



Scottish
Environment
LINK

Still Delivering the Goods

The role of
environment
charities in
protecting and
enhancing nature
in Scotland.

Still Delivering the Goods

Photo: Sandra Graham

This report was compiled by **Lloyd Austin (@lloydaustin3)** for Scottish Environment LINK's Wildlife Group.

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A note on the names of statutory bodies

This report (and the accompanying **briefing**) references, throughout, the statutory bodies involved in producing and delivering Scotland's Biodiversity Strategy. These include the Scottish Government (and its earlier 'incarnations' as the Scottish Executive and, pre-devolution, the Scottish Office which was part of the UK Government). Scotland's statutory conservation body is, by law, Scottish Natural Heritage (SNH); however, from 2020, SNH began to use a new operating name of "NatureScot". This report seeks to either use the names as applied at the time being referred to, or uses both, appropriately caveated. A similar approach has been adopted for the Forestry Commission Scotland (now Forestry and Land Scotland, and Scottish Forestry).

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A close-up photograph of a red squirrel climbing a tree trunk. The squirrel is positioned vertically, facing downwards, with its front paws gripping the bark. Its fur is a rich reddish-brown color, and its eyes are dark and focused. The tree bark is thick and textured, with large, irregular scales. The background is a soft, out-of-focus green, suggesting a forest setting.

The scale of the challenge faced by Scotland and the wider world to reverse biodiversity decline and restore it for future generations can only be achieved by working together.

Executive Summary

Scotland's biodiversity, or wildlife, is rich and diverse. This richness is often lauded, but not all is well; our wildlife has suffered and declined considerably over the years and remains in danger. At the most basic level, biodiversity is important because we all depend on it for our existence and it is an essential "public good".

This report builds on Scottish Environment LINK's 2008 report *Delivering the Goods* by setting out 15 case studies of work undertaken by Scotland's environment charities to protect and enhance biodiversity, and thus to deliver on the objectives of the Scottish Government's biodiversity strategy. Some of the projects follow on from the 2008 report by showing that projects, planned then, have since come to fruition; others are entirely new and additional. They are the proverbial 'tip of the iceberg' but provide a cross-section of completed, ongoing, and planned work; and are a small selection chosen to represent the wide range of work on all aspects of biodiversity conservation.

The wider context in which biodiversity policy has developed in Scotland and at international level is explored in an accompanying [report](#).

In the context of existing biodiversity policy and likely **developments in 2021**, this report reviews the successes and challenges faced by the case studies. These include their substantial biodiversity delivery, their contribution to climate change objectives and their role in providing employment and well-being.

These case studies demonstrate the track record and plans of Scotland's environmental charities. They include real, proven delivery for species, habitats, and ecosystems. They illustrate the critical role that NGOs play in leveraging external funding to benefit Scotland's environment. They also demonstrate significant contributions to Scotland climate emergency response, with simultaneous and valuable cultural, well-being and socio-economic benefits. Despite the successes, however, this review also highlights several challenges, especially funding. It further reveals the enormous reliance, by Government and public bodies, on the charities' members and donors and charitable funds they can access to achieve their public policy goals.

On funding, the Scottish Government and NatureScot have made some positive progress but more is needed. At a minimum, to address this funding challenge, eNGOs have called on the Scottish Government to transform the Biodiversity Challenge Fund into a large-scale nature fund. **Public investment in these public policy objectives is currently inadequate. There is a clear need for a step change in funding for biodiversity conservation. If this happens, Scotland's environmental charities stand ready to increase delivery for and on behalf of Scotland's people.**

Biodiversity action does not take place in a vacuum; it also needs a supportive and integrated policy framework. The new Scottish Biodiversity Strategy must help to ensure such a supportive policy framework, including:

- **Legally binding targets for nature's recovery.**
- **Delivery of the "30x30 commitment" for protected areas.**
- **Commitment to, and delivery of, a Scottish Nature Network.**
- **Reform of land management incentives and policies on marine use.**

Overall, there remains a need for a step change, a phrase first used in the 2020 *Challenge for Scotland's Biodiversity*, but the **2021 Scottish Biodiversity Strategy must deliver a real and sustained step change**, in both policy actions and funding to enable more and bigger projects of the type illustrated in this report. The scale of the challenge faced by Scotland and the wider world to reverse biodiversity decline and restore it for future generations can only be achieved by working together: neither the public nor private sector can achieve this alone. **Environmental charities and civic society offer a key to success through their sustained action on the ground, working together at scale and over time.**

Scotland's Biodiversity and its conservation



In 2008, Scottish Environment LINK published *Delivering the Goods*¹ which demonstrated, using 14 case studies, that Scotland's environmental charities were playing a key role in the delivery of the Scottish Biodiversity Strategy.

Scotland has one of the most vibrant and active voluntary environment sectors in the world. Our environmental charities represent some 500,000 individuals who subscribe as members, donors, supporters and well over 5,000 active volunteers. This engagement underscores the deep connections between nature and people in Scotland, and the huge enthusiasm for wildlife conservation among the Scottish public. It also illustrates significant employment and spending power provided by the sector.

Table 1: Vital statistics for Scotland's environmental charity sector, based on LINK member survey (2020). These figures represent a minimum.

Direct employment (FTE)	1,300
Volunteers engaged (minimum)	5,600+
Number of members	500,000
Land owned or managed (ha)	173,000
Land advised/influenced (ha)	150,000
Total budget/turnover (£)	100–110 million

This report aims to show that eNGOs' role in delivery remains vital. It also considers how the value of this contribution can be maximised to enable Scotland to halt and reverse the loss of biodiversity on land and in its seas.

Scotland's wildlife

Biodiversity is defined as the variety of all forms of life, from genes to species, through to the broad scale of ecosystems. It is a scientific and legal term for the wildlife around us, or our natural world.

Scotland's biodiversity, or wildlife, is rich and diverse. This richness is often lauded – it is used to promote our tourism industry, our food and drink products, our national identity. However, despite these positives, not all is well – our wildlife has suffered and declined considerably over the years and remains in danger.

The most recent, most comprehensive, and widely accepted description of Scotland's current wildlife resources is the *State of Nature 2019* report.²

This showed that since recording began 49% of Scottish species have decreased, 28% have increased and that nature is changing rapidly, with 62% of species showing strong changes. Of the 6,413 species found in Scotland that have been assessed 11% have been classified as threatened with extinction from Scotland. *The State of Nature* data show that the abundance and distribution of Scotland's species has on average declined over recent decades and most measures indicate this decline has continued in the most recent decade. There has been no let-up in the net loss of nature in Scotland.

These changes across recent decades must also be viewed in the context of longer-term historical declines. *The State of Nature* reports take 1970 as the earliest baseline year, as this is as far back as statistically comparable and systematic data are available. However, people have been shaping landscape and wildlife for millennia, and some of our key habitats, in particular native woodlands, underwent massive reductions long before that date. This historic context is important in framing the more recent changes that can be accurately measured.



¹ <https://www.scotlink.org/publication/delivering-the-goods/>

² https://scotlink.org/files/state-of-nature-Report-Scotland_.pdf

“We should preserve every scrap of biodiversity as priceless while we learn to use it and come to understand what it means to humanity.”

Prof Edward O Wilson³

Why biodiversity is important

At the most basic level, biodiversity is important because we all depend on it for our existence. While, for some, wildlife is simply something watched on television, the reality is that the air we breathe, the water we drink and the food we eat all ultimately rely on biodiversity. Some examples are obvious: without plants there would be no oxygen and without bees to pollinate there would be no fruit or nuts. Others are less obvious – sand dunes and saltmarshes provide protection from coastal storms, while trees absorb air pollution in urban areas.

These “ecosystem services” delivered by biodiversity, such as crop pollination, water purification, flood protection and carbon sequestration, are vital to human well-being. If money is a measure, globally these services are worth an estimated US\$125–140 trillion per year; that is, more than one and a half times the total global GDP.⁴ This value of nature has been both confirmed, and underlined by the recent Dasgupta Review, commissioned by the UK’s Treasury.⁵

Biodiversity is also an essential part of the solution to climate change. Nature-based climate solutions can deliver at least 30% of the emissions reductions needed by 2030.⁶ Protecting biodiversity plays a crucial part in achieving these emissions reductions. Globally, the destruction of forest ecosystems contributes 11% of all greenhouse gas emissions.⁷ Trees and plants also store carbon in their tissue, making it even more necessary to protect them. Some ecosystems, such as peatlands and native woodland, are particularly good at storing carbon with natural soils as key below-ground stores. Forests and wetland ecosystems also provide crucial buffers to extreme storms and flooding related to climate change – thus, they contribute to both mitigation and adaptation.

