieve international commitments to nature recovery.

As discussed in section 4.1(b) including box 2, these comprise two types of targets: first, direct species and habitats targets ("ends") and, secondly, targets related to conservation action ("means"). That said, a number of "means" objectives can be included within the species and targets where they relate to action directly focused on the species/targets, rather than on "drivers of species decline".

Finally, there is a need for (if possible, a single) target addressing the overall integrity, connectivity and resilience of ecosystems. This is necessary to ensure *both* a reversal of current negative trends *and* an effective regeneration of biodiversity in relation to past and historic losses - that is, a recovery of past Losses and a regeneration of biodiversity to healthy and resilient levels.

[While the overall structure and scope of these proposals is well developed, there are a number of areas of detail, especially in relation to individual metrics, where work is ongoing. These 'yet-to-be-specified' numbers are referred to as X, Y, etc in the text below and highlighted in yellow. While there is need for further work in these areas, there current status should not prevent development and adoption of clear policies that lead in the direction of nature recovery targets of the type outlined here.]

Direct species and habitats targets ("ends")

These targets should cover:

- Species Abundance – keeping common species common and recovering depleted species populations.
- Species Distribution – keeping widespread species abundant and recovering and/or maintaining species range, avoiding contraction and fragmentation.
- Species Extinction Risk – ensuring that extinctions and the threat of extinctions as a result of human activity have ceased.
- Habitat Quality and Extent – recovery and/or maintenance of the size and good ecological status of natural and semi-natural habitats.

1. Species abundance (Linked to GBF Goal A and target 4)

Species abundance should be measured using the State of Nature abundance metrics. Targets should be set in relation to all native species (or, in practice, all for which there are available data; that is, which are routinely monitored), as well as to all those native species that are identified as "at risk" or of conservation concern.

In addition, targets might be set for specific groups of species that are of particular conservation concern or importance to Scotland (one such group of species would be seabirds - for which Scotland is globally important but have shown huge declines since 1986 and now with added impact of avian flu).

The **overall species abundance indicator** (as set out in the State of Nature reports) shall be based on a baseline of 100 for the year 1970. Using this indicator:

- The long-term targets for species abundance in 2045 are that the indicator shall be:
  (a) At or above 100, and
  (b) At least 10% above the level reached in 2030.

- The interim targets for species abundance in 2030 are that the indicator shall be:
    (a) Higher than in 2024, and
    (b) Demonstrating a stable or increasing trend.

(Note: to be met, both parts (a) and (b) of each target have to be achieved; thus the "future baseline" in 2030 in the long-term target should not be the problem that future baselines can sometimes be – especially as the 2030 target requires the indicator to be above 2024 levels (the date the Act will be passed)

Similar targets should be set for **a subset of species that are of conservation concern**. This subset of species might be selected by a range of approaches. One approach may be to select the species considered "at risk" by virtue of identified by the Species at Risk initiative. There are also the IUCN lists, as well as, for birds, the RSPB/BTO/SOC etc "Birds of Conservation Concern" (and other systems for other taxa?). However, an existing legislative approach exists in the 2004 Act (section 2(4)) – the "Scottish Biodiversity List"[89] – and this has been adopted as the basis for the draft legislative wording in annex 3. It should be noted, of course, that the draft Biodiversity Strategy includes a proposal to update the Scottish Biodiversity List (so, depending on the nature of that update, these approaches to identifying "priority species" may result in similar lists).

Optionally, it may also be useful to set and use targets related to **the abundance of species of particular importance to Scotland or serve as particularly important indicator species**. One such group of species would be seabirds – which (a) have suffered significant declines in recent years (exacerbated recently by avian flu) and (b) for which Scotland is internationally important as well as the marine environment/resources being of significant economic, social and cultural value to Scotland[90].

It should be noted that the EU Restoration Law has specific obligations for **pollinators**, so that key group of species may also be worthy of a specific target – which should reflect the ambitions of that law. If so, a target on pollinator abundance might be appropriate, but it could also be achieved by a (habitat related) target to ensure that, by 2030, X hectares of pollinator habitat networks are protected and managed appropriately, increasing to a complete Y hectares network of suitable pollinator habitats across Scotland by 2045. In addition, a (land use/pollution) target to reduce pesticide use by 50% and a complete ban of neonicotinoid pesticides.

One issue that should, of course, be addressed is the issue of species which are inadequately monitored – and thus do not contribute to the above indicators due to lack of available data and/or are included as a priority simply through being "data deficient. It would, therefore, be valuable to include **a target related to increasing the number of species for which data are available and/or decreasing the number/proportion which are considered "data deficient"**. (While such a target is, technically, a "means objective", it is included here as it is related to (and acts to improve the value of) the "ends objectives" above.)

2. Species distribution (Linked to GBF Goal A and target 4)

Species distribution is important, and should be measured in addition to abundance, as full nature recovery should include species' presence throughout their natural range. It is also important to ensure that species are not protected only in isolated pockets (e.g., in designated sites) but across the landscape (this links with the concepts of nature networks and connectivity – see targets under "changing use of land and sea").

A possible target may be to ensure that **the State of Nature occupancy metric is, by 2030, greater than any point in time since the original 1975 baseline**; and that **there is a stable or positive occupancy trend in X% of species that are of conservation concern** (defined as above).

A similar target for 2045 should be for the State of Nature metric to reach XXX and for all species that are of conservation concern (defined as above) **to demonstrate a stable or positive occupancy trend..**

[89] https://www.nature.scot/scotlands-biodiversity/scottish-biodiversity-strategy-and-cop15/scottish-biodiversity-list
[90] https://community.rspb.org.uk/ourwork/b/scotland/posts/the-state-of-seabirds-on-our-wild-isles

3. Species extinction risk (Linked to GBF Goal A and target 4)

Species extinction is commonly expressed through the IUCN red list category for each species – with hose at CR (critical), EN (endangered) and VU (vulnerable) being those species considered at significant risk.

