Scottish Environment LINK

Putting Scotland on a Path to Recovery

The case for nature recovery targets in Scotland

A report for Scottish Environment LINK

Stuart Housden OBE

October 2020

Executive Summary

- Nature is in crisis, both in Scotland and around the world. Human activity is driving dramatic declines in wildlife and habitats at an unprecedented rate. Recent reports from the UN *Global Biodiversity Outlook 5*[1] report and WWF's *Living Planet Report 2020*[2] show that levels of biodiversity across continents are plummeting with no sign of halting. In the UK, a similar downward trend has been reported in *The State of Nature Scotland 2019*[3] report, with 1 in 9 species at risk of extinction in Scotland.

- Governments across the world have adopted targets to achieve key policy objectives. This report makes the case for the development of new binding nature recovery targets – increasing the abundance of species and restoration of habitats – to be developed urgently for Scotland. In order to be world leading on nature recovery, Scotland needs to evidence its progress and targets provide a means of doing this.

- By considering the development of biodiversity targets, both internationally and domestically over the previous two decades, and the success of targets in other sectors of Scottish public policy, this report considers what lessons can be drawn to aid the development of a robust set of targets to drive nature's recovery in Scotland.

- The key recommendations are for an ambitious, legally-binding set of targets and milestones to secure nature recovery to be introduced by 2022. This includes:
  - Placing a duty on the Scottish Government and public bodies to secure the recovery of nature by 2045.
  - Harnessing the expertise of the State of Nature Partnership to develop targets.
  - Developing key milestones running up to an interim target for 2030 and final target for 2045, aligned with the EU Biodiversity Strategy.

- Analysis of biodiversity targets from across the UK and internationally suggest the following core components are required for nature recovery targets:

  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, that links and expands priority habitats, through restoration at a landscape scale, 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.

---

[1] https://www.cbd.int/gbo/gbo5/publication/gbo-5-en.pdf
[2] https://f.hubspotusercontent20.net/hubfs/4783129/LPR/PDFs/ENGLISH-FULL.pdf
[3] https://nbn.org.uk/wp-content/uploads/2019/09/State-of-nature-Report-2019-Scotland-full-report.pdf

Contents

1. Introduction

A concern for wildlife and nature has deep roots in Scotland. People were historically close to the land and were familiar with wildlife, which sustained their way of life through the provision of protein, and other useful products. The advent of large-scale, intensive agriculture, forestry and urban development exacerbated pressure on Scotland's land and seas. Today, Scotland's nature is in crisis.

An assessment from *The State of Nature Scotland 2019* report[4], using 1970 as a baseline, demonstrates we have lost the great majority of our wildflower meadows, half our skylarks, many wetlands and other habitats. Wildlife species are much reduced, and many continue to decline in range and numbers. The report's main findings are shown in Figure 1.
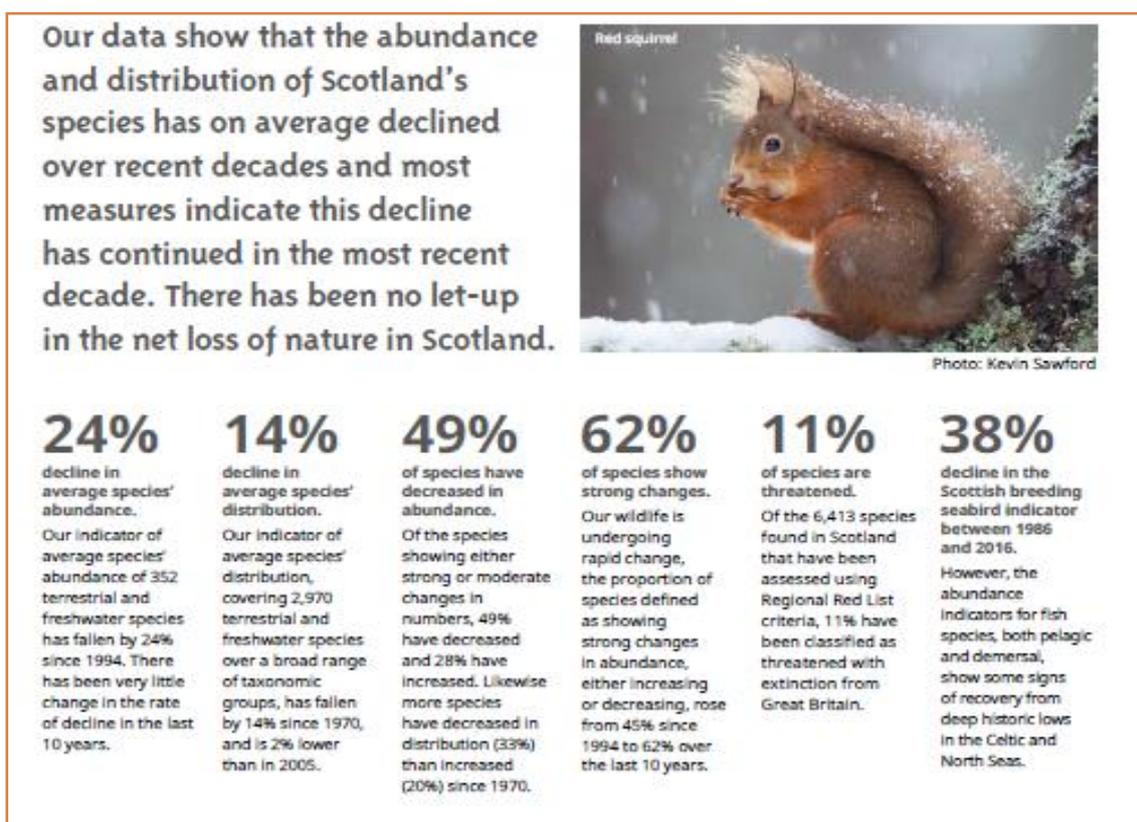

Figure 1: Headlines from the State of Nature-Scotland 2019 report.

In the wider countryside the long running monitoring results reported in *The State of Nature* reveal that of the extant terrestrial and freshwater species found in Scotland, assessed using modern IUCN Regional Red list criteria, 265 plants, 153 fungi and lichens, 92 vertebrates and 132 invertebrates are classified as being at risk of extinction from Great Britain.

From the ongoing monitoring of sites, species and habitats it is possible to identify the key pressures acting on nature in Scotland. The State of Nature Scotland 2019 report provides the detail and should be consulted, but key areas that must be addressed are summarised below:

---

[4] Walton P, Eaton M, Stanbury A, Hayhow D, Brand A, Brooks S, Collin S, Duncan C, Dundas C, Foster S, Hawley J, Kinninmonth A, Leatham S, Nagy-Vizitiu A, Whyte A, Williams S and Wormald K (2019). *The State of Nature Scotland 2019*. The State of Nature partnership. Available at: https://nbn.org.uk/wp-content/uploads/2019/09/State-of-nature-Report-2019-Scotland-full-report.pdf

1.1   Agriculture

Agriculture is the dominant land use over 70% of Scotland. The long term intensification of agricultural practises has led to the loss of natural features found on farms, the specialisation of farming, greater use of fertilisers and chemicals, the widespread adoption of silage making, the loss of hay meadows and wet features, and changed sowing seasons. Formerly widespread species on Scottish farmland, such as the great yellow bumblebee and corncrake are now confined to areas where more traditional practises persist. As *The State of Nature 2019* report summarised 'farming practises influence how nature fares with the power to either support or endanger wildlife.'

1.2   Invasive Non-Native Species

Across the globe the adverse impact of non-native species is a major driver of biodiversity loss and species extinctions. The effects in Scotland reflect that found internationally, with significant and sometimes intensifying impacts on many important species, especially in freshwater environments, islands with important seabird colonies, or ground nesting birds, and for native woodlands.