Biodiversity also provides or underpins multiple social and economic benefits. Again, at a basic level, our sea fisheries industry relies on harvesting from wild fish populations, that in turn depend on healthy marine ecosystems. On land, our farming, and wider food and drinks industries, including whisky, depend on soils and water as well as pollinators. It is also the basis for much of our tourism industry – no VisitScotland advert is complete without an upland view or a soaring eagle!

As well as these concrete benefits, biodiversity also provides many quality-of-life benefits. The wellbeing generated across society through close contact with nature, is perhaps more evident now, following Coronavirus lockdowns, than in living memory. From urban greenspace to mountain peaks, it provides places to enjoy, to relax, to take healthy exercise and to learn. Its cultural and aesthetic qualities are also important, having inspired writers, poets, painters, and photographers.⁸ Yet despite biodiversity’s intrinsic value and its fundamental importance for humans, species and habitats are highly threatened by human activities and continues to be lost. This is estimated to reduce global GDP by 3% each year.⁹

In short, therefore, biodiversity is an essential “public good”. The organisations behind this report were founded to protect and enhance this public good (“the advancement of environmental protection or improvement” is a recognised charitable purpose¹⁰) and at world, European, UK and Scottish levels, governments have developed laws and policies to deliver this public good.

3 https://www.nsf.gov/news/special_reports/medalofscience50/wilson.jsp

4 <https://www.oecd.org/environment/resources/biodiversity/Executive-Summary-and-Synthesis-Biodiversity-Finance-and-the-Economic-and-Business-Case-for-Action.pdf>

5 <https://www.gov.uk/government/publications/final-report-the-economics-of-biodiversity-the-dasgupta-review>

6 <https://www.pnas.org/content/114/44/11645>

7 <https://www.conservation.org/stories/11-climate-change-facts-you-need-to-know>

8 For instance: <http://www.mairimcfadyen.scot/blog/2015/8/2/how-scotlands-environment-has-shaped-scotlands-culture>

9 <https://www.eea.europa.eu/soer/2015/europe/biodiversity>

10 [https://www.legislation.gov.uk/asp/2005/10/contents\(s.7\)](https://www.legislation.gov.uk/asp/2005/10/contents(s.7))

Scotland's Biodiversity and its conservation



Biodiversity in law and policy

The protection of wildlife, in some form, has been part of public policy and law for many years, at all levels – Scottish, UK, European and global. The first comprehensive, global agreement on biodiversity was the Convention on Biological Diversity.¹¹ While some UK or Scottish legislation date from the 19th or early 20th centuries, more recent law and policy has set out the Scottish Government's policies and actions to implement the Convention on Biological Diversity.

Central to this implementation is the Scottish Biodiversity Strategy, which currently consists of three key documents: *Scotland's biodiversity – it's in your hands* (2004); *2020 Challenge for Scotland's Biodiversity* (2013); and *Scotland's biodiversity: a route map to 2020* (2015).¹² Further background and analysis of the strategy, as well as its implementation, are set out in LINK's background report.

2021 will be an important year for the development of biodiversity policy. In 2021, the delayed 15th Conference of the Parties to the Biodiversity Convention will take place in Kunming, China. Preparatory work for this conference for this convention is already underway, both internationally and in Scotland. The Scottish Government's recent **Statement of Intent** includes a commitment to a new Biodiversity Strategy. Both these initiatives will result in new targets for nature's restoration by 2030, internationally and in Scotland.

To inform these processes, this report seeks to demonstrate the breadth and extent of work that has been, or is being, undertaken by environmental charities to protect and enhance our biodiversity. It underlines therefore their vital contribution – as well as highlighting the challenges they face.



¹¹ <https://www.cbd.int/convention/>

¹² <https://www.gov.scot/publications/scotlands-biodiversity---its-in-your-hands/>; <https://www.gov.scot/publications/2020-challenge-scotlands-biodiversity-strategy-conservation-enhancement-biodiversity-scotland/> and <https://www.gov.scot/publications/scotlands-biodiversity-route-map-2020/>

Case studies: an introduction

In the context of the state of nature and biodiversity policy described above, this report presents 15 case studies. These demonstrate the breadth and extent of work that has been, or is being, undertaken in Scotland by environmental charities to protect and enhance our biodiversity.

They are the proverbial ‘tip of the iceberg’ but provide a cross-section of completed, ongoing, and planned work. This small selection has been chosen to represent the wide range of work on all aspects of biodiversity conservation from work focussed on individual species, groups of species, or habitats, to ecosystem restoration. They also include work focused on or involving community engagement, education, interpretation, or the provision of access to nature, all of which are important to connect people to nature, improving their understanding of its importance and benefiting personal wellbeing. Finally, these projects also demonstrate the importance of citizen science and monitoring – both for its own sake, improving people’s connection and understanding, but also to provide a robust evidence base for conservation action.

Each case study sets out the project’s aims, its successes, and achievements. However, each project faces challenges: foremost among these is often the issue of funding. Taken together, and at a minimum, they deliver a total investment of over £30 million, including a considerable proportion levered into Scotland from European or UK sources.

The case studies also show how they have made (or will make) contributions to the achievement of public policy objectives, particularly how they relate to the objectives of the Scottish Biodiversity Strategy (SBS). To show this, each project’s activities are described against the three aims set out in *2020 Challenge for Scotland’s Biodiversity*¹³, which are:

- 1** protect and restore biodiversity on land and in our seas, and to support healthier ecosystems.
- 2** connect people with the natural world, for their health and wellbeing and to involve them more in decisions about their environment.
- 3** maximise the benefits for Scotland of a diverse natural environment and the services it provides, contributing to sustainable economic growth.

Thus, these 15 projects, a small subset of what environmental charities can, and do, deliver for biodiversity, demonstrate a level of investment that is significant. They bring not just benefits to people and the environment, but they also make contributions to the achievement of public policy objectives.



13 <https://www.gov.scot/publications/2020-challenge-scotlands-biodiversity-strategy-conservation-enhancement-biodiversity-scotland/>

Case Study 1



COMPLETED

Cairngorms Wild Plants Project Plantlife Scotland



Photo: Plantlife

1

Cairngorms Wild Plants Project Plantlife Scotland



Background

The Cairngorms Wild Plants project was led by Plantlife Scotland, with funding provided by Cairngorms LEADER and the Cairngorms National Park Authority (CNPA), with in-kind support from Scottish Natural Heritage (now NatureScot). The project was overseen by a steering group made up of Plantlife Scotland, SNH and CNPA.



Project aims

The project aimed to deliver a 3-year programme to secure the habitats of arctic alpine flora and Caledonian pinewood in response to direct loss, fragmentation and unsuitable management practices, which are isolating and threatening the future of these plant communities.



Project Timescale

November 2016 to September 2020.



SBS Objectives

The aims from the *2020 Challenge for Scotland's Biodiversity*:

1

To protect and restore biodiversity on land and in our seas, and to support healthier ecosystems.

Specific tailored advice was offered to land managers. Feasibility studies for further conservation interventions, such as translocations, were carried out.

2

To connect people with the natural world, for their health and wellbeing and to involve them more in decisions about their environment.

Volunteers were trained, mountain leaders and guides developed skills in understanding and interpreting wild plants, communities took part in events and volunteering activities, and the importance of the Cairngorms National Park for wild plant conservation was communicated widely and with lasting results for communities and visitors.

3

To maximise the benefits for Scotland of a diverse natural environment and the services it provides, contributing to sustainable economic growth.

The project contributed to highlighting, protecting, and enhancing the biodiversity for National Park's visitors and tourists. It also encouraged land management businesses to operate sustainably.





Project Summary

- > More land managers understanding and adopting land management options that deliver for plants, which promotes the conservation and increased resilience of plant communities in the Cairngorms.
- > A self-sustaining volunteer network to improve plant monitoring and contribute data to increase knowledge on distribution and health of key plant communities.
- > Land managers are better supported by local communities and have access to resources and advice.
- > Rangers, mountain leaders and instructors are more aware about the plant communities of the Cairngorms and confident in delivering activities to the groups they lead.
- > Local communities and visitors identify new understanding and enjoyment of the habitats. This leads to increased awareness of wild plants and people gaining benefits through knowledge, training, and leading active lifestyles.