The targets for species extinction risk should therefore be to reduce the number of Scottish native species in these categories – ideally to zero by 2045, and to halve the number by 2030.

4. Habitat quality and extent (Linked to GBF Goal A and target 1, 2 &3)

Targets for habitat quality and extent will be needed both for habitats, in general (across the country as a whole) and in relation to the extent and condition of protected areas.

The general habitats target could be similar to JNCC's biodiversity indicator C3ai[91] (but adjusted to cover all such habitats, not just those within protected areas). Thus, such a target might be expressed as "**to ensure that 80% of Scotland's habitats of European importance are in 'favourable' or 'unfavourable recovering' condition by 2030 and 100% in 'favourable' condition by 2045**".

In addition, there should be targets for the extent of ecosystems under restoration, for each habitat/ecosystem type on national list of priority ecosystems to be covered by restoration programme. Such a list might be based on list of 'Annex 1 habitats' occurring in Scotland[92] or be determined through the Biodiversity Strategy process[93]. For marine habitats, the concept of Priority Marine Features, already in use by Marine Scotland, could provide a useful basis[94]. However such a list is arrived at, it should include:

- Peatlands
- Moorlands
- Islands (seabirds and other specialist flora and fauna)
- Caledonian pinewoods
- Semi-natural woodlands (including 'rainforest'), wood pasture and naturally wooded uplands
- Kelp beds and priority continental shelf benthic communities
- Rivers
- Lochs and ponds
- Grasslands, machair and extensive cattle systems
- Estuaries and Saltmarsh
- Coastal seabed and Seagrass
- Pelagic seas
- Deep water marine communities

Either all, or a representative range, of these habitats/ecosystem types should have protection and restoration targets, such as the following three examples:

- **Peatlands** – Ensure XX% of peatlands are protected and being restored by 2030 with all blanket bogs and deep peat protected and restored by 2045
- **Rainforest** – Ensure 100% of Scotland's existing rainforest habitat is protected and restored by 2030, and XX hectares of expansion of Scotland's rainforest, ensuring connectivity between rainforest habitat by 2045.

[91] https://jncc.gov.uk/our-work/ukbi-c3a-european-habitats/#key-results-figure-c3ai-conservation-status-of-uk-habitats-of-european-importance-2007-2013-and-2019
[92] https://www.nature.scot/doc/habitats-and-species-habitats-directive-which-occur-scotland-and-which-special-areas-conservation
[93] https://www.scotlink.org/wp-content/uploads/2022/09/SBS-consultation-response-FINAL.pdf
[94] https://www.gov.scot/policies/marine-environment/priority-marine-features/

- **Rivers** – Ensure X% of rivers are free-flowing, increasing X% of the connectivity[95] between freshwater bodies through riparian habitat restoration and improving groundwater and surface water quality and extent by 2045. An interim target of 25,000km of rivers are restored to a free-flowing state by 2030.

It should be noted that the EU Restoration Law has specific obligations for rivers and peatland, so these habitats should certainly have specific targets (which reflect the ambitions of that law, such as in the examples above). These targets might also include (as per the EU Nature Restoration Law) a target of 20% of terrestrial, freshwater and marine to be under area-based restoration measures by 2030[96]. While, in relation to degraded habitats, it should be noted that Target 2 of the GBF is to "ensure that by 2030 at least 30 per cent of areas of degraded terrestrial, inland water, and coastal and marine ecosystems are under effective restoration, in order to enhance biodiversity and ecosystem functions and services, ecological integrity and connectivity".

The (habitat-related) target for pollinators could be added here if not included under species.

Finally, it must be noted that the above "general habitat quality and extent" targets should relate all examples of each habitat – within protected areas, outwith protected areas and forming part of any nature network seeking to link up protected areas. Additional, specific targets focused on protected areas should be additional and complementary. These are discussed next.

For protected areas, targets should address their extent (area covered and their connectedness) and their condition. In relation to extent, the EU, UK and Scottish Government commitments to achieve '30x30' should be on the face of the bill. Thus, **the target should be to protect at least 30% of land, inland water and sea for nature by 2030, with 10% strictly protected**. The 2045 target is clearly to ensure this extent is maintained (but also in favourable condition – addressed below).

On land, this means that the SSSI, SPA and SAC networks must be both sufficient and achieve favourable condition. At sea, at least 30% Scotland's seas should be under high levels of protection through MPAs and other measures, and at least a third of that (at least 10% of Scotland's seas) are strictly protected in line with the EU Biodiversity Strategy ambition, in what should be considered as core ocean recovery zones to enhance marine protection.

In addition to simple extent, it is important that protected areas 'operate' as a network and thus their connectivity is important. NatureScot have begun work on an indicator of connectivity[97] and this could be developed and applied to such a target (either in relation to habitat types in general or to those included within protected areas).

As well as extent and connectivity, the targets for protected areas will need to address site condition. This needs to be ecologically literate and achievable, including the need to consider the time necessary for the recovery of 'slow moving' habitats, such as woodlands and blanket bogs. It should be noted that a previous (unmet) target, now dropped, was for 80% of designated features to achieve favourable condition; this, in fact, should be reinstated – at least as a key milestone. Thus, proposed targets for protected area condition would be

- **To ensure that, by 2030, 75% of features for which protected areas are designated are in favourable condition or showing demonstrable and continued ecological recovery; and**
- **By 2045, all features for which protected areas are designated are in favourable condition.**

[95] Connectivity in rivers has to consider longitudinal connectivity (removing barriers to natural flow processes), lateral connectivity (connecting the river to its floodplain and riparian habitats) and vertical (connection between groundwater and surface water).
[96] Note: this is a different measure/target the aim to have 30% of land and sea within protected areas; and the 20% "under area-based restoration measures" may or may not be within/outwith such protected areas.
[97] https://www.nature.scot/doc/naturescot-research-report-887-developing-habitat-connectivity-indicator-scotland

Targets related to conservation action ("means").