1.3   Climate Change

Climate is a key driver of change for Scotland`s species and habitats. Some species are, where connectivity allows, shifting their ranges northwards and modelling predicts species associated with montane conditions are likely to see contraction of their ranges. Some habitats will be affected directly and causing problems for many species that are adapted to specific climatic conditions, suggesting that future climate change will have strong effects. In the marine environment changes to ocean surface temperature are already seeing profound changes to marine food chains, impacting prey fish and seabirds such as kittiwakes. Ocean acidification will also cause increased uptake of carbon dioxide from the atmosphere, affecting shellfish.

1.4   Development and urbanisation

Development and urbanisation cause the loss of valuable wildlife sites, as land is taken over for development sites and habitats are fragmented due to roads, rail and other transport infrastructure. Historically, Scotland has lost significant areas of internationally important estuarine and intertidal habitats in the Firths of Forth and Clyde to development.

2.   Setting objectives to halt the loss of nature

Governments around the world have adopted targets, often legally binding, to achieve the delivery of key policy objectives. This approach has, for example, driven the provision of social and affordable housing in Scotland, the expansion of tree planting and afforestation. Our drinking water meets high standards because targets are set using best science and the precautionary principle, compliance is monitored and legally enforceable steps are taken to ensure remedies are implemented in a timely manner. Businesses the world over adopt 'SMART' targets to focus effort on what matters – 'what gets measured gets done' has been the mantra.[5] This report considers how addressing the nature crisis might benefit from such an approach in Scotland.

One area which has benefited in particular from clear targets is Scotland's efforts to address climate change. For over a decade, Scotland has embarked on an ambitious programme to address climate change, with legally binding targets, and specific milestones and timeframes, which are stretching but

---

[5] https://www.cdc.gov/phcommunities/resourcekit/evaluate/smart_objectives.html

achievable, and which are monitored and reported upon. This has built impressive cross sectoral support and momentum. Progress in all these and more areas would be harder to achieve without this combination of statutory duties, clear and binding targets, robust implementation plans that engage key stakeholders, monitoring and reporting on progress, with the political will to provide the necessary resources.

The same must now be put in place to address the nature crisis. The First Minister has made welcome comments acknowledging the scale of the problem, saying: "the challenges facing biodiversity are as important as the challenges of climate change, and I want Scotland to be leading the way in our response."[6] Halting the loss of nature, has been an objective of the Scottish Government for nearly three decades. The UK, and thus Scotland, were signatories to the UN Convention on Biological Diversity (CBD) that was agreed in 1992 at the Rio 'Earth Summit' ratified by the UK in June 1994. The main requirement arising from this was to develop National Biodiversity Strategy and Action Plans (NBSAPs), to conserve biological diversity and to enhance it wherever possible.

As a result, specific targets and performance indicators for habitats and species in Scotland were developed. That for Caledonian Pinewoods, a rare habitat which remains only in Scotland is reproduced from the UKBAP published in 1994 below:

Caledonian Pinewood

Caledonian Pinewood consists of a mixture of mature Scots pine and birch woodland with a rich understory of shrubs, the presence of dead and rotting wood and some open areas. The level of natural regeneration of canopy and shrub species must be sufficient to ensure the maintenance of the habitat. The presence and number of various birds, insects and flowering plants, ferns, bryophytes and lichens are important indicators of habitat quality.

Performance Indicator

Maintain and manage where necessary, all existing Caledonian pinewoods (12,500ha) and produce the correct conditions during the next 4 years to begin the process of regeneration of a further 5,000 ha.

2.1 Progress from 2001-2004

In 2001 the EU Sustainable Development Strategy[7] established for the first time an EU wide target to halt the loss of biodiversity by 2010. At the fifth ministerial conference on Environment for Europe in 2003, the UN Commission for Europe adopted the 'Kiev Resolution on Biodiversity' which decided to `reinforce our objective to halt the loss of biological diversity at all levels by the year 2010.' The 6th EU Environment Action Programme set the objective 'to protect and restore the functioning of natural systems and to halt the loss of biodiversity...by 2010.'[8]

Following this international progress, Scotland produced its first standalone Biodiversity Strategy, *Scotland's Biodiversity: It's in Your Hands,* in 2004 with a 25-year vision (to 2030).[9] The Strategy stated: 'Scotland is recognized as a world leader in biodiversity conservation. Everyone is involved, everyone benefits**.** The nation is enriched.'

---

[7] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52001DC0264
[8] https://ec.europa.eu/environment/archives/action-programme/intro.htm
[9] https://www.gov.scot/publications/scotlands-biodiversity---its-in-your-hands/

It set 5 objectives:

- **Species and Habitats:** To halt the loss of biodiversity and continue to reverse previous losses through targeted action for species and habitats.
- **People:** To increase awareness, understanding and enjoyment of biodiversity, and engage many more people in conservation and enhancement.
- **Landscapes and Ecosystems:** To restore and enhance biodiversity in all our urban, rural and marine environments through better planning, design and practise.
- **Integration and Co-ordination:** To develop an effective management framework that ensures biodiversity is taken into account in all decision making.
- **Knowledge:** To ensure that the best new and existing knowledge on biodiversity is available to all policy makers and practitioners.

The Strategy had an agenda for action, which whilst commendably thorough, largely failed to assign the actions to lead agencies or groupings, were not time bound, nor were they specific or easy in some instances to measure. It was assumed that Scottish Natural Heritage (SNH) would take forward these actions, or stimulate others to do so, but the resources to manage this new agenda were largely lacking.[10]

One step to improve the governance of efforts to recover biodiversity in Scotland was a duty in the [Nature Conservation (Scotland) Act 2004](#),[11] which required public bodies in exercising any functions to 'further the conservation of biodiversity so far as it is consistent with the proper exercise of those functions' and 'have regard' to the CBD. This was strengthened with a requirement to report on the actions taken to meet this duty-on a 3 year cycle in the [Wildlife and Natural Environment (Scotland) Act 2011](#).[12] However the reporting duties were not linked to achieving any targets, priorities for action, or specific measures to meet the objectives of the Biodiversity Strategy. They were not SMART.

Unsurprisingly, a Scottish Government survey found that 61 biodiversity reports had been produced in the first cycle, just 44% of the 139 public bodies in Scotland. The second cycle covering 2015-2017 had 66 public bodies reporting. The next reports are due in January 2021.

2.2 Progress to 2010

The UK did not meet the 2010 target of halting the loss of biodiversity. Similarly, the EU failed in this aim and most nations reporting progress via NBSAPs to the CBD acknowledged that the pace and scale of losses did not meet the aims of the Convention.

In Scotland, SNH assessed and reported on progress towards the 2010 biodiversity targets in a detailed review published in December 2010. It painted a decidedly mixed picture for species, habitats and protected areas, with some improvements, some declines and frequently no change in status.[13] An

---

[10] In 2004/5 the year of the Biodiversity Strategy launch SNH received £62.9m the bulk being grant-in aid from the Scottish Government. The following year it received £64.7m. This increased to £70.9m in 2006/7, but this included EU/Lottery grants of some £2.2m.

[11] https://www.legislation.gov.uk/asp/2004/6/contents#:~:text=Nature%20Conservation%20%28Scotland%29%20Act%202004%20is%20up%20to,be%20brought%20into%20force%20at%20a%20future%20date

[12] https://www.legislation.gov.uk/asp/2011/6/introduction/enacted#:~:text=Wildlife%20and%20Natural%20Environment%20%28Scotland%29%20Act%202011%202011,and%20the%20natural%20environment%3B%20and%20for%20connected%20purposes

[13] https://www.nature.scot/sites/default/files/2017-06/B811968%20-%20Trend%20note%20-%20Biodiversity%202010%20assessment%20merged%20document.pdf

assessment by the Scottish Parliament Information Centre in 2010 also indicated many of the proposed actions listed in the Scottish Biodiversity Strategy were not delivering sufficient improvements in species, habitats or protected areas to meet the target of halting biodiversity loss. And many of the actions underway were 'means' orientated, rather than delivering 'ends' i.e. improvements in the state of nature.[14]

2.3 The CBD summit

The CBD summit held at Nagoya, Japan in October 2010 led to the adoption of new and revised targets, setting out the steps required to meet the commitments contained in the Convention. These established five strategic goals and twenty targets, known as the Aichi targets, which set timetables usually to 2015 or 2020, within which to implement them. They encouraged signatory states to adopt SMART targets,[15] and appropriate Indicators as part of their refresh of NBSAPs.