Climate Impacts

Project advisory work has increased the resilience of key habitats to climate change. Translocation feasibility studies are now a major part of a subsequent project, which reduce species population fragmentation and increase their resilience to change. Increased understanding amongst mountain users of the fragility of mountain plant communities in the face of climate change through diverse communications channels supported behaviour change.



People Information

Direct employment: **1 full time project officer**

Wider engagement:

Land Managers: **230**

Flora Guardians (Volunteers): **35**

Volunteers (other): **51**

Group Leaders: **128**

General Public: **474**

First-time Volunteers: **7**

The number of unique participants is recorded as **889** (far exceeding the original target of 500).

1 Cairngorms Wild Plants Project

Plantlife Scotland



Successes and achievements

- > 84 events, engaging with 889 people across the Park, equivalent of 5% of the entire population of the Cairngorms National Park
- > Participants included land managers, outdoor leaders, volunteers, and those with a general interest in conservation.
- > Events included general awareness raising, volunteer recruitment, training individuals in the identification and management of arctic alpine flora and Caledonian pinewoods, and plant monitoring and survey activity.
- > Event partners included Mountains and the People, University of Highlands & Islands, Anagach Wood Trust & Ranger Services
- > The volunteer programme engaged 35 individuals, 7 as first-time volunteers.
- > Volunteer skills gained in a training environment were transferred directly into conservation work, interpretation activities and leading groups.
- > 18 sub-projects provided support and advice with land managers, which enabled meaningful knowledge transfer and practical support throughout the National Park.
- > Species and habitats covered included twinflower but also covered pinewoods and grasslands.
- > Community capacity and knowledge was strengthened through the creation of complementary resources, including three guided walk leaflets, two outdoor leader resources, land management toolkits, a project film and volunteer resources.

Photo: Plantlife



Issues and challenges

A small staffing resource meant that dealing with volunteer enquiries and accommodating volunteer requests was challenging and restricted ongoing land management advice to landowners. The project achieved a huge amount with little in the way of budget or resources and demonstrated the need for further work.



Next steps

NLHF funding, with match funding from CNPA, for a new project in the Cairngorms, Cairngorms Rare Plants and Wild Connections, will take forward the work started by this project. This will employ a project manager and a project officer and will build on the successes of Cairngorms Wild Plants.



Funding

The project had a total budget of over **£200,000**, with contributions including:

LEADER:	£140,507
CNPA:	£18,027
Plantlife in-kind:	£28,487
Scottish Natural Heritage in-kind:	£4,680
Volunteers in-kind:	£9,400



Further information

<https://www.plantlife.org.uk/uk/blog/cairngorms-wild-plants-project-update>

<https://www.plantlife.org.uk/scotland/our-work-scotland/projects-scotland/cairngorm-wildflowers-project>

https://www.youtube.com/watch?v=ws8V7WlmS_A&feature=youtu.be

Case Study 2



COMPLETED

Slamannan Bog Restoration Project Buglife Scotland



Photo: Scott Shanks

2

Slamannan Bog Restoration Project Buglife Scotland



Background

This project was part of the **EcoCoLIFE project** which was a partnership between NGOs, SEPA and SNH (the coordinating beneficiary; now known as NatureScot). Buglife led on the bog restoration work at Fannyside Muir.



Project aims

The Slamannan Bog Restoration Project aimed to restore at least 150 hectares (ha) of degraded raised bog habitat at Fannyside Muir and improve the ecological coherence of Fannyside Muir with the wider Slamannan Plateau.



Project Timescale

September 2014 to November 2018.



SBS Objectives

The aims from the **2020 Challenge for Scotland's Biodiversity**:

1

To protect and restore biodiversity on land and in our seas, and to support healthier ecosystems.

Over 850 species have been recorded on the bog. The work to restore the peatland has seen increases in the populations of Black darter dragonflies and the ground beetle *Agonum ericeti* – indicator species of increased connectivity on peatlands.

2

To connect people with the natural world, for their health and wellbeing and to involve them more in decisions about their environment.

This project engaged with numerous volunteers in ditch blocking, scrub clearing and biological recording. A programme of community engagement activities was also delivered.

3

To maximise the benefits for Scotland of a diverse natural environment and the services it provides, contributing to sustainable economic growth.

The restoration of peatland habitats such as at Fannyside Muir bring multiple benefits, particularly through carbon sequestration and water retention. This helps our environment to be more resilient to climate change.





Project Summary

The Slamannan bog restoration project has restored over 230 hectares of degraded lowland raised bog habitat in the Central belt of Scotland, with a focus on an area of the Slamannan Plateau called Fannyside Muir.

Fannyside Muir is a large area of peatland just west of the town of Cumbernauld in the Scottish Central Belt. The site has been subject to wide-ranging and long-term adverse management, including drainage for commercial peat extraction and historical afforestation.

Part of the restoration site is within the Slamannan Plateau Site of Special Scientific Interest and is designated as a Special Protection Area, as Taiga bean geese use it as a winter roosting site.

With the help of volunteer work parties and specialist contractors, over 4,300 dams have been installed on drainage ditches to retain water in the bog and allow recovery of peat-forming Sphagnum mosses. Twenty-six hectares of the driest and most degraded parts of Fannyside Muir have been 'cell-bunded'. This technique creates a landscape of shallow pools, a few inches deep, on the surface of the bog and blocks small ditches and cracks in the peat. Dragonflies and wading birds have colonised these pools almost immediately. Over 30ha of conifers and 54ha of birch scrub and gorse were also removed to prevent damage to the bog surface which contributes to drying out of the peat.



Climate Impacts

Peat soils in Scotland contain almost 25 times as much carbon as all other soils in the UK. The carbon stored in Scotland's soils, notably peat and peaty soil, is equivalent to over 180 years of greenhouse gas emissions from Scotland at current emission rates. Healthy peatlands keep carbon locked up and continue to absorb more carbon. Degraded bogs emit carbon dioxide and other greenhouse gasses, which contribute to climate change. Restoring peat-forming habitat that has previously been damaged ensures that the bog remains as a long-term carbon sink and significantly reduces greenhouse gas emissions.

Raised bogs also help maintain the quality of water by absorbing atmospheric pollutants and retaining carbon, which can significantly pollute streams downstream of degraded bogs. Healthy bogs function as sponges, regulating and slowing the movement of rainwater which helps to prevent flooding.



People Information

Direct employment: There was one full time post to deliver this project.

Volunteers: Contributed 102 days to practical conservation work, such as ditch blocking, scrub clearing) or monitoring (invertebrate surveys, hydrology surveys, etc.

Wider engagement: A programme of community engagement activities was also delivered. This included illustrated talks, guided walks, and workshops. In addition, the project was featured at the LIFE conference '**Bringing bugs back to LIFE**' in September 2018 and the LIFE webinar '**Stepping up to save bugs**' in June 2020.



Successes and achievements

The overall outcome was the restoration of over 230ha of degraded peatland and a 31% increase in connectivity with the surrounding area, by the deployment of:

- > **4,300** dams installed on drainage ditches.
- > **26** hectares of cell bunding to re-wet driest areas.
- > **30** hectares of conifers and **54** hectares of birch and gorse scrub removed.
- > Over **850** species recorded, including **35** invertebrate species of conservation concern.
- > Over **100** volunteer days.

Further work, led by Buglife, is now underway on the Slamannan Plateau to restore nine more degraded lowland raised bogs.



Issues and challenges

The biggest challenge was scheduling the restoration work to prevent disturbance of other wildlife interests. Most of the site is a SPA for Taiga bean geese which meant that work could not happen near the roost pools when the geese were present through the winter months. The presence of other breeding birds and reptiles meant that restoration work during the summer was also difficult. This left a small window in the spring and autumn when work could take place across the whole site.