These targets are organised in accordance with the actions necessary to address the well-recognised drivers of biodiversity decline[98].

5. Changing use of land and sea (Linked to GBF Goal B and target 1)

Under this category, targets need to be developed that relate to the impact of land/sea uses, and the effect of uses (and their changes) on biodiversity. Thus, it will be necessary to develop targets in relation to measures of land and sea management. These might seek to build on, or replicate, targets such as that in the EU nature restoration plan (target 15), that states:

> *The negative impacts on sensitive species and habitats, including on the seabed through fishing and extraction activities, are substantially reduced to achieve good environmental status.*

On land, targets could include those addressing soils and soil health, the area of agricultural land under nature-friendly and/or organic management, the area of woodlands/forestry under the (highest, most nature-friendly) form of management standard[99], etc. In addition, it may be appropriate to consider an urban/development-related target such as a measure of the extent that planning consents include conditions to be 'nature positive'. At sea, appropriate targets might relate to policy mechanisms to prevent by-catch, and/or policies to ensure that fisheries and other activities/developments do not damage important habitats.

The (land use-related) target for pollinators (reduced pesticides and eliminating neonicotinoids) could be added here (as these are land use issues, as well as forms of pollution) if not included under species.

6. Direct exploitation of organisms (Linked to GBF Goal B and target 5)

The direct exploitation of organisms has an impact on nature in two ways: first, by the impact on the populations of species being killed/harvested and, secondly, by indirect impact on species habitats either as bycatch or as a result of management measures taken to increase the numbers of (or access to) target species.

Thus, targets should be developed in relation to:

- Ensuring that the **populations of target species remain (or return to) a level at which they are of least conservation concern**. In the case of wild deer, this may mean a cull target to reduce populations, while for many species of harvested sea fish, it will relate to the recovery of populations. For (most?) other species (ground game and native gamebirds), where populations are currently of little concern, the target should be to ensure appropriate monitoring and a commitment to act should trends reveal any conservation concern[100].
- For non-native gamebirds (and other species?), there may be a need to develop a target related to minimising the impact on native flora and fauna – although this issue may be addressed through targets under INNS (below).
- In relation to indirect effects, the two key areas that will need to be covered are grouse moor management and fisheries bycatch. For the former, a target could be developed in relation to **the content of, and compliance with, the grouse moor management code of conduct** (to be developed

[98] In 2019, the IPBES (the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services) identified five *direct* drivers of global biodiversity loss, and two *indirect* drivers (see https://ipbes.net/global-assessment). The direct drivers are changing use of land and sea, direct exploitation of organisms, climate change, pollution, and invasive non-native species. NatureScot recognise that "these global drivers are also affecting Scotland's nature and its most special natural features" (see https://www.nature.scot/scotlands-biodiversity/key-pressures-biodiversity).

[99] In the case of woodlands, these should be linked to (and then form part of) the Scottish Government's existing targets for woodland expansion – albeit that the nature recovery targets would focus on native woodland condition, expansion, regeneration, etc.

[100] This relates only to ground game and gamebirds that are NOT protected (under schedule 1 or 5 of the 1981) and thus excludes capercaillie and mountain hare.

under the Wildlife Management and Muirburn (Scotland) Bill). For the latter, a target could build on, or replicate, target 16 in the EU nature restoration plan that: *The by-catch of species is eliminated or reduced to a level that allows species recovery and conservation.*

7. Climate change (Linked to GBF target 8)

Targets related to climate change, as a driver of declines in biodiversity, should relate to both mitigation and adaptation/resilience.

For mitigation (that is reducing emissions that cause climate change), the targets set by the Climate Change (Scotland) Act 2009, as amended, should be adopted (or cross-referenced).

Given the land/sea basis for nature recovery, an additional climate-mitigation target (to complement the Scotland-wide overall emissions targets) might be developed that relates to the extent (or proportion) of land and/or seabed being actively managed/protected to sequester carbon. (Or, in reverse, to the extent (or proportion) of land and/or seabed that is a net source of carbon).

Targets relating to adaptation/resilience could include issues such as:

- Riparian woodlands/planting (to shade the most vulnerable watercourses and implemented at a catchment scale);
- The creation of wetlands or coastal habitats (the latter by managed realignment) to deliver sustainable flood management or offset the impacts of sea level rise;
- A link to the connectivity targets (which will act as a measure of how easily wild species can 'move' as a result of changing climate;
- A link to the seabirds target, as an indicator of the impact of climate change on the marine environment and of marine resilience.

8. Pollution (Linked to GBF target 7)

Pollution targets should address air, freshwater and sea water quality, and the impacts of the pollutants on those habitats (with, where necessary, clear differentiation between pollutant load and the actual concentrations of pollutants by measuring success in relation to ecological benefit).

Some such targets may be available for adoption (or cross-referencing) in existing policy/law, such as the Air Quality Strategies, Water Framework Directive and/or Marine Strategy Framework Directive. Other more nature or ecologically focused targets might include:

- A target related to the use of Integrated Pest Management (IPM) on farmland.
- The (pollution-related) target for pollinators (reduced pesticides and eliminating neonicotinoids) if not included under species.
- A target to eliminate all municipal use of pesticides (including by Local Authorities, public bodies).
- A target to reduce risks and the negative impact of light pollution by 2030 and eliminate negative impact by 2045. This may need a short-term 'means' target to develop and implement a Scotland Light Pollution Strategy in order to better define how such risks/impacts will be measured).

9. Invasive non-native species (Linked to GBF Goal A and target 6)

Invasive species are animals or plants which have been introduced to places where they do not occur naturally, through deliberate or accidental human actions, causing negative environmental, social and/or economic impacts in those areas. Invasive species are one of the top five drivers of biodiversity loss worldwide. They cost the UK economy at least £2 billion every year, through impacts such as damage and loss of crops, increased

flooding and additional building construction costs, which continues to rise as new invasive species are introduced and established species expand their range[101].