The EU reviewed its performance and concluded, 'Europe is seeing the constant loss, degradation and fragmentation of natural habitats'.[16] It went on to adopt an 'ambitious' new Biodiversity Strategy for the period 2010-20, which had six targets and twenty actions with the overall aim 'to halt the loss of biodiversity and improve the state of Europe's species, habitats and ecosystems and the services they provide over the next decade.'[17]

Following the Nagoya convention and the adoption of the Aichi targets, the four UK countries agreed a post-2010 framework.[18] It acknowledged that globally we fell short of reaching the target to reduce biodiversity loss, but it was an important driver for conservation action 'including in the UK'. The Framework was supported by an Implementation Plan in 2013.[19] The UK Post-2010 Framework, was followed by 3 monitoring reports tracking the Implementation of the plan covering the period 2013-2020.

The Scottish Government refreshed its approach to biodiversity conservation with the publication in 2013 of the 2020 Challenge for Scotland's Biodiversity[20] which together with the earlier strategy, *Scotland's Biodiversity: It's in Your Hands,* became the response to the Aichi targets.

The 2020 Challenge emphasised an ecosystem approach to securing multiple benefits from sustainable management of land and seas. This recognised that nature provides many goods and services, and that 'this approach to planning and decision making will establish what needs to be done at the landscape scale to solve problems'.[21] Growing Scotland's natural capital, became a central theme of the refreshed Biodiversity Strategy, with the many benefits that a high-quality natural environment can bestow on significant sectors of the economy, being highlighted.

---

[14] http://www.parliament.scot/ResearchBriefingsAndFactsheets/S3/SB_10-
64.pdf#:~:text=SPICe%20Briefing%20Biodiversity%20and%20Ecosystem%20Services%2012%20October,backgr
ound%20and%20then%20highlights%20three%20aspects%20of%20biodiversity.
[15] https://www.cbd.int/sp/targets/
[16] https://www.eea.europa.eu/highlights/biodiversity-beyond-2010-deciding-the
[17] https://ec.europa.eu/environment/nature/biodiversity/strategy_2020/index_en.htm
[18] https://jncc.gov.uk/our-work/uk-post-2010-biodiversity-framework/
[19] http://data.jncc.gov.uk/data/587024ff-864f-4d1d-a669-f38cb448abdc/UKBioFwk-ImplementationPlan-
Nov2013.pdf
[20] https://www.gov.scot/publications/2020-challenge-scotlands-biodiversity-strategy-conservation-
enhancement-biodiversity-scotland/
[21] *Ibid.*

The remaining key building block following the activity at International CBD level, and consequential Strategies from the EU, and the 2020 Challenge for Scotland`s Biodiversity, was the publication in June 2015 of Scotland's Biodiversity: a Routemap to 2020.[22]

This set out Six Big Steps for Nature:

1. **Ecosystem restoration** - to reverse historical losses of habitats and ecosystems, to meet the Aichi target of restoring 15% of restoring degraded ecosystems.
2. **Investment in Natural Capital** - to ensure the benefits which nature provides are better understood and appreciated, leading to better management of our renewable and non-renewable natural assets.
3. **Quality greenspace** - for health and education benefits-to ensure that the majority of people derive increased benefits from contact with nature where they live and work.
4. **Conserving wildlife in Scotland** - to secure the future of priority habitats and species.
5. **Sustainable management of land and freshwater** - to ensure the environmental and economic elements are well balanced.
6. **Sustainable management of marine and coastal ecosystems** - to secure a healthy balance between environmental, social and economic elements.

The Route map and the Biodiversity Strategy have been adopted as key components of the Scottish Government's recent Environment Strategy launched in 2020,[23] which incorporates the vision of being recognised as a 'world leader in biodiversity conservation' by 2030. See section 11-this report.

3. The role of targets and indicators in improving performance and delivery

The setting of targets and key performance indicators is now commonplace across business, agencies and for individuals. Government's across the world commit to aims or goals, with associated measures of progress, which guide investment, delivery and monitoring of the rate of improvement. The aim is to implement change, to deliver key policies or programmes, within an agreed timeframe, in a manner that can be measured, and the results used to focus further effort and resources.

As has been demonstrated there are numerous high-level goals and targets for biodiversity and Nature from those set at the CBD, with 5 strategic goals and the 20 'Aichi' targets. A recent review of the 20 Aichi targets by Green et al found a significant positive relationship between progress and the extent to which the target elements were perceived to be measurable, realistic, unambiguous, and scalable.[24] The researchers highlighted the importance that targets be kept 'SMART', recommending: 'that any new or revised targets established under a post-2020 global biodiversity framework should be clearly and unambiguously worded so that the intent and necessary action or actions are apparent; well defined with explicit deliverables and include quantifiable elements where appropriate so that progress towards the target can be measured.'

At the EU level the goal of 'halting the loss of biodiversity' and to 'protect and restore' the functioning of natural systems-was refined in 2010 to 'halt the loss of biodiversity and improve the state of Europe's species, habitats and ecosystems and the services they provide over the next decade'. A

---

[22] https://www.gov.scot/publications/scotlands-biodiversity-route-map-2020/
[23] https://www.gov.scot/publications/environment-strategy-scotland-vision-outcomes/
[24] https://conbio.onlinelibrary.wiley.com/doi/full/10.1111/cobi.13322

detailed set of plans and in some instances KPIs followed. Most are a mix of qualitative measures as well as quantitative ends measures.

At UK level these same targets were adopted, and monitoring against the EU targets, and latterly the Aichi targets was co-ordinated by JNCC on behalf of the UK Government and devolved administrations. A 'red-amber-green' assessment is used to indicate performance.

Within Scotland, reports are made to the Scottish Parliament on the fulfilment of the Sustainable Development Goals, The National Performance Framework, including protected site performance, the 'biodiversity duty', the Aichi targets and the Scottish Biodiversity Strategy Route map. However, halting the loss of biodiversity, has not been achieved over some two decades. The challenge remains to mainstream biodiversity and nature recovery across government. In short current efforts, are, despite positive progress in some areas, unlikely to succeed without a greater sense of urgency and clarity of purpose being adopted.

Case Study: the condition of protected places

Sites of Special Scientific Interest (SSSIs) are notified by SNH and represent the best areas in Scotland for nature, or geological features of special interest. They have statutory protection under the Nature Conservation (Scotland) Act 2004.[25] The status and condition of SSSIs is seen as a bell weather of conservation, and thus they were adopted as a key performance indicator by the Scottish Government in its National Performance Framework. The original target was to bring '95% of natural features into favourable condition.' This was applied from 2005, through to 2011. Reports on progress were made annually and steady if modest improvements were reported. 5.8% more features were in favourable condition in 2011, than in 2005.[26]

The 2012 report however dropped the 95% target for a vaguer statement reporting on the proportion of natural features in favourable condition. This gave less specificity and has no target to drive progress. The Biodiversity Route Map published in 2015, adopted an interim 80% target, to be achieved by 2016. Consequently, improvement peaked in 2016 at 80.4%, but has since fallen back to 78.8 %[27] and progress appears to have stalled.