Funding

The project had a total budget of **£323,784**, with contributions including:

LIFE+:	£109,059
WREN:	£193,446
SNH (Peatland Action):	£21,279 (Third party contribution for WREN funding)



Further information

<https://www.buglife.org.uk/projects/slamannan-bog-restoration/>
<https://cdn.buglife.org.uk/2019/07/Fannyside-Report-year-4.pdf>
<https://www.ecocolife.scot/>

Case Study 3



COMPLETED

Scottish Beaver Trial & Scottish Beavers Reinforcement Project

Royal Zoological Society of Scotland
and Scottish Wildlife Trust



Photo: Philip Price

3

Scottish Beaver Trial & Scottish Beavers Reinforcement Project Royal Zoological Society of Scotland and Scottish Wildlife Trust



Background

The Scottish Beaver Trial was a partnership of the Royal Zoological Society of Scotland (RZSS), Scottish Wildlife Trust (SWT), and Forestry and Land Scotland, supported by SNH (now NatureScot). The subsequent Scottish Beavers Reinforcement project was a partnership of the same four bodies, with assistance also being provided by the Heart of Argyll Wildlife Organisation.

The Reinforcement grew out of the Scottish Beaver Trial, which ran from 2009–2014, and saw 16 beavers from Norway released into Knapdale Forest, Argyll. In 2017, the two lead partners in the Trial, RZSS and SWT, reunited for the Reinforcement project, which ran from 2017–2020.



Project aims

The Scottish Beaver Trial had five main aims:

- 1 to study the ecology and biology of the Eurasian beaver in the Scottish environment.
- 2 to assess the effects of beaver activities on the natural and socio-economic environments.
- 3 to generate information during the proposed trial release that will inform a potential further release of beavers at other sites with different habitat characteristics.
- 4 to determine the extent and impact of any increased tourism generated through the presence of beavers.
- 5 to explore the environmental education opportunities that may arise from the Trial itself and the scope for a wider programme should the Trial be successful.

The aim of Scottish Beaver Reinforcement project was to release beavers into the majority of suitable release points within Knapdale with a view to having the following during the three-year period:

- 1 At least one Norwegian-cross-Bavarian pairing that successfully breed.
- 2 An additional two pairs establish and breed as a direct result of the reinforcement.
- 3 The overall population equate to a minimum of five breeding pairs/family groups.



Project Timescale

The Scottish Beaver Trial was launched in 2009 and was completed in 2014. The Reinforcement project launched in September 2017 and ended, with the sign-off of the final report, in December 2020.



Photo: Ed Watson



SBS Objectives

Photo: Philip Price



The aims from the *2020 Challenge for Scotland's Biodiversity*:

- 1** To protect and restore biodiversity on land and in our seas, and to support healthier ecosystems.

The re-establishment of a viable population of a once-extinct native species is clearly a project that restores biodiversity. The fact that the beaver is a keystone species that creates and enhances wetlands means that it contributes to the health of the wider ecosystem.
- 2** To connect people with the natural world, for their health and wellbeing and to involve them more in decisions about their environment.

The project's engagement with land managers, neighbours, the local tourist industry and with schools/colleges meant that it enabled considerable numbers of people to connect with nature.
- 3** To maximise the benefits for Scotland of a diverse natural environment and the services it provides, contributing to sustainable economic growth.

The project, and the wider engagement about beavers, promoted the benefits of a natural environment, including the ecosystem services derived from natural functioning wetlands.



Project Summary

The Trial was completed in 2014, with 16 beavers released and then monitored intensively for four years. This resulted in the establishment of a beaver population in Scotland, and the eventual declaration of beavers as a European protected species by Scottish Government in 2019.

The Reinforcement project is also complete, with 21 beavers of Bavarian genetic origin translocated into Knapdale. Three out of the four stated targets are complete. The only target yet to be met is that of at least one Norwegian-cross-Bavarian pairing successfully. This will take time but is likely to happen as Norwegian and Bavarian origin kits grow up, disperse, and meet.

Overall, the number of beavers in Knapdale has increased from ~8 to ~20–30, and the genetic diversity in the population has been boosted significantly, making it more likely the population will persist in the long term.



Climate Impacts

There is evidence that the presence of beavers in a river catchment, along with the naturally functioning wetlands that they help create, can help mitigate the flooding that results from climate change.



People Information

Scottish Beaver Trial:

- > **Direct employment:** Various members of staff involved at different stages of project. Up to 5.5FTE at the peak, and 3.5FTE by end. Additionally, up to 14 support staff from various partner organisations gave various amounts of time.
- > **Volunteers:** 61 volunteers contributed >11,000 hours of time.
- > **Wider engagement:** Between May 2009 and May 2014, the project delivered the following headline educational outputs:
 - > 31,100 people engaged in SBT walks, talks, events, and education sessions, including:
 - > 5,343 children and 2,092 adults engaged in the formal education programme, and:
 - > over 200 schools and colleges visited by SBT partner education staff (nursery, primary, secondary, tertiary and continued education).

Scottish Beavers Reinforcement:

- > **Direct employment:** 1 FTE plus support from 20 people across various partner organisations and 15 volunteers.
- > **Wider engagement:** Community engagement via stakeholder events – three times through project (20–50 people each time).
- > Numerous talks to local interest groups, university classes, both locally and nationally.

Photo: Ed Watson

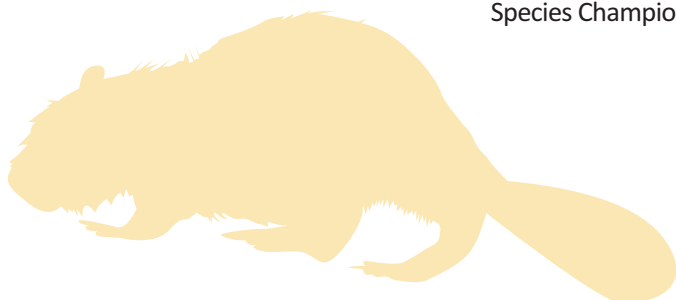


Successes and achievements

Primarily, the number of beavers in Knapdale has increased from ~8 to ~20–30, and the genetic diversity in the population has been boosted significantly.

Additionally, a huge amount of advocacy work around the importance and benefits of beavers by both lead partners via their respective membership and media teams, and through visitors to RZSS' two zoos has been achieved. Community engagement in the local area with an annual engagement event as part of the reinforcement was also a key component. Partners also participated on the Scottish Beaver Forum, feeding into policy and management of beavers in Scotland. Numerous scientific publications were produced as well as two final reports (see overleaf).

Scottish Beavers work was recognised with an RSPB/NatureScot Nature of Scotland Species Champion award in 2019.



3

Scottish Beaver Trial & Scottish Beavers Reinforcement Project Royal Zoological Society of Scotland and Scottish Wildlife Trust

Photo: Philip Price



Photo: Ed Watson



Issues and challenges

The main challenge in the field was the difficulty of monitoring beavers post release, making it difficult to establish the fate of individual animals or make precise population estimates in either project. Camera trap footage helped with this but identifying and following the fate of all beavers in the population proved impossible.

A second challenge was addressing issues raised by the unauthorised release of beavers elsewhere in Scotland. Controversy about that process, including issues of consultation, and flood and burrowing damage, led to anti-beaver sentiment. This has, in part, contributed to the Scottish Government's current position of no further translocations outside of range for the foreseeable future. The Scottish Beaver Forum has made great strides in facilitating dialogue between a variety of stakeholders for beavers in Scotland, but issues around management and, particularly, use of lethal control, remain to be resolved.

The main challenge to the future of beavers in Scotland is the establishment of new populations that will allow the population to grow, persist, and bring benefits to areas suited to beaver and human co-existence. The Knapdale projects show very clearly that beavers can bring huge benefits in terms of wetland habitat creation, biodiversity increases, and local tourism, if released in suitable areas and subject to appropriate proper consultation.



Funding

Scottish Beaver Trial:

Total cost: **£1,573,018**, of which:

- > Biffa Award **£1,088,108**
- > **£184,214** core contribution from RZSS and SWT.
- > Remainder from fundraising efforts of RZSS and SWT to bring in additional funding from their respective members, People's Trust for Endangered Species, Mammals Trust, and others

Scottish Beavers Reinforcement:

Total cost: **£156,085** equally split between core funds of RZSS and SWT provided by their members and supporters; with additional funds from players of People's Postcode Lottery, the Postcode Planet Trust, Clark Bradbury Charitable Trust, D'Oyly Carte Charitable Trust, Cragnish Trust, and the Hugh Fraser Foundation.