To address this driver of biodiversity loss, targets (reflecting target 6 of the GBF) might be developed and applied to:

- Ensure the rate of introduction and establishment of invasive non-native species is reduced by 50% by 2030 and XX% by 2045 .
- To ensure the eradication and control of INNS, where appropriate, but to ensure it (and ongoing biosecurity) is prioritised for islands - thus eliminating the threat to endemic species by 2045.

Overall integrity, connectivity and resilience of ecosystems

Finally, there should be a target related to an overarching measure of the "integrity, connectivity and resilience" of our ecosystems (a phrase used in Goal A for the Global Biodiversity Framework). Such a measure would also chime with the overall objectives of the EU Nature Restoration Law, as well as the Scottish Government's biodiversity policy. This is necessary to address the 'baseline challenge' and to ensure that recovery addresses historic losses and regenerates biodiversity to healthy and resilient levels.

At present, the best indicator of overall "integrity, connectivity and resilience" is the Biodiversity Intactness Index, which takes account of historical declines and has been adopted by the CBD and IPBES for use in measuring global progress (see above). Thus, the targets could also include one for overall ecological condition, based on BII; this may be to increase Scotland's BII (currently at 56%[102]). Such a target might be expressed in absolute terms (to increase BII to X% by 2030 and Y% by 2045) or in relative terms (to increase BII by 10% [i.e., to 61.5%] by 2030 and by Z% by 2045), or in comparison with other states (to be higher in league table). In terms of determining at long-term target for the BII, it should be noted that 90% has been identified as the "safe limit" to maintain the ecological processes such as pollination and nutrient cycling that are vital to our survival[103]. By that measure, 'full recovery' by 2045 would require Scotland's BII to rise from 56% to 90%+. This may seem a huge transformation, but that should be a deterrent to adopting the targets we know we need to achieve.

However, notwithstanding the ideal of the above suggestion, it is also recognised that the BII is an indirect measure – and that, it may unclear (in the short term) what actions are necessary to increase its value (beyond those required for other targets). So, while recognition of the BII as a uniquely valuable tool in setting context and informing the scale of the nature recovery challenge, it may be defining an absolute/relative target for BII is either inappropriate or premature. If this is the case, the target (or commitment?) could perhaps be a 'means'-related target for BII – such as "to develop a route map for improving Scotland's Biodiversity Intactness Index" which would include doing the necessary work to define the ultimate absolute/relative target (which should, at that stage, be adopted). In so doing, the overall target set would recognise the importance of achieving both a reversal of current negative trends and an effective regeneration of biodiversity in relation to past and historic losses (and thus help overcome the 'baseline challenge').

Delivery and implementation

As discussed in the main report, as well as targets, **it is essential that there are improved efforts to ensure delivery and implementation**. Some suggestions for this have been made in the main report, but in addition, it is important that targets are accompanied by a programme of monitoring and reporting, aligned with the targets; and that baselines are determined quantitatively and widely agreed. **A target related to developing, agreeing and establishing such a programme might be appropriate** to drive delivery of this supporting activity.

[101] https://www.wcl.org.uk/docs/Prevention_is_Better_than_Cure_Report_2020.pdf
[102] https://spice-spotlight.scot/2021/06/04/how-does-scotlands-biodiversity-measure-up/
[103] https://www.nhm.ac.uk/discover/news/2021/october/analysis-warns-global-biodiversity-is-below-safe-limit.html#:~:text=This%20is%20significantly%20below%20the,are%20vital%20to%20our%20survival

Finally, delivery of all the above will need to be funded. This is recognised in GBF target 19 (and formerly in Aichi target 20). **A target related to identifying and putting in place adequate funding (public, private and charitable) to enable the delivery might be appropriate.**

ANNEX 3

Potential legislative wording/outline provisions for nature recovery targets

Background and purpose

The purpose of this annex is (a) to allow for informed discussion and (b) to demonstrate that the ideas for nature recovery targets can (based on LINK members' understanding of similar legislation) be translated into statutory form. It does this by setting out the form that such a Bill (and subsequent secondary legislation) might take.

*In doing this, the text below is intended to be illustrative to permit discussion and is **not legal advice** (although it has been reviewed by those with legal qualifications). Some provisions are offered as 'draft text for a Bill/amendment' and some as outlines of what provisions should include. In addition, these outlines are provided to be illustrative and are thus incomplete. The "tbc parts" are highlighted in yellow, as are some commentary/questions within square brackets that do not form part of the potential legislative wording/outline provisions but are prompts for discussion).*

Natural Environment (Scotland) Bill

An Act of the Scottish Parliament to make provision for the introduction of statutory nature recovery targets; ….. [other issues to be covered] ….;. and for connected purposes

PART 1

NATURE RECOVERY TARGETS

1. Long term target for nature recovery in Scotland

(1) The Scottish Ministers must ensure, by 2045, the recovery of nature determined by measures of:
- (a) Species abundance;
- (b) Species distribution;
- (c) Species extinction risk;
- (d) Habitat quality and extent;
- (e) Drivers of biodiversity decline; and
- (f) Overall integrity, connectivity and resilience of ecosystems.

(2) The recovery of nature will be deemed to have occurred when all the targets set for each of the six features, referred to in subsection (1), have been achieved.

(3) The Scottish Ministers must, by regulations, set out, in accordance with provisions of Schedule 1, factors to be measured, the baselines and the targets to be achieved for each of the six features referred to in subsection (1).

(4) Provision, if necessary, to revoke or amend regulations (subject to section 4)

2. Interim target for nature recovery in Scotland

(1) The Scottish Ministers must, by 2030, ensure that, based on measurements in relation to the six features, referred to in section 1(1), the decline in nature in Scotland is reversed.

(2) The Scottish Ministers must, by regulations made under section 1(3), set out, in accordance with provisions of Schedule 1, factors to be measured, the baselines and the targets to be achieved in order to meet the interim target referred to in subsection (1).