This matters for nature. The trend for the percentage of wildlife species features on notified sites in favourable, or unfavourable recovering condition has slipped from 76.1% in 2016, to 73.1% in 2020. The top 5 'negative pressures' on SSSI features reported by SNH for the period ending 31st March 2020 were:

- Invasive species 21%
- Grazing-overgrazing (by domestic livestock, deer and feral goats) 17.8%
- Water management 9%
- Recreation/Disturbance 8%
- Grazing-under grazing 5.8%
- Other issues noted were Agricultural operations 4.2%, Forestry operations 3%, game and fisheries management 2.8% and climate change 1.3%.[28]

---

[25] https://www.legislation.gov.uk/asp/2004/6/contents
[26] https://www.nature.scot/sites/default/files/2017-09/Official%20Statistics%20-%20Protected%20sites%20-%20proportion%20in%20favourable%20condition%202011.pdf

[27] https://www.nature.scot/sites/default/files/2020-05/Official%20Statistics%20-%20Protected%20sites%20-%20proportion%20in%20favourable%20condition%202020.pdf
[28] https://nationalperformance.gov.scot/condition-protected-sites

The range of pressures causing unfavourable condition of sites and their key features is overwhelmingly associated with land use. A sector plan to guide remedial action to tackle these negative pressures, with time bound SMART targets and appropriate resources, should be considered.

4. Learning from how Scotland has approached other environmental challenges

This section reviews whether the adoption of SMART targets and overarching statutory duties, with reporting against these, has helped focus action to achieve progress and what lessons can be learned to tackle the nature crisis.

4.1 Climate Change

The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019, which amended the Climate Change (Scotland) Act 2009, sets a clear target in legislation to reduce Scotland's emissions of greenhouse gas to 'net zero' by 2045 at the latest, with interim targets for reductions of at least 56% by 2020, 75% by 2030 and 90% by 2040. There is a commitment to review the targets following advice from the UK Committee on Climate Change. Ministers recognised that setting such stretching targets will require a significant commitment from all sectors of the economy, and in a manner that embeds the principle of a just transition. They went on to state that meeting the targets will only be possible as 'a shared national endeavour and social engagement is central to our approach'.[29]

Detailed annual targets were also established to support the transition to net zero. These are monitored and reported upon. Further duties require each annual budget produced by the SG to provide an estimate of the consumption-based carbon emissions associated with planned expenditure from the purchase of goods and services by the Scottish Government.

Ministers are required by the legislation to publish a report setting out proposals and policies to meet the annual targets-the current plan covers the period 2018-2032. Monitoring the progress made against the Climate Change Plan is vital to ensure effective implementation.

The Monitoring Framework has adopted six principles, Principle 3 states:

> Our aim is to ensure all our policies are **SMART (Specific, Measurable, Attainable, Realistic and Time limited)** which will help us to monitor progress in implementation.

A suite of implementation and output indicators are used to identify whether government is on track to achieve the required policy outcomes e.g. the number of hectares of peatland restored, or the amount of electricity generated from renewable sources in Scotland. More are under development covering issues such as energy efficiency. Sector plans for Energy, and Transport each with targets such as the phasing out of diesel and petrol vehicles by 2032, and sector plans for buildings, Industry, Waste, Land Use, Land-Use Change and Forestry (LULUCF), and Agriculture. The sector plans are used to engage and harness stakeholders in these key areas in the implementation of the policies and plans needed to meet the targets.

---

[29] https://www.scotsman.com/news/environment/scottish-minister-demands-national-endeavour-climate-crisis-1417527

Checklist for nature recovery:

☑ Clear targets and a complementary range of duties established in law.

☑ SMART policies and implementation plans.

☑ Regular monitoring, review and reporting against targets.

☑ Advice from high level independent committee.

☑ Engagement of key sectors through sector plans.

☑ Resources to fund action.

☑ Ministers across government fully engaged in delivering a world leading response.

4.2 The Water Framework Directive

The Water Framework Directive (Directive 2000/60/EC) was adopted on 23 October 2000, and it came into force on 22 December 2000.

The aim of the Directive is to provide water protection and ensure that water is managed sustainably and kept clean for the benefit of nature, water using sectors of the economy and citizens. The core proposal was to manage waters on a river basin, or catchment scale so that all waters were to achieve 'good status' and ecological protection (Good Ecological Status) by a set deadline-2015. If that was not possible it allows interim targets to be set for 2015 and 2021, with full compliance by 2027. It also sets a clear timeframe for the achievement of objectives for protected areas, particularly EU Natura sites and their species and habitats, and designated drinking waters.[30]

Under the Directive water management is based on spatial river basins and River Basin Management Plans (RBMPs) are produced by member states. There are two RBMP's for Scotland, one for the Scotland River Basin District, and the second a cross border RBMP covering the Solway and Tweed area. A combined approach of managing emission limit values and quality standards was introduced.

The Water Environment and Water services (Scotland) Act 2003[31] transposed the Directive into Scots law. SEPA, was appointed the lead authority. Further regulations were introduced in 2011 to control, or make subject to a license, activities which might impact water bodies and their status.[32]

SEPA produces an annual Water Framework Directive Classification for all water bodies in Scotland and publishes these on the Water Classification hub.[33] RBMPs identify the state of the water environment and the pressures affecting the quality of the water environment if it is not reaching Good Ecological Status. It summarises a list of actions to improve condition as necessary. RBMPs also identify measures to improve the condition of water bodies including the removal of barriers to fish migration, river restoration and working with land managers to tackle diffuse pollution.

SEPA published a comprehensive review of Scotland's water environment in 2019, and the progress made on achieving Good Ecological Status. SEPA has adopted the 'one-out, all-out' principle, for determining the overall status of a water body. This means that any individual failing element will

---

[30] https://www.pianc.org/eu-water-framework-directive
[31] https://www.legislation.gov.uk/asp/2003/3/contents
[32] https://www.legislation.gov.uk/ssi/2011/209/contents/made
[33] https://www.sepa.org.uk/data-visualisation/water-classification-hub/

drive the overall result. This ensures that a comprehensive improvement across all elements that comprise the target is required for the condition status to improve. Such an approach could be applied to improve the management and status of SSSI's, priority habitats, and indicator species that comprise Scotland's International commitments to biodiversity and nature.

Checklist for nature recovery:

☑ Clear targets and timetables established in EU legislation transposed into law.

☑ The 'one-out, all-out' principle ensures water bodies comprehensively improve to reach the required ecological status.

☑ Detailed plans that set out the actions required and specialist sector groups to tackle key pressures.

☑ Alignment of resources, regulation and advice.

☑ Regular monitoring and reporting.

☑ Clear ministerial commitment to meet set timescales.

☑ Steady improvement in status achieved.

5. Lessons from other policy areas

This section considers examples from core sectors of public policy beyond the environmental sector, where the adoption of clear strategies and SMART targets has enabled progress to be achieved. Lessons are drawn from these examples that can benefit the development of nature recovery targets.

5.1 Education in Scotland

The Scottish Government has nine National Performance Indicators that relate to education. The indicators assess progress against the National outcomes, which include that people are 'well educated, skilled and able to contribute to society'.[34] At a headline level, three indicators are considered still to be in development, four are maintaining, one worsening and one improving. The cornerstone to guide the education system, at all levels, and to deliver the indicators is the Curriculum for Excellence (CfE).

The CfE 'helps our children and young people gain the knowledge, skills and attributes needed for life in the 21st century'.[35] A refreshed narrative on Scotland's curriculum, which sets CfE within the current context, was published in September 2019.[36]

The CfE has four fundamental capacities aimed at helping children and young people to become successful learners, confident, responsible citizens and effective contributors. As part of their learner journey, all children and young people in Scotland are entitled to experience a coherent curriculum from 3 to 18, in order that they have opportunities to "develop the knowledge, skills and attributes they need to adapt, think critically and flourish in today's world."[37]

---

[34] https://nationalperformance.gov.scot/national-outcomes/education
[35] *Ibid.*
[36] https://scotlandscurriculum.scot/
[37] *Ibid.*

There are eight discrete curriculum areas, but the priorities of literacy, numeracy and health and wellbeing are are seen as being the 'responsibility of all staff'. The CfE integrates priorities across the curriculum.