Further information

<https://www.scottishbeavers.org.uk/beaver-facts/publications/>
https://issuu.com/rzss/docs/scottish_beavers_reinforcement_report

Case Study 4



COMPLETED

Protecting and restoring the Shiant Isles SPA through rat removal RSPB Scotland



Photo: Aidan Macconnick



Background

This was a partnership project between RSPB Scotland, Scottish Natural Heritage (SNH)¹⁴ and the Nicolson family, who have been custodians of the Shiant Isles for three generations. The Shiant Isles are one of the most important breeding colonies for seabirds in Europe – around 10% of UK puffins and 7% of UK razorbills breed on the islands every year.

Black rats were thought to have arrived on and colonised the Shiant Isles from an 18th century shipwreck. Their presence affected the breeding success of nesting birds and discouraged species like Manx shearwaters and European storm petrels from colonising. Such impacts on introduced predators occur on numerous islands around Scotland and the world.



Project aims

- 1 Eradicate black rats *Rattus rattus* at the Shiant Isles, and establish biosecurity at the islands
- 2 Actively promote colonisation by Manx shearwaters and European storm petrels at the islands
- 3 Audit and improve biosecurity practices for the UK's seabird SPAs
- 4 Build UK expertise in invasive species eradications for island restoration, and provide a foundation for the **Biosecurity for LIFE Project**.



Project Timescale

2014 – 2018



SBS Objectives

The aims from the **2020 Challenge for Scotland's Biodiversity**:

1

To protect and restore biodiversity on land and in our seas, and to support healthier ecosystems.

The removal of the threat posed by black rat predation to nesting seabirds at one of Scotland's most important seabird islands helped protect and restore this important seabird population and island ecosystem. The expertise built in this project is being 'exported' to apply biosecurity and INNS eradication across Scotland and the UK under the Biosecurity for LIFE Project.¹⁵

2

To connect people with the natural world, for their health and wellbeing and to involve them more in decisions about their environment.

The employment, volunteering and community engagement aspects of the project connected many individuals and communities with their natural world. Ongoing engagement and tourism will further this.

3

To maximise the benefits for Scotland of a diverse natural environment and the services it provides, contributing to sustainable economic growth.

The project contributed to highlighting, protecting, and enhancing the biodiversity on the islands and the surrounding marine environment for all those visiting, using and travelling over the seas of the Minch.



¹⁴ Now known as "NatureScot".

¹⁵ <https://biosecurityforlife.org.uk/>



Project Summary

- The project successfully eradicated the black rat population in the Shiant Isles during winter 2015–16.
- Long-term biosecurity surveillance measures were put in place in the Shiant Isles in 2016.
- Biosecurity audit of the UK's seabird islands was completed in 2016 and training workshops were delivered to island managers during 2017–2018.
- Nest boxes for Manx shearwater and European storm-petrel installed and call playback attraction was deployed.
- Project legacy evolved and expanded into Biosecurity for LIFE programme across seabird SPA islands, focusing on preventing future non-native predator impacts.



Climate Impacts

Secure and productive breeding sites make seabird populations considerably more robust in the face of a changing climate that will, undoubtedly, affect food supplies. Equally, a thriving seabird population is a good indicator of healthy seas in the surrounding area – themselves an important store and sink for carbon emissions.



People Information

Direct employment:

- 10 people were employed by the RSPB on seasonal contracts to carry out ecological surveys on the islands to measure the impact of the eradication.
- One project manager was employed by the RSPB during 2014–2018, and a maternity cover for this post was in place for 15 months during 2015–2016.
- Through sub-contracting of boat operators and the eradication operator, a further seven people were employed in project activities.

Volunteers:

- 14 volunteers were recruited locally by the RSPB on Harris to assist in the making of the 1000+ bait stations needed in the eradication.
- 15 volunteers were recruited across the UK by WMIL (the contractor responsible for carrying out the eradication) to take part in the eradication operation on the Shiant Isles and a further 3 volunteers were recruited by the RSPB to assist in the follow-up rat surveillance.

Training was delivered by the project for:

- A total of 39 conservation managers and volunteers living and/or working on the UK's seabird island SPAs.

Wider engagement: The local community in the Outer Hebrides were able to attend the end of project conference held in Stornoway in September 2018; a total of 48 invited UK and international delegates and around 100 local residents attended the conference.



Successes and achievements

- 1 European storm-petrel breeding attempt was confirmed in 2017, and successful breeding was confirmed in September 2018 when a chick responded to call playback.
- 2 The productivity rate of breeding puffins was consistently higher during 2016–2018 than that recorded before the rat eradication during the 2015 breeding season.
- 3 39 conservation managers and volunteers were trained in the implementation of island biosecurity measures.



Photo: Aidan Maccornick



Issues and challenges

- The feasibility study for the eradication had been completed in 2013, and some significant changes had occurred by the time the eradication was set to take place, including:
 - Changes to regulations meant that the recommended rodenticide was no longer available for use and an alternative had to be found.
 - White-tailed eagles had established on the islands in 2014 and the risk of secondary poisoning had to be considered.
 - Storms in January 2015 had reshaped the boulder causeway between the two main islands in the group, making it impassable around each high tide and presenting additional logistical challenges to the eradication.
 - Delays in recruitment at the start of the project, and the reduction in the size of the originally planned team resulted in heavy workloads during the preparatory phase of the eradication (2015).
 - The cost of a vessel required for operating between the islands at the Shiant Isles had originally been underestimated, meaning that boat work was tendered out to existing local boat operators rather than being undertaken by project staff. Remote rope access training was identified as a further, previously unidentified requirement. Therefore, the overall cost of the winter operation increased.
 - Severe winter weather disrupted the baiting operation and plans had to be adapted around storms and rough sea conditions.

Despite these challenges, the project successfully achieved all of its objectives and targets.



Funding

The project had a total budget of over **€1,120,699** (around £1 million), with contributions including:

- EU LIFE contribution: **€558,044** (around £500k)
- Co-financing from SNH: **£200,000**
- Other funding comprised of private donations and staff time contributions by the RSPB.



Further information

<https://ww2.rspb.org.uk/our-work/conservation/shiantisles/work/index.aspx>

https://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_proj_id=5018

<https://biosecurityforlife.org.uk/>

Case Study 5



ONGOING



COMPLETED

Woodland Pasture at Glen Finglas Woodland Trust Scotland



Photo: Philip Formby/MTML



Background

Since publication of *Delivering the Goods*¹⁶ in 2008, much progress has been made on the Woodland Trust Glen Finglas Estate and in the wider landscape with the establishment of the Great Trossachs Forest NNR and the associated partnership working. Activities at Glen Finglas are now led by a locally based Estate Manager.



Project aims

To promote natural woodland regeneration in the historic woodland pasture at Glen Finglas to extend the dynamic mosaic of woodland, scattered open grown trees, scrub and open ground habitats on a landscape scale.



Project Timescale

Now, ongoing as part of overall management plan for the Estate.



SBS Objectives

The aims from the *2020 Challenge for Scotland's Biodiversity*:

1

To protect and restore biodiversity on land and in our seas, and to support healthier ecosystems.

By seeking to protect, expand and connect the woodlands and woodland pasture at Glen Finglas, this project is protecting and restoring a wide variety of biodiversity, as well as improving several terrestrial ecosystems.

2

To connect people with the natural world, for their health and wellbeing and to involve them more in decisions about their environment.

Partnerships with neighbours and the National Park, increased visitor numbers and significant community engagement all lead to more connection with nature.

3

To maximise the benefits for Scotland of a diverse natural environment and the services it provides, contributing to sustainable economic growth.

The project is demonstrating the value of both natural and semi-natural woodlands in the provision of ecosystem services, notably carbon sequestration, but also supporting sustainable land management businesses.



¹⁶ <https://www.scotlink.org/publication/delivering-the-goods/>



Photo: Niall Benvie/WTMIL



Project Summary

Glen Finglas lies at the heart of Loch Lomond and the Trossachs National Park and is part of the Great Trossachs Forest National Nature Reserve – a 200 year-long landscape-scale woodland restoration project involving the RSPB, Forestry & Land Scotland and the Woodland Trust. Home to mountains and rivers, hills and glens, woodland and moorland, it is perhaps best known for its upland wood pasture – old growth trees growing on open pasture land. Glen Finglas has one of the finest examples of this habitat in the UK and a herd of Luings cattle who help us to keep it this way. It is this special landscape that the project has been conserving for over twenty years, by efforts to:

- Maximise the biodiversity of the estate, predominantly through natural regeneration and mainly by managing grazing.
- Reduce sheep grazing in favour of Luings cattle and deer, with the cattle remaining outdoors all year round to provide favourable conditions for woodland pasture regeneration and expansion in Glen Finglas.
- Expand or establish woodland in the two neighbouring glens to the east, including by planting where necessary, to provide buffer zones and to establish habitat networks so that species can move more easily in response to climate change.
- Encourage cattle to roam freely over the three glens on the estate.
- Work to promote woodland restoration with neighbours, including Forestry and Land Scotland and private owners.