3. Milestones for progress towards the interim and long-term targets

(1) The Scottish Ministers must, by regulations, determine years during which to set milestones for progress.

(2) Milestone for progress under subsection (1) must include: -
   (a) One year between the year that this Act comes into effect and 2030; and
   (b) Two years between 2030 and 2045.

(3) The Scottish Ministers must, as far as is possible and taking into account that 2030 and 2045 are also milestone years, ensure that the milestone years are evenly spaced,

[This approach allows for the 'milestone years' to be 'flexible' (albeit within limits) and thus reflect the availability/publication of data (such as State of Nature) – which may not always happen on a strict 3-yearly basis.]

(4) The Scottish Ministers must ….. something related to "Progress of each metric towards the 2030 or 2045, as the case may be, target proportional to the time elapsed towards that date."

Nature recovery targets: process

4. Nature recovery targets: process

(1) Before making regulations under section 1, the Scottish Ministers must seek advice from Environmental Standards Scotland and from any other persons they consider to be independent and to have relevant expertise.

[This will require amendments to ESS's remit (see s.6(7) below). In practical terms, however, it will also mean getting it to build up capacity to do this – which may delay getting the first targets set. Thus, an alternative to the above might be a general "seek advice from relevant experts" for the first set of targets, but thereafter specify that ESS must advise on any amendments. That said, given that the "first set" should be comprehensive and, if done well, may not need much amendment, it may be important to ensure a formal advice stage – so could ESS do their "gearing up" in advance and as the Bill was progressing – in the way that a "shadow ESS" was developed in advance of the Continuity Act coming into force?].

(2) As part of seeking advice, under subsection (1), the Scottish Ministers must also undertake a public consultation on draft regulations.

(3) When publishing proposed regulations under section 1, the Scottish Ministers must publish the advice received under subsection (1), along with a statement of how they have taken into account the advice received, including the consultation under subsection (2).

(4) Before making regulations under section 1 which set or amend a target, the Scottish Ministers must be satisfied that the target, or amended target, is both suitably ambitious and can be met.

[Subsection (4) above is an adapted form of s.4.2 of the Environment Act 2021 and is an attempt to ensure that targets meet the "achievable" criterion (see section 4.1(a) of the report). It can, however, be critiqued as either "meaningless" (that is, Ministers can be satisfied anyway they want!) or, alternatively, might be used as an excuse for very non-challenging targets, at least initially. Thoughts on need and/or alternative wording welcome!]

(5) The Scottish Ministers may make regulations under section X which revoke or lower a target (the "existing target") only if satisfied that—

(a) meeting the existing target would have no significant benefit compared with not meeting it or with meeting a lower target, or

(b) because of changes in circumstances since the existing target was set or last amended the environmental, social, economic or other costs of meeting it would be disproportionate to the benefits.

(6) Before making regulations under sections 1 to 3 which revoke or lower a target, the Scottish Ministers must make a statement to the Scottish Parliament and publish a statement explaining why they are satisfied as mentioned in subsection (5).

(7) Regulations lower a target if, to any extent, they—

(a) replace the specified standard with a lower standard, or

(b) replace the specified date with a later date.

(8) Regulations under section 1 are subject to the affirmative procedure.

(9) Regulations under section 1 must be laid before the Scottish Parliament within one year of this Act receiving Royal Assent.

5. Targets: effect

(1) It is the duty of the Scottish Ministers to ensure that targets set under sections 1 and 2 are met.

[Subsection (1) is a 'bare duty' that, in itself, may not be helpful or enforceable, without details of who can enforce it, how, and at what stage. It is, however, similar in form to s.5 from the Environment Act 2021. The ideas for amending the biodiversity duty (see s.5(2) and s.7) are an attempt to "to establish an obligation to publish plans to meet targets" and an "obligation to produce remedial plans if target missed" (see s.6(6). This is an attempt to answer the "who can enforce it, how, and at what stage" (as it would enable plans etc to be challenged as insufficient – as per the ClientEarth NZS case.

However, those further provisions may need to be more specifically cited as the "means" to meet the subsection (1) duty and/or subsection (1) edited to make the link. Or, of course, subsection (1) may be unnecessary with the other provisions standing alone (although that isn't the case in the UK 2021 Act)? Thoughts on need and/or alternative wording welcome!]

(2) The Scottish Ministers must ensure that any Biodiversity Strategy, designated under section 2 of the Nature Conservation (Scotland) Act 2004, including any Action Plan under section 2(6A), are of a nature best calculated to ensure the achievement of nature recovery targets established under sections 1 and 2 and to fulfil the duty in subsection (1).

(3) In complying with the duty imposed by subsection (1), the Scottish Ministers must have regard to—

(a) the United Nations Environmental Programme Convention on Biological Diversity of 5 June 1992 as amended from time to time (or any United Nations Convention replacing that Convention); and

(b) Kunming-Montreal Global Biodiversity Framework, agreed at the 15th meeting of the Conference of Parties to the UN Convention on Biological Diversity (CBD/COP/15/L25).

[This is an attempt to ensure that the setting/meeting of targets takes account of the international framework. It is based on s.1(2) of NC(S)A 2004. However, the wording could perhaps be improved, and/or perhaps its better positioned elsewhere. Ideas welcome.]

6. Targets: advice, monitoring and reporting

(1) Environmental Standards Scotland must produce and publish a report or reports (or designate a report or reports published by others) on the State of Nature in Scotland to set out the data necessary to determine progress towards the targets.

["The State of Nature in Scotland" means the factual information and data (the metrics, indicators, etc). This may need further definition/interpretation?]

(2) A report under subsection (1) must be produced, or designated, within six months of the end of each year for which there is an interim target under section 2 or milestone under section 3.

(3) Within a three month period following the publication, or designation, of each report under subsection (1), Environmental Standards Scotland must publish, submit to Scottish Ministers, and lay before the Scottish Parliament, a report outlining progress towards the targets established in accordance with regulations made under section 1.