CfE benchmarks set out clear statements about what learners need to know and be able to do to progress through the levels and to support consistency in teachers' and other practitioners' judgements.[38] These are designed to be concise, and accessible. All schools are expected to report on curriculum level achievement and data is collated for reporting at local authority and national level.

The National Improvement Framework (NIF) was established by legislation setting duties on Ministers.[39] It sets out the vision and priorities for Scottish education that have been agreed across the system and the national improvement activity that needs to be undertaken each year to help deliver those key priorities. This complements the ongoing implementation of the CfE along with two other crucial supporting pillars of the Scottish education system: *Getting It Right for Every Child*[40] and *Developing the Young Workforce*[41] which are the three supporting pillars of the Scottish education system.

Checklist for nature recovery:

☑ A nationally agreed curriculum setting strategic outcomes for the education system.

☑ Legislation setting a duty on ministers to prepare a National Improvement Framework annually.

☑ This sets priorities, detailed performance and attainment targets, local to National reporting, with regular monitoring and reporting.

☑ A duty on ministers to review progress against targets, with resources to address shortcomings provided.

☑ The advice of an international panel of experts to review progress to benchmark performance.

☑ The combination of statutory target setting, duties to produce annual NIF plans, resources provision, and benchmarking offers a useful blueprint for biodiversity and nature recovery.

5.2   Health in Scotland

The Healthcare Quality Strategy for Scotland describes the approach and 'shared focus' to realise the 2020 vision for health and social care. The Strategy recognised the importance of measuring quality and sets out a Quality Measurement Framework (QMF).[42] This identified six key priorities.

A new agency, Healthcare Improvement Scotland[43], was established in 2011 to take forward these priorities. Healthcare is a complex mix of national strategy and outcomes, with 'ends' or state outcomes and means outcomes, such as the 12-week waiting time standard, where 100% of patients

---

[38] https://education.gov.scot/improvement/learning-resources/curriculum-for-excellence-benchmarks/
[39] https://www.legislation.gov.uk/asp/2016/8/section/2/enacted
[40] https://www.gov.scot/policies/girfec/
[41] https://www.gov.scot/publications/developing-young-workforce-fifth-annual-progress-report-2018-19/
[42] https://www.gov.scot/publications/healthcare-quality-strategy-nhsscotland/
[43] More information on Healthcare Improvement Scotland is available at:
http://www.healthcareimprovementscotland.org/

should receive treatment within that timeframe, and Acute Waiting Times for key areas of healthcare. In October 2018, the Cabinet Secretary for Health and Sport launched a £850m Waiting Times Improvement Plan[44] setting out the actions required to ensure future delivery of waiting time standards and guarantees for patients by the spring of 2021.

In 2017, the *Review of targets and indicators for health and social care in Scotland,*[45] known as the Burns review, evaluated the various local and national targets used by NHS Scotland, and reported on performance. This came about following a commitment by the Scottish Government to ensure that its approach to targets will be outcomes based to give the best possible care according to need.

The Burns Review acknowledged Scotland has highly challenging targets for public services and there is 'wide recognition that targets for the NHS have driven improvements by transforming waiting times for patients and improving safety'. Some further conclusions from the Burns report are reproduced below.

> **"1. Indicators and targets have been effective in improving performance in a number of areas of health and social care in Scotland.** However, current thinking suggests that our present system can be improved upon in terms of its effectiveness in improving services."

> **"2. Principles, which should underlie the development of guidelines and targets, have been identified. An important first principle is to understand why indicators and targets are being used…"**

> **"6. It is recommended that we move to a system of indicators and targets which allow improvements across a whole system of care to be tracked**. It is important that frontline staff, managers accountable for performance and the people who use services coproduce the activities which they can then use to drive improvement."

Checklist for nature recovery:

☑ Clear national objectives, and delivery plans supported by targets.

☑ Clear direction from minister to Health Boards.

☑ Detailed mix of means and ends performance indicators.

☑ Strong focus on coproduction of improvements.

☑ Regular monitoring, audit and reviews leading to new initiatives and resources to tackle problems.

☑ Improvements achieved.

---

[44] https://www.gov.scot/publications/waiting-times-improvement-plan/
[45] https://www.gov.scot/publications/review-targets-indicators-health-social-care-scotland/

6. Lessons from international efforts to set nature recovery targets

6.1 New Zealand

The New Zealand Biodiversity Strategy, *Our chance to turn the tide* (2000-2020),[46] set a National Goal to halt and reverse the decline in indigenous biodiversity, maintain and restore a full range of remaining natural habitats and ecosystems, and ensure that viable populations of all native species are preserved. This built on the Resource Management Act 1991, which offered protection across all New Zealand's land and seas to biodiversity. Action Plans for New Zealand's biodiversity were produced, categorised into ten themes.

For each theme a desired outcome describes what needs to be achieved to meet the goals of the strategy. Key issues for biodiversity are summarised, highlighting the gap between current state and management, and the desired outcome. Detailed objectives and actions are then described, covering research needs, legislation, management with key players and responsibilities identified. Governance is supported by a high-level group to give strategic direction, guidance and encourage participation by stakeholders to ensure the conservation and sustainable use of biodiversity.

The key commitments in New Zealand's Biodiversity Strategy are incorporated into government and departmental planning, including Strategic Result Areas (SRAs) Key Result Areas (KRAs), strategic business plans and departmental performance and purchase agreements. The Biodiversity Action Plan[47] was updated in 2016, and it contains some substantial commitments, accompanied by SMART targets.[48]

Examples include:

By 2020 1.3m ha of New Zealand's terrestrial areas and inland waters will be managed to achieve a high level of ecological integrity and a further 3.9m ha will be managed to maintain ecological integrity (located where possible to ensure buffering and connectivity).

One of the main pressures on New Zealand's rich biodiversity, much of which is endemic, is the adverse impact of Invasive Non-Native Species, that threatens species with global extinction. A well-resourced campaign to remove non-native predators by 2050 is underway, 'Predator Free 2050'.[49] Introduced predators are one of the primary drivers of biodiversity loss. Interim targets are also set, with committed spend to remove predators from offshore islands by 2025 with an additional NZ$7m committed (equivalent to £3.5m) per annum, on top of the existing NZ$70m budgeted.

A further NZ$1.1bn has been announced in the 2020 budget[50] to tackle key actions contained in the Biodiversity Action Plan and steps in the Predator Free 2050 programme.

The package is intended to support thousands of people into jobs in these areas, and includes:

---

[46] http://www.environmentguide.org.nz/issues/biodiversity/im:2506/national-policy-documents/#:~:text=New%20Zealand%20Biodiversity%20Strategy%20The%20Biodiversity%20Strategy%20was,a%20framework%20to%20halt%20decline%20of%20biological%20biodiversity.
[47] https://www.doc.govt.nz/nature/biodiversity/nz-biodiversity-strategy-and-action-plan/new-zealand-biodiversity-action-plan/
[48] https://www.doc.govt.nz/nature/biodiversity/nz-biodiversity-strategy-and-action-plan/new-zealand-biodiversity-action-plan/national-biodiversity-strategy-targets-and-actions/
[49] https://www.doc.govt.nz/nature/pests-and-threats/predator-free-2050/
[50] https://www.stuff.co.nz/the-press/news/west-coast/121515048/budget-2020-government-pledges-11b-for-green-jobs

- NZ$433m to restore wetlands and improve the health of rivers and estuaries and the Kaipara Harbour, New Zealand's largest harbour.

- NZ$147.5m for pest control and eradication, including advancing the Predator Free New Zealand vision and working with iwi to prevent the collapse of North Island forests.