Climate Impacts

The climate related benefits of this project include:

- Increased woodland/tree cover having measurable Carbon sequestration – some woodland areas are managed through the woodland carbon code.
- Peatland restoration project reducing carbon loss from uplands.
- Farm operation working to low emission, with full carbon audits completed as part of beef efficiency scheme.
- Extensive livestock farming in well wooded landscape can demonstrate positive carbon balance.



People Information

Photo: WTML



Direct employment: The estate now employs full time staff, while the project also supports jobs across the wider economy through contractors and local tourism businesses.

Volunteers: As with many eNGO projects, this work is supported by an array of volunteers.

In 2019, a minimum of 887 hours (or roughly 120 person-days) of volunteering took place within the Glen Finglas Estate.

Visitor numbers: Since the Woodland Trust project began, there has been a large increase in recorded visitor numbers and monitoring is ongoing as part of the NLHF project:

- > Around 2012, there were approximately 12–15,000 visits pa. By 2016, this had increased to at least 35,000 visits pa on the Estate and the Visitor Gateway has up to 15,000 visits pa, some of those visits will only be the Gateway and hence a small proportion will be additional to the 35,000 visits. By 2019, there were around 39,000 visits pa. The aim is to increase number of visits to 40,000pa by 2022.
- > This increase in visitors helps to sustain local businesses, especially the tourism sector.



Successes and achievements

Major project milestones achieved since site acquired in 1996:

- > 1,500ha woodland creation, some of which now being grazed to extend wood pasture habitat.
- > Over 20km walking/cycling paths improved/created.
- > Establishment of Great Trossachs forest partnership with RSPB Scotland, Forest and Land Scotland and Loch Lomond and Trossachs National Park Authority.
- > NNR status achieved.
- > HLF Gateways project improves access, builds visitor gateway building, more tree planting and lots of interpretation.
- > Peatland restoration project on 100ha of degraded habitat.



Issues and challenges

Funding can be both hard to access, and many land management schemes are now subject to increased uncertainties post-Brexit.



Funding

There have been a wide range of funding mechanisms including government forestry grants and agri-environment schemes, charitable trusts, corporate partnerships and donations from members and supporters.



Further information

<https://www.woodlandtrust.org.uk/visiting-woods/woods/glen-finglas/>

<https://www.woodlandtrust.org.uk/media/46392/10513-glen-finglas-leaflet-map-a2-v3.pdf>

Case Study 6



ONGOING

Save Scottish Seas Scottish Environment LINK



Photo: Calum Langdale



Background

Save Scottish Seas is a campaign, coordinated by LINK's **Marine Group** and supported by LINK marine project staff. The campaign started in 2007, and has continued through different funded phases, working with the collective vision of achieving healthy, well-managed seas, where wildlife and coastal communities are flourishing and ecosystems are protected, connected, and thriving.



Project aims

The aims have varied according to the project phase; the aims of earlier phases of the campaign (now completed) were set out in the **2008 Delivering the Goods** report. The most relevant aims for the current phase (2017–2021) are:

1 Secure a well-managed ecologically coherent network of Marine Protected Areas (MPAs)

- > Secure designation and commitment to designate 14 Special Protection Areas (SPA), 4 mobile species MPAs, harbour porpoise Special Areas of Conservation (SACs).
- > Secure effective management (of all MPAs, SPAs and SACs).
- > Establish effective management measures for the network to ensure protection and recovery of Scotland's seas, including designated features, key non-designated features, and ecosystem function.
- > Secure an ecologically coherent network (ECN): that the Scottish network meets OSPAR-level criteria of Ecological Coherence.

2 Marine Planning

- > Secure a National Marine Plan that meets legal duties of the Marine (Scotland) Act 2010
- > Secure well-resourced Regional Marine Plans: established through a strong ecosystem approach, integrating all sectors, and joined up with terrestrial planning.
- > Secure ecosystem-based Regional Marine Plans.

3 Fisheries management

- > Secure ecosystem-based fisheries management post-EU exit with new legislation providing for holistic spatial approach, integrated with MPA management and Regional Marine Plans).



Project Timescale

From 2007–2020, milestones of the project included:

- 2010** Marine (Scotland) Act 2010 passed, securing legislation sought by campaign.
- 2014** "Best 29" MPAs secured with 30 new nature conservation MPAs designated.
- 2015** National Marine Plan published including requirement for sustainable development.
- 2016** LINK #donttaketheP campaign successfully secures ecosystem-based fisheries management measures in most vulnerable 18 inshore MPAs and SACs.
- 2017** Loch Carron MPA given emergency protection (made permanent in 2019).
- 2020** Target missed to have ecologically coherent network of well-managed MPAs complete and for Scotland and UK seas to be in Good Environmental Status. However, West of Scotland MPA, four inshore nature conservation MPAs, including for basking sharks, minke whale and Risso's dolphin and 12 marine SPAs have all been designated.

The current phase of this project ends in June 2021. Funding has now been secured from John Ellerman Foundation to continue this work until 2024, focusing on delivery of our **Ocean Recovery Plan**.



SBS Objectives

Photo: Scottish Environment LINK



The aims from the *2020 Challenge for Scotland's Biodiversity*:

1

To protect and restore biodiversity on land and in our seas, and to support healthier ecosystems.

MPAs, ecosystem-based marine planning with climate and nature positive fisheries management if done properly help protect and restore biodiversity at sea.

2

To connect people with the natural world, for their health and wellbeing and to involve them more in decisions about their environment.

The work to promote MPAs, ecosystem-based marine planning and climate and nature positive fisheries management connects people through regional marine planning, such as Shetland and Firth of Clyde, and MPA co-management such as South Arran MPA and Fair Isle.

3

To maximise the benefits for Scotland of a diverse natural environment and the services it provides, contributing to sustainable economic growth.

MPAs, ecosystem-based marine planning and climate and nature positive fisheries management can “maximise the benefits for Scotland of a diverse natural environment and the services it provides” if management delivers ocean recovery.



Project Summary

The project has achieved a number of successes, below, and is now coming into a fifth phase to support completion of Marine (Scotland) Act delivery and more importantly looking to secure transformative change in the MPA network, fisheries management and marine planning that delivers ocean recovery at scale.

Further progress is sought on delivering fisheries protection in the remaining inshore and offshore MPAs and SACs; on improving protection of Priority Marine Features (PMFs) beyond the MPA network, on delivering climate and nature positive fisheries management and on the delayed roll-out of Regional Marine Plans. Detail is in the [Ocean Recovery Plan](#).



Climate Impacts

Securing effectively protected MPAs and nature and climate positive fisheries will help mitigate the impacts of climate change through enabling carbon-sequestering habitats to recover and expand, protecting deep-water fish populations that act as carbon-pumps and, potentially, through limiting re-entry to the atmosphere of carbon resuspended from mobile fishing gear.



People Information

Direct employment: From 2007–2016, the project employed two full time LINK marine posts and from 2016, one full-time LINK marine post.

Wider engagement: These posts, working with LINK members bodies, informed and enthused many thousands of people, throughout Scotland to press for its conservation. An example is the 15,000+ letters and emails to support a progressive Marine (Scotland) Act in 2008.

Community engagement: The campaign also worked closely with many coastal communities, through for example, the Coastal Communities Network, who co-ordinate the work of coastal community groups wishing to press for conservation actions in their local areas. The Marine (Scotland) Act 2010, a result of the Save Scottish Seas project, provides the legal and policy frameworks through which these ambitions can be realised.

Industry: A healthy marine environment underpins employment in any industries that exploit that environment sustainably. The Marine (Scotland) Act 2010 and particularly aspects of its implementation, such as MPA management measures, are still relatively new – and, to date, there is little evidence to demonstrate the impacts. However, the Scottish Government’s early assessment of **the socio-economic impacts of MPAs** shows several positive indications, including increased opportunities for static gear fishing within MPAs and increased crew.

Tourism: The same Government report reflected MPAs providing “an additional tourist attraction for areas nearby.”