[This relates to an explanation of how the metrics/indicators etc (under subsection (1)) relate to the targets and what progress has been made. In practice, the subsection (1) report may include this aspect, but it is good that it is also a separate responsibility on ESS to formally report the progress to Ministers/Parliament.]

(4) Within a three month period following the publication and submission of the report under subsection (3), the Scottish Ministers must make a statement to the Scottish Parliament outlining the progress recorded.

(5) Should the progress recorded in the report under subsection (3) not demonstrate progress towards the targets, proportionate to the time that has passed since the previous report, or (in the case of the first report following 2030 or 2045) the achievement of the respective targets, the statement under subsection (4) must include: -

(a) why, in the opinion of the Scottish Ministers, progress has been insufficient or, as the case may be, the targets not achieved; and

(b) the steps that the Scottish Ministers will take to ensure progress is resumed or, as the case may be, targets met.

[Note: if progress is 'good' then subsection (4) and the statement adds very little to the previous provisions (except for an opportunity for Minsters to say, "aren't we doing well!". However, if that is not the case, subsection (5) is crucial as a means to draw attention to, and allow scrutiny of the proposed remedial actions (including, as appropriate, any updates to the Biodiversity Strategy and/or Action Plans.]

(6) Where subsection (5) applies, the steps referred to in paragraph (b) must include the updating of the Action Plan, published under subsection (6A) of the Nature Conservation (Scotland) Act 2004.

(7) Schedule 2 (if necessary – any consequential amendments of the UK Withdrawal from the European Union (Continuity) (Scotland) Act 2021 to amend ESS' functions etc to provide for it to carry out the above) has effect.

7. Consequential amendments to the 2004 Act in relation to biodiversity

The Nature Conservation (Scotland) Act 2004 is amended as follows:

(1) In section 1, after subsection (1), insert new subsection:

"(1A) Compliance with the duty in subsection (1) must include the taking of any such steps, as set out in the action plan developed under section 2(6A), to contribute to the achievement of nature recovery targets established under the Natural Environment (Scotland) Act 2024."

(2) In section 2, after subsection (6), insert new subsections:

"(6A) Within one year of a strategy being so designated, the Scottish Ministers must publish, in such manner (including on the internet or by other electronic means) as they think fit, an Action Plan setting out the actions to be taken, the bodies to take those actions and when those actions are to be taken, to meet the objectives of the strategy.

"(6B) The actions set out in the Action Plan, under subsection (6A), must include those actions best calculated to ensure the achievement of nature recovery targets established under the Natural Environment (Scotland) Act 2024."

(3) In section 2, after subsection (7), insert new subsection:

"(7A) A report under subsection (7) must include a statement of progress in relation to each of the actions specified in the Action Plan published under subsection (6A).

"(7A) Where any actions in the Action Plan published under subsection (6A) have not been carried out, or have been incompletely carried out, the report under subsection (7) must include a statement as to why this was the case, and what steps are being taken to rectify the situation or carry out alternative actions, including as appropriate why alternative actions are preferable."

(4) In section 2A, after subsection (4), insert new subsection:

"(4A) A report under subsection (1) must include a statement of progress in relation to each of the actions, relevant to the body preparing the report, specified in the Action Plan published under subsection (6A).

"(7A) Where any actions in the Action Plan published under subsection (6A) have not been carried out, or have been incompletely carried out, the report under subsection (1) must include a statement as to why this was the case, and what steps are being taken to rectify the situation or carry out alternative actions, including as appropriate why alternative actions are preferable."

8. Nature in Scotland: beyond 2045

(1) Before the end of 2042, the Scottish Ministers must, in accordance with the procedures set out in section 4, determine targets are the years following 2045, including
   (a) If the long-term target of the recovery of nature is achieved by 2045, what targets and policies will be introduced to ensure that situation is maintained for the long-term, taking into account natural variation and global trends; and
   (b) If the long-term target of the recovery of nature is not, or is likely not to be, achieved by 2045, a new date for this long-term target to be achieved (and the steps to be taken to achieve it).

(2) The Scottish Ministers may, after the end of 2042, by regulations, amend section 1 of this Act to replace the targets in that section with those determined under subsection (1).

(3) Regulations under subsection (2) must not enter into force until the end of 2045.

(4) Regulations under subsection 2 are subject to the affirmative procedure.

Other Parts, Chapters, Sections of the Bill
(e.g., deer management and other LINK interests – see separate papers from LINK)

Usual ancillary provisions, extent, commencement, short title, etc sections.

SCHEDULE 1

LONG-TERM AND INTERIM TARGETS FOR THE RECOVERY OF NATURE

(*introduced by section 1*)

Long-term and interim targets

1. The six features of nature for which there must be targets are:
    (a) Species abundance;
    (b) Species distribution;
    (c) Species extinction risk;
    (d) Habitat quality and extent;
    (e) Drivers of biodiversity decline; and.
    (f) Overall integrity, connectivity and resilience of ecosystems.

2. The Scottish Ministers must exercise their powers under sections 1 and 2 so as to set both long-term and interim targets in respect of at least one matter as a measure of progress in relation to each feature.

3. For the avoidance of doubt, more than one matter may be used as a long-term or interim target as a measure of progress in relation to each feature.

4. Targets set must be capable of being objectively measured and regulations may make provision about how the matter in respect of which a target is set is to be measured.

5. The regulations must establish a baseline for each target set, based on the best available data.

6. The long-term target for each target set must be to ensure that the indicator or metric used has returned to the level of the baseline, and with an ongoing upward trajectory.

7. The interim target for each target must be to ensure that the indicator or metric used has an ongoing upward trajectory.

Species abundance

8. The species abundance targets for 2030 and 2045 must be based on the 'State of Nature' abundance metric.

(Alternative para 8: The species abundance target must be based on the best available information providing data on the population sizes of native species in Scotland).