- NZ$100m for extensive wilding conifer control on public and private land.

- NZ$40m for pest and weed control on Crown land in riverbeds and control and eradication of aquatic weeds in Lakes Wakatipu and Wanaka.

- NZ$27.5m to get ballooning populations of wallabies in the Bay of Plenty, Waikato, Canterbury and Otago under control.

New Zealand has just completed a consultation on its next strategy for biodiversity that will have targets, with milestones to be achieved by specific dates.[51]

Key lessons for Scotland:

- New Zealand has identified the key pressures on biodiversity in the country and is focussing action on adopting SMART targets, with considerable resources deployed to tackle the problems.
- A cross-government approach and buy in from key stakeholders is being built.
- By restoring native habitats and linking protected areas though large-scale targeted programmes, many benefits are achieved, for water, by helping control diffuse pollution and flooding, by increasing the resilience of endangered native wildlife populations, and by creating places for people to enjoy
- Opportunities have been seized to create eye-catching jobs in the environment sector, including tackling the social, environmental and economic cost caused by Invasive Non-Native Species and enhancing biodiversity through restoration projects.

6.2 The Netherlands

The Netherlands has adopted architecture similar to Scotland for planning and reporting on its action plan for biodiversity, at national, EU and CBD levels. The Netherlands has adopted six national targets to meet the EU Biodiversity Strategy and contribute towards the Aichi targets with some of these being met.[52]

An important step in the delivery of the key actions contained in the NBSAP's was the Nature Pact 2013.[53] This established a new way of delivering a National Ecological Network (NEN). This is an ambitious plan to create and restore wildlife habitat at a landscape scale. The Nature Pact sets a target for delivery of 80,000ha of new nature to be established on farmland and other areas with little current biodiversity value between 2011-2027. The NEN has at its core all the EU Natura sites, and extends over natural, and semi-natural habitat, and agricultural land earmarked for conversion (restoration) to nature.

---

[51] https://www.doc.govt.nz/get-involved/have-your-say/all-consultations/2019/proposal-for-new-zealands-next-biodiversity-strategy/

[52] https://edepot.wur.nl/499170 see p.21

[53] https://www.government.nl/topics/nature-and-biodiversity/legislation-protecting-nature-in-the-netherlands

The Dutch Government has concluded that the NEN is its most significant contribution towards conserving biodiversity, and it contributes to habitat connectivity and is restoring eco-systems across the Country, particularly wetlands. Some 14% of the Netherlands land and fresh waters are designated EU Natura sites, and with the contribution of the NEN, 26% of the Netherlands is to be protected by 2027. To date 108,000ha have been acquired for the realisation of the NEN, and more than 85,000ha of agricultural land has been restored to nature.[54]

This aligns with findings of a study undertaken by the Institute for European Environmental Policy (IEEP) across EU member states which found that broad scale measures to improve the environment at the EU level, such as tackling air and water pollution, were most successful at preventing habitat and species decline if underpinned by well managed protected areas.[55] The study shows that protected areas are cornerstones of both national and international conservation strategies by securing key sites for species conservation and positive habitat management, while also acting as a catalyst and focus for concerted action by stakeholders.

Key Lessons for Scotland:

- The NEN has legal underpinning, with targets agreed between Regional and Federal Government.
- The targets cover area and location and have timetables for delivery.
- Substantial resources are deployed and targeted at landscape scale habitat restoration to address fragmentation by improving connectivity and the recovery of priority ecosystems.

7.   Learning from innovation and best practise in the rest of the UK

7.1 Wales

The Well-being of Future Generations (Wales) Act was passed in 2015 and requires Welsh public sector bodies to maximise their contribution to seven well-being goals.[56] These well-being goals are defined in legislation and address a wide range of sustainability issues, including economic, social, environmental and cultural well-being. Reporting against the well-being goals is done at two levels:

> **1. The Welsh government publishes an annual *Well-being in Wales* report, which summarises progress at a national level against all seven well-being goals.** It includes several features that make it easy for members of the public to use as well as pointing stakeholders to more detailed information. The report includes data from 46 national indicators, which are mapped against the seven well-being goals. There is commentary on the high-level trends suggested by the data, notes on the methodology behind each indicator, and links to the underlying data sets.[57] A high level indicator for biological diversity under the Well-being Act is under development.

---

[54] https://www.clo.nl/en/indicators/en1523-spatial-connection-of-natural-areas
[55] https://ieep.eu/publications/drivers-of-conservation-success-in-the-eu#:~:text=Drivers%20of%20conservation%20success%20in%20the%20EU%20A,nature%20directives%20%28i.e.%20Birds%20Directive%20and%20Habitats%20Directive%29
[56] https://gov.wales/well-being-wales-national-indicators
[57] https://gov.wales/well-being-wales-national-indicators

2. All public bodies in Wales are required to produce a plan that seeks to maximise their contribution to the seven well-being goals and to report progress against these annually. The Environment (Wales) Act 2016 introduced an enhanced biodiversity and resilience of ecosystems duty. The S.6 duty requires that public authorities must seek to maintain and enhance biodiversity so far as consistent with the proper exercise of their functions and in so doing promote the resilience of ecosystems. Each body is encouraged to develop its own set of performance metrics so that it can measure progress in the way best suited to its activities. The Office of the Future Generations Commissioner monitors reported progress and can act if bodies are not making sufficient progress on sustainable development as defined in the Act.[58] The role of the Future Generations Commissioner allows a route for the performance of any public body in Wales to be reviewed against the seven goals in the 2015 Act, and thus a mechanism exists to raise concerns about biodiversity and environmental performance.

There is a Nature Recovery Plan for Wales published in 2015[59] The plan comprised three parts, Part 1 set out "our commitment to biodiversity in Wales, and the issues we need to address, and our objectives for action." Part 2 is an action plan to " set out those actions which have been specifically identified to meet our objectives to reverse the decline in biodiversity". Whilst Part 3 establishes the governance required for the nature recovery plan, and the "roles and responsibilities of everybody involved in the delivery of action for biodiversity". Key amongst these was the establishment of The Wales Biodiversity Partnership which has representation from across Government in Wales together with key agencies, landowners and farmers, NGOs and academic experts. It is driving action to restore biodiversity.[60]

The Environment Act (Wales) 2016 charges National Resources Wales (NRW) to produce a State of Natural Resources Report for each Senedd term, the next is due in 2020.[61] Interim data is produced.[62]

Key Lessons for Scotland:

- Legally binding targets for wellbeing established in the Wellbeing Act.
- A plan, and comprehensive annual reporting against the seven goals is required for all public bodies.
- A duty on all public bodies and agencies to enhance the conservation of biodiversity and resilience of ecosystems.
- A State of Natural Resources Report produced for each Senedd term.
- A strong biodiversity partnership approach with representation from across Government, and key sectors and stakeholders.

7.2 England

Following the referendum decision to leave the EU a comprehensive Bill to transfer legislative powers and establish a legal basis for environmental and biodiversity protection and regulation has been introduced. The UK Environment Bill is at the time of writing partway through its passage through the

---

[58] https://www.futuregenerations.wales/wp-content/uploads/2019/08/2019-08-15-Final-FG-AR-19-Interactive-Links.pdf
[59] https://gov.wales/sites/default/files/publications/2019-05/nature-recovery-action-plan-2015.pdf
[60] https://www.biodiversitywales.org.uk/Nature-Recovery-Action-Plan
[61] https://www.legislation.gov.uk/anaw/2016/3/contents/enacted
[62] https://naturalresources.wales/evidence-and-data/research-and-reports/state-of-natural-resources-interim-report-2019/sonarr-2020/?lang=en

House of Commons.[63] The Bill predominantly covers England but has some measures that affect all parts of the UK.[64]

The Bill sets a strong ambition: 'The case for tackling biodiversity loss, climate change and environmental risks to public health is clear. The accelerating impact of climate change in this country and around the world is of profound public concern, as is the damage to nature with species loss, habitat erosion and the disappearance of cherished wildlife'.[65]

The Environment Bill will help deliver the UK Government's commitment to deliver the vision set out in its 25 Year Environment Plan.