Successes and achievements

To date the project has been successful in securing:

- > Marine (Scotland) Act 2010 and commitments therein, resulting in the following examples:
- > A total of 36 new nature conservation MPAs including the largest in Europe.
- > A National Marine Plan.
- > The protection of over 2,200km² of the most vulnerable inshore MPAs and SACs from mobile bottom trawling and mechanical dredging.

There are good signs of recovery in the South Arran MPA and Firth of Lorn SAC but management measures for the remaining inshore sites and all offshore sites are still awaited, non-compliance with existing fisheries management measures in MPAs remains a big concern and proposed work to improve protection of Priority Marine Features beyond the MPA network is delayed.



Photo: Calum Duncan



Issues and challenges

- > Delays in progress on delivering fisheries protection in the remaining inshore MPAs and SACs and offshore MPAs and SACs; delays in improving protection of PMFs beyond the MPA network and delays to the roll-out of Regional Marine Plans.
- > Business-as-usual approach to marine conservation, particularly as it overlaps with fisheries management and to a lesser extent aquaculture and other sectors. The Government approach to date has been more feature-based than ecosystem-based, protecting often diminished remnants of habitats and species populations with limited scope for ecosystem recovery.
- > Capacity within the Scottish Government to deliver the measures needed is another challenge, with a small team seeking to protect the 61% of UK seas that Scotland's marine area comprises. The Marine Conservation team is working more closely with the Fisheries and Marine Planning Teams now but a siloed approach to management from the Cabinet down creates a "false dichotomy" pitching business (fishing, aquaculture, renewables etc) "against" conservation. There is some way to go until the rhetoric turns into reality, despite some welcome progress to date.



Funding

The total budget for the first four phases of this project was over £1.1 million. In different phases, a significant proportion of these costs have been raised from the John Ellerman Foundation, the Esmée Fairbairn Foundation, and the Tubney Trust. These grants have been complemented by funds or in-kind support from Marine Conservation Society Scotland, RSPB Scotland and WWF Scotland, as well as from LINK itself.



Further information

<https://www.scotlink.org/our-work/our-seas/marine/>
<http://www.savescottishseas.org/>
https://www.scotlink.org/wp-content/uploads/2020/12/OceanRecoveryPlan_spreads-1.pdf
<https://www.mcsuk.org/media/marine-unprotected-areas-full-report.pdf>

Case Study 7



ONGOING

Out There Award Ramblers Scotland



Photo: Ramblers Scotland



Background

Research, commissioned by Ramblers Scotland in 2017, showed that after ‘Scottish weather’, young people cited their two biggest barriers to getting out walking as: lack of knowledge and awareness of where to go for a walk, and lack of people to go with. The Out There campaign was launched in 2018, with ‘breaking down barriers to walking’ as one of its three key objectives and the Out There Award as a key mechanism for delivering that aim.



Project aims

The free Out There Award has been designed to help kick-start 18 to 26-year-old adults’ journeys into the outdoors, while helping them meet people, boost their CVs and build confidence along the way. The award is split over three non-consecutive days, each with a different focus: outdoor skills, a challenging walk and volunteering. Each day is designed to help break down the barriers that sadly stop many young adults from enjoying the outdoors, while helping them to form a new network of like-minded people.

During the Covid-19 pandemic, it has been important for young adults to have the skills to enjoy Covid-secure walks and responsibly access the outdoors. The Out There Award is on hold during national lockdown but remains ready to start again as soon as is suitable. Responsible access, wellbeing and meeting others will be more vital than ever.



Project Timescale

Phase 1 of the project started in March 2019, with the delivery of award beginning in June 2019. Phase 2 started in October 2020 and will run until October 2021.



SBS Objectives

The aims from the **2020 Challenge for Scotland’s Biodiversity**:

1

To protect and restore biodiversity on land and in our seas, and to support healthier ecosystems.

On the volunteer day of the award participants spent a day working with partner organisations who are actively involved in protecting and restoring biodiversity: The Borders Forest Trust, The Mountains and the People, The National Trust for Scotland and NatureScot and had planned to volunteer with Trees for Life and Loch Lomond and Trossachs National Park.

2

To connect people with the natural world, for their health and wellbeing and to involve them more in decisions about their environment.

During the award, the participants are made aware of the outdoor access code, how to protect biodiversity and the challenges facing biodiversity in Scotland. The award gives participants the basic skills and network of like-minded people to help connect them with the natural world.

3

To maximise the benefits for Scotland of a diverse natural environment and the services it provides, contributing to sustainable economic growth.

The award helps increase awareness of participants about how walking and engaging with their environment supports well-being. Any increase in walking and related outdoor activity helps sustain businesses dependent on visitors/tourists and/or appropriate equipment.



Photos: Ramblers Scotland



Project Summary

With funding from Active Scotland and the players of the People's Postcode Lottery, a project officer for Young Adult Development was employed. A free introductory outdoor skills award – the Out There Award – was designed to give more young people the tools to get walking in Scotland's great outdoors. The project also helps grow and support a network of five young walking groups. This enables the groups to thrive whilst ensuring award participants continue their walking journey.

The project is helping achieve Active Scotland's target of encouraging and supporting people in Scotland to be more active more often, whilst tackling inequality within walking; with 79% female participation and 37% participation by minority ethnic groups in phase one.

Phase two of the pilot project began in October 2020 during the Covid pandemic with part funding from Active Scotland. This has resulted in a change in deliverable outcomes and delivery style. Luckily, due to the adaptability of the award content, the project was able to continue to help young adults get outdoors during this period.

The course completion rate is 97%, indicating that the award is appealing to young adults. This was achieved through targeted social media advertising, local media coverage and the help of feeder organisations such as Young Scot Awardees are now walking regularly with Ramblers groups and demand for the award is growing.



Climate Impacts

Award participants are shown how to access walks by public transport or on foot from where they live. The new Covid version of the Out There Award encourages participants to plan local walks, a viable alternative to having to drive or get public transport to get exercise. The project also helps educate participants about the environmental issues faced by Scotland's great outdoors, providing them with an opportunity to contribute to helping better the situation.



People Information

Direct employment: One job is directly funded by the project: Ramblers Scotland's young adult development project officer.

Wider engagement: The project supports all Scotland's young walking groups and volunteers as well as supporting Out There Award participants through their award and their transition into the young walking groups. The number and diversity of participants is set out below.



Successes and achievements

Phase one of the award was a great success, with 70 young adults having attended in Edinburgh, Stirling, Glasgow, Aberdeen, Inverness and Tayside. The participation was:

- > Total number of award participants **70**
- > Proportion who identify as female **79%**
- > Proportion who completed the award **97%**
- > Number of courses delivered **7**
- > Proportion from a minority ethnic group **37%**

Phase two achievements, to date, include:

- > Secured part funding for phase two of the project even during a pandemic.
- > Adapted the award to a new outdoor two-day version which can be delivered in every level of the Scottish tiered system.
- > Ran four award dates with more planned in the future.
- > Have used the award to start a new Ramblers young walking group in Inverness – allowing more young adults to continue to walk through the pandemic.
- > Have supported our six young walking groups to ensure they can continue to thrive during the pandemic and create more opportunities for Scotland's young adults to get out walking.



Photo: Ramblers Scotland



Issues and challenges

- > Getting the word out there that the award exists – Feedback from participants indicates that they believe the award would be extremely popular if more people knew about it.
- > Getting sign-ups for award dates – the completion rate of the award is over 97% proving that once people attend the award, they are engaged by the content – however getting people to attend proved more difficult than predicted. Budgeting for Facebook advertising has helped address this ongoing issue.
- > While phase 2 is currently underway, Ramblers Scotland are currently considering how to continue beyond that period – including how, if possible, to 'scale up' the project (this may include an option to 'franchise' the concept to others).



Funding

Phase 1:

50% Active Scotland (£30,000) – 50% Peoples Postcode Lottery (£30,000)

Phase 2:

Currently part funded – £30,000 from Active Scotland – Seeking further funding.



Further information

<https://www.ramblers.org.uk/OutThereAward>

<https://www.ramblers.org.uk/get-involved/out-there/out-there-award/out-there-award-itinerary.aspx>

Case Study 8



ONGOING

Saving Scotland's Red Squirrels: Developing Community Action

Scottish Wildlife Trust



Photo: Raymond Leinster

8

Saving Scotland's Red Squirrels: Developing Community Action

Scottish Wildlife Trust



Background

Saving Scotland's Red Squirrels – Developing Community Action (SSRS-DCA) is an innovative partnership project to secure the long-term future of red squirrels in Scotland by building capacity among communities of volunteers and land managers, empowering them to take on and take ownership of some of the essential protection measures required to save the nation's red squirrels.