9. Targets for species abundance must include:
    (a) Overall species abundance targets; and
    (b) Targets in relation to "species at risk"

10. Targets for species abundance may include:
    (a) Targets for any individual or group of species that, in the opinion of Scottish Ministers, are of particular importance to Scotland or serve as particularly important indicator species.

Species distribution

11. The species distribution targets for 2030 and 2045 must be based on the 'State of Nature' occupancy metric.

(Alternative para 11: The species distribution target must be based on the best available information providing data on the population distribution of native species in Scotland).

12. Targets for species distribution must include:
    (a) Overall species abundance targets; and
    (b) Targets in relation to "species at risk"

13. Targets for species distribution may include:
    (a) Targets for any individual or group of species that, in the opinion of Scottish Ministers, are of particular importance to Scotland or serve as particularly important indicator species.

Species extinction risk

14. The targets for species extinction risk must be based on the number of species in categories CR, EN, or VU of the IUCN Red List.

Habitat quality and extent

15. The targets for habitat quality and extent must specify the habitats (including; rivers, streams, wetlands, grasslands, open mosaic habitats, woodlands, peatlands) of particular importance in Scotland, and the extent (in area) and quality (in percentage in favourable condition) to be achieved by 2030 and 2045.

16. The regulations must specify have "Favourable condition" is to be interpreted and this definition must be consistent with Article 1 of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.

17. The targets for habitat quality and extent must specify additional targets for the extent, quality and connectedness of Scotland's protected areas, covering both protected areas on land and at sea.

18. The regulations must specify that, by 2030, the Scottish Ministers and Local Authorities must develop and publish a habitat network map, and associated action plan, to increase extent, quality and connectivity of habitats specified in paragraph 17.

Drivers of biodiversity decline

19. The drivers of biodiversity decline are:
    (a) changing use of land and sea;
    (b) direct exploitation of organisms;
    (c) climate change;
    (d) pollution; and
    (e) invasive non-native species.

20. The Scottish Ministers must exercise their powers under sections 1 and 2 so as to set both long-term and interim targets in respect of at least one matter as a measure of progress in reducing the effect of each of the drivers mentioned in paragraph 21.

21. For the avoidance of doubt, more than one matter may be used as a long-term or interim target as a measure of progress in reducing the effect of each of the drivers mentioned in paragraph 21.

22. Any further specification/detail in relation to (a) and/or (b).

23. The targets for climate change must be taken to be those established by the Climate Change (Scotland) Act 2009.

24. The targets must include an additional target related to the proportion of land and seabed subject to active management for the sequestration of carbon.

25. Any further specification/detail in relation to (d).

26. The Scottish Ministers must, by regulation, before the end of 2025 and having sought the advice of Scottish Natural Heritage and any other with appropriate expertise, designate "priority invasive non-native species" to be subject to control measures.

27. The species designated under paragraph 23 may be designated in respect to Scotland as a whole or, as is appropriate, in relation to a specified area of land and/or sea.

28. The Scottish Ministers must exercise their powers under sections 1 and 2 so as to set both long-term and interim targets for the abundance and range of species designated under paragraph 23.

Overall integrity, connectivity and resilience of ecosystems.

29. The target for overall integrity, connectivity and resilience of ecosystems must be based on the Biodiversity Intactness Index.

Interpretation

The "Biodiversity Intactness Index" means definition (reference to SoN or original NHM et al paper?)

"IUCN Red List" means the "Red List of Threatened Species" published regularly by the International Union for the Conservation of Nature.

"Native species" means any plant or animal that is present within its native range, as defined in section 14P of the Wildlife and Countryside Act 1981.

"Species at Risk" means those species identified by Scottish Ministers under section 2(4) of the Nature Conservation (Scotland) Act 2004.

(Although note that there is a proposal to revise this list, and 'rename' it species at risk. If s.2(4) is amended, this clause would need to be drafted to take account of such a change.)

"State of Nature" means the three yearly reports produced or designated by Scottish Natural Heritage under section X.

(Including a reference to "State of Nature" in legislation implies a degree of certainty that it will continue to be produced (at least while targets are operational) and/or that SNH will endorse/designate it. If such reports (as produced at present) cease, then this will allow SNH to produce its own or designate one produced by others.)

SCHEDULE 2
AMENDMENTS TO THE UK WITHDRAWAL FROM THE EUROPEAN UNION (CONTINUITY) (SCOTLAND) ACT 2021
(*introduced by section 4*)

Any necessary amendments to the functions/powers of ESS as set out in the UK Withdrawal from the European Union (Continuity) (Scotland) Act 2021 to enable/empower it to carry out the advisory functions added by this Bill.

Illustrative examples of the possible form of regulations to be made under a Natural Environment (Scotland) Act of the form suggested above

NATURE RECOVERY, SCOTLAND

The Nature Recovery Targets (Scotland) Regulations 2024

Made: ***

Coming into force: ***

The Scottish Ministers make these Regulations in exercise of the powers conferred by sections 1 (and….) of the Natural Environment (Scotland) Act 2024 ("the 2024 Act").

(any other preamble necessary?)

PART 1

Introduction

Citation, commencement, extent and application

1.—(1) These Regulations may be cited as the Nature Recovery Targets (Scotland) Regulations 2024.

(2) These Regulations come into force on the day after the day on which they are made.

(3) These Regulations extend to Scotland, including the territorial sea adjacent to Scotland.

Interpretation

2. In these Regulations—

"the 2024 Act" means the Natural Environment (Scotland) Act 2024;

(other necessary interpretation clauses – e.g. native species, species at risk, etc to have the meanings set out in Schedule 1 of the 2024 Act

tbc – range occupancy?)

PART 2

Species abundance targets

Overall species abundance

3. The species abundance target is an indicator of the abundance of all native terrestrial, freshwater and marine species for which comparable data are available.

4. The species abundance indicator shall be based on a baseline of 100 for the year 1970.

5. The long-term targets for species abundance in 2045 are that the indicator shall be:

(c) At or above 100, and
(d) At least 10% above the level reached in 2030.