Significantly the bill sets out a process to establish legally binding targets, including for the protection of nature:

> "A new statutory cycle of target setting, monitoring, planning and reporting will help deliver significant, long term environmental improvement and ensure government can be held to account for its actions. Statutory Environmental Improvement Plans (the first being the 25 Year Environment Plan) and a new framework for setting long term legally binding targets will be integral to this cycle. We will set new legally binding targets in four priority areas of the natural environment: air quality; waste and resource efficiency; water and nature. The Environmental Improvement Plans and legally binding targets will be reviewed on a five-yearly basis."[66]

The Bill supplements existing legislation and policy on protected sites and species and introduces new incentives, actions and planning tools. It also lays the foundation for the Nature Recovery Network. In addition to setting the framework for at least one legally binding target for biodiversity in England, it establishes spatial mapping and planning tools to help inform nature recovery and, sitting alongside plans for introducing a new Environmental Land Management Scheme (for farmers and land managers) which will focus public funds on the delivery of 'public goods' including for nature recovery.

The Environment Bill introduces a mandatory requirement for biodiversity net gain in the planning system, to ensure that new developments enhance biodiversity and create new green spaces for local communities to enjoy.[67] The 25 Year Plan had a series of ten goals and related targets.[68]

The target to create or restore 500,000ha of wildlife-rich habitat outside the protected site network, focusing on priority habitats is recognition of the fragmented landscapes, and the issues of

---

[63] https://services.parliament.uk/Bills/2019-21/environment/documents.html
[64] https://www.gov.uk/government/publications/environment-bill-2020/30-january-2020-environment-bill-2020-policy-statement
[65] https://questions-statements.parliament.uk/written-statements/detail/2019-10-15/HLWS8
[66] https://www.gov.uk/government/publications/environment-bill-2020/30-january-2020-environment-bill-2020-policy-statement
[67] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf
[68] https://www.gov.uk/government/publications/25-year-environment-plan/25-year-environment-plan-our-targets-at-a-glance

connectivity, and resilience that were explored in detail by Lawton in his independent report into Making Space for Nature 2010.[69]

In May 2019 Defra published a plan to set indicators to measure progress against the 25-year plan.[70] The National Audit Office have reviewed the approach taken by Defra to the use of monitoring metrics and stated regarding the 25 Year Plan:

> "A significant portion of the goals and targets in the 25-Year Environment Plan are currently too vague to allow government to measure and monitor performance effectively (we assess that less than one-quarter of the 44 targets are entirely specific, measurable and time-bound). If the government does not break down its strategic objectives into clear and measurable long-term and interim goals, it will not be able to use performance data effectively to assess whether it is on track to achieve its ambitions."[71]

The emphasis placed by the National Audit Office on Specific, Measurable and Time-bound targets-the key components of SMART target setting is noteworthy.

Key Lessons for Scotland:

- A formal process to set in law a duty that provides for environmental protection and restoration across government.
- A duty on government to achieve and act 'compatibly' with the objectives and targets.
- Establishing a framework for legally binding targets, including a biodiversity target, and indicators to monitor Environmental Improvement Plans (the first being the 25 Year Environment Plan).
- A legal requirement for biodiversity net gain.
- A Nature Recovery Network with a substantial target led approach to restore and connect habitats beyond the existing protected area network.
- A renewed commitment to bring all protected areas into favourable conservation status.
- A regular audit of targets, and reports to parliament.

8.   Developments at the EU level

The EU has acted at speed to review and refresh its biodiversity strategy, issuing the full document in May 2020, entitled 'Bringing nature back into our lives'.[72]

The Strategy linked investment in nature protection and restoration with recovery from the Covid-19 crisis. The European Green Deal - the EU's growth strategy – has been described by EU Commission President, Ursula von der Leyen, as 'our compass'[73] for Europe's recovery, ensuring that the economy

---

[69] https://www.gov.uk/government/news/making-space-for-nature-a-review-of-englands-wildlife-sites-published-today

[70] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/802094/25-yep-indicators-2019.pdf

[71] https://www.nao.org.uk/wp-content/uploads/2019/01/Environmental-metrics-governments-approach-to-monitoring-the-state-of-the-natural-environment.pdf See p.47

[72] https://ec.europa.eu/environment/nature/biodiversity/strategy/index_en.htm

[73] https://www.euractiv.com/section/energy-environment/news/green-deal-will-be-our-motor-for-the-recovery-von-der-leyen-says/

serves people and society while giving back to nature. The EU is showing ambition to reverse biodiversity loss and lead the world by example and by action by helping to agree and adopt a transformative post-2020 global framework at the 15th Conference of the Parties to the CBD. The EU were also clear that action to date by the EU and member states had not met the targets in its 2010-20 Biodiversity Strategy, to halt the loss of biodiversity and restore 15% by area of damaged or degraded ecosystems. As a result, many species were in unfavourable and declining condition across the EU.[74]

The EU has made the following commitment in its Nature Restoration Plan: "Legally binding EU nature restoration targets to be proposed in 2021, subject to an impact assessment. By 2030, significant areas of degraded and carbon-rich ecosystems are restored; habitats and species show no deterioration in conservation trends and status; and at least 30% reach favourable condition status or at least show a positive trend."[75] The Institute for European Environmental Policy (IEEP) reviewed the EU strategy and published its first impressions in May 2020.[76] The authors state the EU biodiversity strategy to 2030 "is an ambitious, constructive and coherent strategy." The IEEP concluded that the EU Restoration plan, to restore healthy and resilient ecosystems, with binding targets "promises to significantly improve the condition of ecosystems across the EU."

The EU position is now clear, is framed in response to detailed monitoring that demonstrates the 2020 targets were not met, and it raises the sense of urgency and ambition to meet targets, (many of which are SMART) by 2030, and at global level by 2050 to achieve biodiversity recovery.

Scotland has committed to keep pace with EU Environmental standards and laws where it is practicable to do so and provisions that allow Scottish Ministers to keep pace with EU measures are contained in the UK Withdrawal from the European Union (Continuity) (Scotland) Bill currently before Parliament.[77] It is essential that the principle of 'non regression' is applied across environmental policy and law, including that for biodiversity.[78]

9.   Discussion and Analysis

The world faces both a climate emergency, and an unprecedented threat to nature with extinctions, a serious loss of species abundance and distribution, and habitat loss and ecosystems in decline. The drivers of this across Europe and Scotland are well understood, and climate change will exacerbate this. But devising an effective response to meet ambitions set in Scottish and other government strategies, to first halt and restore biodiversity by 2010, then 2020 have so far eluded us. In Scotland we will miss 13 of the 20 Aichi targets, and 1 in 11 species are at risk of extinction according to *The State of Nature Scotland 2019* report. Despite some successes we have failed to meet the goal of halting the loss of biodiversity here in Scotland.

---

[74] https://www.eea.europa.eu/soer https://research4committees.blog/2020/06/08/the-eu-2030-biodiversity-strategy/

[75] https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=COM:2020:380:FIN

[76] https://ieep.eu/uploads/articles/attachments/04fdb634-a7da-478a-bee4-3a048fc784fa/First%20impressions%20of%20the%20EU%20biodiversity%20strategy.pdf?v=63757449847

[77] https://www.euroweeklynews.com/2020/06/19/scotland-must-keep-pace-with-eu-law-after-brexit/

[78] https://portals.iucn.org/library/sites/library/files/resrecfiles/WCC_2016_RES_074_EN.pdf

The Scottish Government has committed to maintain or exceed EU Environmental standards and is transposing four key environmental law principles framed by the EU into Scots Law. A new independent body, Environmental Standards Scotland to uphold Scotland's high environmental standards is being established. Furthermore, a legal right to a healthy environment is being bought into Scots law.[79]

The EU has raised the bar with its 2030 Biodiversity Strategy-setting clearer, ambitious, time bound targets for example protecting 30% of land and fresh waters for nature, 10% strictly so by 2030, and duties placed on member Governments in order to halt the decline in biodiversity and restore ecosystems and habitats, through a detailed plan.

In response, Scotland needs to refresh and reset its approach if nature is to be restored and the outcomes of the forthcoming Environment Strategy met (but note LINK considers it vital that the 2030 ambition in the Governments current biodiversity Strategies must not be abandoned).

The Environment Strategy sets high level, indeed, world leading ambition. It clearly places the threat to nature on a par with that to our climate, recognising that the two are inextricably linked. Adopting a 2045 'end target' for both nature and the climate, encourages joint nature-based recovery plans and a pathway to achieving success in both spheres. This will be especially important for land use, where habitat loss, fragmentation and declining ecosystem function needs to be addressed if the key causes of the decline in nature, and emissions from land use in Scotland are to be tackled.

In summary, this report has found:

- In order to ensure alignment due weight and resources need to be given to tackling the nature crisis, and the evidence suggests this requires parity of approach and legal underpinning with the approach to climate.
- The centrepiece of the Scottish Government's climate approach has been to set a legally binding time bound target, with a statutory plan detailing further targets and timetables, monitoring and regular reporting on progress (in statute), scrutiny with independent advice and more detailed sector plans to drive action e.g. the phasing out of petrol and diesel cars, renewable energy targets, or tree planting.
- The setting of statutory duties and a framework of measurable targets has been employed in other sectors in Scotland with success, for example the implementation of the Water Framework Directive and River Basin Management plans.
- For Education, duties on ministers to set an agreed curriculum, and produce a regularly reviewed National Improvement Framework (NIF) and improvement Plan, with clear priorities, and an annual review cycle to allow scrutiny, has led to major investment to tackle identified needs.
- For Health, 'Burns' found that Indicators and targets have been effective in improving performance in a number of areas of health and social care. And the Scottish Government committed that its approach to targets will be outcome based. Regular reporting, scrutiny and review, against standards has been established in law.
- For England and parts of the rest of the UK, the Environment Bill introduces a comprehensive framework of duties on Ministers to achieve a wide range of statutory targets to restore nature. The 25-year Environment Plan includes many specific measurable targets e.g. restoring 500,000 hectares of land for nature, as well as qualitative measures. Ministers have statutory reporting duties and a duty to deliver the plan.

---

[79] https://www.scotlink.org/first-ministers-advisory-group-call-for-a-right-to-a-healthy-environment-fundamental-for-a-fairer-scotland-say-scottish-environmental-ngos/

- In the Netherlands, the delivery of the NEN was refreshed in 2013, with duties and clear targets and timetables (2027) established to drive recovery and restore large areas for nature. This has empowered Regional authorities, and novel partnerships. Reporting against progress suggests the Netherlands are on track to meet the area and timetable targets.
- In New Zealand, a key driver of biodiversity loss, Invasive Non-Native Species, are to be tackled as a major National Endeavour, with plans and targets to eradicate the problem by 2050 established. The New Zealand Government has pledged significant new resources. Progress will be monitored and reported, and a public campaign has been launched. This is one of a number of SMART objectives in the NZ Biodiversity Strategy (2016) which is supported by performance indicators across Government departments.

10. Conclusion: next steps for Scotland

Scotland has made commitments to halt and restore the loss of biodiversity by 2010 and then, when this was not achieved, by 2020. That target too has not been met. A new approach is needed in order to ensure that the Scottish Biodiversity Strategy, and most importantly nature in Scotland has the support and impact it needs to meet these goals, and those contained in the Environment Strategy. It should have a binding headline target to halt the loss of biodiversity by 2030, and secure nature recovery by 2045, in line with the Climate Change (Emissions Reduction Targets) Scotland, Act. This would put in statute existing commitments, but to be successful experience shows It must be supported by a legislative framework, with clear duties on ministers, to establish a recovery plan with time bound objectives and targets, subject to consultation and approval, a duty to regularly report on progress and implement the necessary actions required.

This would set the building blocks in place to meet the new EU Biodiversity Strategy, and the refreshed Aichi targets. Only by doing this will it be able to 'bend the curve' of biodiversity loss and start the process of recovery required to meet the 2045 apex target. It would also place Scotland at the forefront of nature recovery - matching and potentially exceeding the approach in the Netherlands, New Zealand and England amongst others. It would legitimately be able to claim a world leading approach.

Within Scotland it is recommend a more ambitious legally binding set of targets and milestones is introduced as occurred following the Paris climate agreement. The timeline should align with that for achieving net zero by 2045 (as adopted by the Environment Strategy), but see significant progress by halting the losses and restoring habitats by 2030 as per the Scottish Biodiversity strategy and the EU Biodiversity Strategy, with appropriate interim steps and binding targets.

This should include:

- A new duty on the Scottish Government and public bodies to secure the recovery of nature by 2045.
- A duty to establish a framework to set and agree binding targets for nature restoration and recovery, within 2 years.
- Secondary legislation establishing a comprehensive plan with appropriate SMART targets, subject to regular review and reporting, with scrutiny at a high level
- Expert advice from across the State of Nature partnership should be harnessed to set the nature recovery targets and priorities. If the targets set do not meet this advice the Cabinet Secretary should have to give a statement to Parliament to explain why.

- A legal requirement on the Scottish Government to ensure the SMART targets are met, thereby harnessing the collective effort of all of Scotland and placing nature recovery on a par with action for the climate, and ensuring a break out of the cycle of 'too little too late' that has dogged biodiversity delivery to date. (We note that the SNP 'manifesto' for the UK General Election supported a Westminster Environment Act that sets legally binding targets[80]).
- Key milestones running to 2030 and 2045 aligned with those set in the EU Biodiversity Strategy to 2030, the existing Biodiversity Strategy and any refreshed Aichi targets. The cycle of review might mirror the parliamentary term.

This would ensure appropriate accountability for meeting the targets, including funding the necessary actions and monitoring their implementation. A particular challenge for achieving Biodiversity outcomes, in Scotland and other countries is successfully mainstreaming Biodiversity requirements at sufficiently high level into all sectors of Government so that positive outcomes can be achieved, value added and perverse policies or incentives that damage nature interests are removed, or compensated for if unavoidable.[81] This report considers setting overarching duties and targets in legislation will address this, together with appropriate cross Governmental architecture, and sector plans in key areas such as agriculture.[82]

Nature recovery targets would be expected to contain the following core components:

Ecological ends targets:

1. **Species Abundance** – to improve the status of species, especially those listed as priorities under EU Nature Directives. Success will mean keeping common species common and recovering depleted species populations.
2. **Species Distribution** – keeping widespread species abundant and recovering and/or maintaining species range, avoiding contraction and fragmentation.
3. **Species Extinction Risk** – ensuring that extinctions and the threat of extinctions as a result of human activity have ceased.
4. **Habitat Quality and Extent** – recovery and/or maintenance of the size and good ecological status of natural and semi-natural habitats (which are both particularly wildlife rich and carbon rich).

These ends targets should be assessed for each of terrestrial, freshwater and marine biomes, using the best available data and indicators for each.

Means targets:

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

---

[80] https://docs.google.com/document/d/1uJXxGwntv7-uwXOeNd0uAn0SYLKtAMpDQu6s79VFEuQ/edit
[81] https://www.sciencedirect.com/science/article/pii/S0006320719303179
[82] https://www.cbd.int/mainstreaming/#:~:text=Biodiversity%20mainstreaming%20is%20generally%20underst ood%20as%20ensuring%20that,that%20rely%20and%20have%20an%20impact%20on%20it.