6. The interim targets for species abundance in 2030 are that the indicator shall be:
(c) Higher than in 2024, and
(d) Demonstrating a stable or increasing trend.

Abundance of species at risk

7. The abundance target for species at risk is an indicator of the abundance of native terrestrial, freshwater and marine species, determined to be of conservation concern, for which comparable data are available

8. The indicator for the abundance of species at risk shall be based on a baseline of 100 for the year 1970.

9. The long-term targets for the abundance of species at risk in 2045 are that the indicator shall be:
(a) At or above 100, and
(b) At least 10% above the level reached in 2030.

10. The interim targets for the abundance of species at risk in 2030 are that the indicator shall be:
(a) Higher than in 2024, and
(b) Demonstrating a stable or increasing trend.

Seabird abundance

11. The "seabird abundance indicator" is an indicator of the abundance of all native seabird species, as designated in Schedule 1.

12. The seabird abundance indicator shall be based on a baseline of 100 for the year 1970.

13. The long-term targets for the abundance of species at risk in 2045 are that the indicator shall be:
(a) At or above 100, and
(b) At least 10% above the level reached in 2030.

14. The interim targets for the abundance of species at risk in 2030 are that the indicator shall be:
(a) Higher than in 2024, and
(b) Demonstrating a stable or increasing trend.

(Any other any individual or group of species for which a particular target is considered appropriate under Para 10 of Schedule 1 of the 2024 Act)

PART 3

Species distribution targets

Overall species distribution

X. The species distribution target is an indicator of the range occupancy of all native terrestrial, freshwater and marine species for which comparable data are available.

X. The species distribution indicator shall be based on a baseline of 100 for the year 1970.

X. The long-term targets for species distribution in 2045 are that the indicator shall be:
(a) At or above 100, and
(b) At least 10% above the level reached in 2030.

X. The interim targets for species distribution in 2030 are that the indicator shall be:

(a) Higher than in 2024, and
(b) Demonstrating a stable or increasing trend.

Distribution of species at risk

X. The distribution target for species at risk is an indicator of the abundance of native terrestrial, freshwater and marine species, determined to be of conservation concern, for which comparable data are available

X. The indicator for the distribution of species at risk shall be based on a baseline of 100 for the year 1970.

X. The long-term targets for the distribution of species at risk in 2045 are that the indicator shall be:
(a) At or above 100, and
(b) At least 10% above the level reached in 2030.

X. The interim targets for the distribution of species at risk in 2030 are that the indicator shall be:
(a) Higher than in 2024, and
(b) Demonstrating a stable or increasing trend.

PART 4

Species extinction risk targets

X. "Species at risk of local extinction" means those species included in categories CR, EN, or VU of the IUCN Red List.

X. The long-term target for species extinction risk is that no native species in Scotland are categorised as at risk of local extinction.

X. The interim target for species extinction risk is the number of native species in Scotland, that are categorised as at risk of local extinction, is 50% of the baseline number (that is, as at 2024).

PART 5

Habitat quality and extent targets

Priority habitats: extent and quality

X. Priority habitats are those listed in Schedule 2.

X. The targets for the extent and quality of are to be based on a metric devised on "favourable conservation condition"

X. The long-term targets for habitat extent and quality are:
(a) …
(b)

X. The interim targets for habitat extent and quality are:
(a) …
(b)

Protected area targets

X. The targets for the extent of Protected Areas in Scotland are: -

(a) 30% of the land of Scotland by 2030; and

(b) 30% of the territorial seas of Scotland, with 10% of those seas to be Strictly Protected, by 2030.

X. The targets for quality of Protected Areas in Scotland are:

(a) 80% of the terrestrial Protected areas to be Favourable Condition by 2030;
(b) 100% of the terrestrial Protected areas to be Favourable Condition by 2045;
(c) Similar for marine?

PART 6

Targets related to the drivers of species decline

Targets related to changing use of land and sea

Targets related to the direct exploitation of organisms

Targets related to climate change

X. The targets for emissions reductions are to be those provided for in Part 1 of the Climate Change (Scotland) Act 2009

X. The targets for the proportion of land and seabed subject to active management for the sequestration of carbon shall be X% and Y%, respectively.

Adaptation and resilience targets

Targets related to pollution

? Water Framework Directive and WEWS Act targets for Good Ecological Status

?Marine plastics

? Air quality

Targets related to the control of invasive non-native species

X. The "priority invasive non-native species" designated under paragraph 23 of Schedule 1 of the 2024 Act shall be:

(for example, but tbc)
Giant hogweed;
Japanese knotweed;
Himalayan balsam;
American skunk cabbage;
White butterbur;
American mink;
(in relation to specified islands) the European Hedgehog; and
(in relation to specified islands) the Stoat.

X. The islands specified in paragraph X, in relation to European Hedgehog, are the Western Isles, ……. and ……

X. The islands specified in paragraph X, in relation to European Hedgehog, are the Orkney Islands, ……. and …….

X. The long-term targets for the species listed in paragraph X are:

(a) In relation to Giant Hogweed, to …….
(b) In relation to Japanese knotweed, to …..
(c) etc

X. The interim targets for the species listed in paragraph X are:

(a) In relation to Giant Hogweed, to …….
(b) In relation to Japanese knotweed, to …..
(c) etc

PART 7

Target for overall integrity, connectivity and resilience of ecosystems

X. The target for overall integrity, connectivity and resilience of ecosystems is an indicator based on the Biodiversity Intactness Index.

X. ? baseline and how to 'score' BII?

X. The long-term targets for overall integrity are:

(a) …
(b)

X. The interim targets for overall integrity are:

(a) …
(b)

SCHEDULE 1
(if seabird abundance indicator is adopted)

List of seabirds

SCHEDULE 2

List of priority habitats (potentially based on, or cross-referring to, Habitats Directive/Regulations or to priority habitats listed in Biodiversity Strategy?)

Other schedules as necessary, if other species or habitat lists are needed, or for the targets related to the drivers of species decline