The partnership project is led by the Scottish Wildlife Trust, and includes NatureScot, Scottish Forestry, Scottish Land & Estates, Red Squirrel Survival Trust and RSPB Scotland. It is also supported by an extensive network of landowners working under Forestry Grant Schemes or voluntarily, as well as increasing numbers of volunteers. Over its first 8 years, SSRS established that it is possible to halt the decline of red squirrels over a wide area via strategically targeted and co-ordinated landscape-scale grey squirrel control. The initiative has enabled reds to re-establish in many areas.



Project aims

Since 2017, SSRS-DCA has aimed to galvanise communities of volunteers and land managers to act together to protect red squirrels in their area. In turn this will protect and enhance the legacy of increased red squirrel populations brought about by the work to date of the SSRS project, and enable people to make an important ecological impact, making the red squirrel population more resilient to changes and safeguarding important populations for Scotland.

In the current five-year project timeframe, SSRS-DCA aims to:

- 1 Develop and implement a programme of red squirrel protection capable of securing the long-term survival of core red squirrel populations across Scotland.
- 2 Recruit and equip communities to take on a vital role in the long-term protection of red squirrels in key areas across the country.
- 3 Protect populations of red squirrels across their current "red-only" range north of the Highland Boundary Fault and in key areas of south Scotland.
- 4 Manage the impact of the Squirrel Pox Virus (SQPV) if it ever reaches the Central Lowlands.
- 5 Monitor changes in Scotland's red and grey squirrel distributions over time.

In addition, SSRS has three different geographical regions of operation, each with its own aims:

- > In Aberdeen City and Aberdeenshire, the aim is to progressively reduce occupancy and abundance of grey squirrels with a long-term goal of eradication. The aim here is to develop a "rapid response methodology" to detect and respond to any remnant or resurgent populations.
- > In Tayside, Stirling and Loch Lomond and the Trossachs, the aim is to prevent the northward spread of grey squirrels and squirrelpox, through a programme of targeted grey squirrel control coast to coast along the Highland Line.
- > In South Scotland, the aim will be to mobilise communities and landowners to act together to protect red squirrels in priority areas area, fostering a sense of ownership and pride in their role in the conservation of this charismatic species.



8

Saving Scotland's Red Squirrels: Developing Community Action Scottish Wildlife Trust



Project Timescale

The current NLHF supported phase of the project (*Saving Scotland's Red Squirrels – Developing Community Action*) runs from 2017–2022.



SBS Objectives

The aims from the **2020 Challenge for Scotland's Biodiversity**:

1

To protect and restore biodiversity on land and in our seas, and to support healthier ecosystems.

The protection of red squirrels, a key and iconic species in Scotland, and enabling its expansion by the control of the invasive grey squirrel is clearly working to protect and restore biodiversity.

2

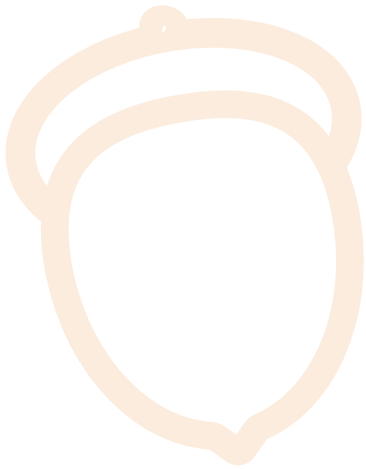
To connect people with the natural world, for their health and well being and to involve them more in decisions about their environment

The focus of this project is to achieve its biodiversity objectives through developing community and land manager actions. This ensures widespread connection with nature and involvement in the management of their environment.

3

To maximise the benefits for Scotland of a diverse natural environment and the services it provides, contributing to sustainable economic growth.

Although not a direct and explicit objective, a healthy and growing red squirrel population helps support tourism as such an iconic species. In addition, as an indicator of sustainable woodlands, the red squirrel is also an indicator of a healthy forestry sector.



Project Summary

Saving Scotland's Red Squirrels focuses on working with local communities to improve conditions for native red squirrels across Scotland by combatting the spread of the invasive grey squirrel.

While 75% of the UK's remaining red squirrels are found here, their numbers have fallen drastically in the decades prior to SSRS to just 120,000. This is largely due to the spread of the non-native grey squirrel, which was introduced from North America by people in the late 1800s. Grey squirrels also carry squirrelpox, a virus that does not harm them but is deadly to reds. With the help of partners, landowners and local volunteers, the project is monitoring squirrel distributions across Scotland, managing the impact of squirrelpox, and combatting the spread of grey squirrels in strategic areas.



Climate Impacts

The project has little direct benefit for climate. However, as an indicator of healthy woodlands, red squirrels are a totemic species – whose conservation encourages the better management and expansion of mixed-age forests and native woodland. The project should, therefore, be seen as a key part of efforts to restore and expand Scotland's woodlands – and ensure they are managed well.

8

Saving Scotland's Red Squirrels: Developing Community Action Scottish Wildlife Trust



From Left to Right: Jo Foo Wildlife Photography, Jazlyn Sparks, Jo Foo Wildlife Photography, Raymond Lehner



People Information

Direct employment:

- > 29 individuals (25.3 FTE) employed in 2021; while several core Scottish Wildlife Trust staff roles also contribute a proportion of their time to the project.

Volunteers:

- > Over 3,000 volunteer-days since 2017.
- > 1,077 volunteers registered on the SSRS on-line Community Hub (and many more who choose not to register).

Wider engagement:

- > 315 public engagement talks, walks, stall events, training events, press and media events and stakeholder meetings delivered over the last 4 years: and over 500 individual volunteer support or training sessions.



Successes and achievements

- > The SSRS partnership project has established that it is possible to halt the decline of red squirrels over many years and over a wide area and enable red squirrels to re-establish in many areas, via strategically targeted and co-ordinated landscape-scale grey squirrel control.
- > The SSRS-DCA project has built specialised on-line Community Hub linked to the project website to provide ongoing data capture and management, enabling volunteer groups to manage their own data and efforts, as well as providing training, support, feedback, monitoring to volunteers.
- > Between 2011 and 2019 SSRS has delivered 9 successive annual systematic surveys, delivered by volunteers, to enable comparative measures of impact of project work on red and grey squirrel distributions.
- > The squirrel sightings reporting facility has enabled citizen science to contribute to the long-term monitoring of red and grey squirrel distributions.



Issues and challenges

The key issues facing the Trust and project team have been:

- > The Covid-19 pandemic and the limitations it has placed on squirrel control work, monitoring and public engagement.
- > The high level of resource demand, especially staff time, to deliver the project. This raises an ongoing and a future funding challenge.
- > The challenge of who will take the project forward, and in what form – especially as ending the interventions risks a reversal of fortune for the red squirrels.



Funding

This current phase of the project has a budget of **£3,629,293** with the National Lottery Heritage Fund providing a grant of **£2,464,100**. The remaining funding has come through a wide range of organisations and individuals.



Further information

<https://scottishsquirrels.org.uk/about/>

Case Study 9



ONGOING



PLANNED

Scotland's B-lines Buglife Scotland



Photo: Claire Puntrey/Buglife

9

Scotland's B-lines Buglife Scotland



Background

The Scottish Government's '**Pollinator Strategy for Scotland**', published in July 2017, set out a 10-year plan to address the declines in our pollinator species. Buglife's B-Lines initiative is working with partners across the country to demonstrate how a collaborative approach can create a strong network of good quality pollinator habitat to help conserve our native insect pollinators. After local consultations and a lot of GIS mapping, Buglife launched their Scotland **B-Lines map** at the end of 2020. This national map builds on work already completed in the central belt, where Buglife has successfully delivered B-Lines projects such as the **John Muir Pollinator Way**.



Project aims

This project aims to:

- Identify and map priority B-Lines across Scotland – forming a coherent insect pollinator dispersal network
- Promote and raise awareness of B-Lines to ensure wide ownership of the network – enabling others to develop and deliver sections of B-Lines
- Encourage decision makers to support the development of a national B-Lines network
- Work with statutory agencies to ensure agri-environment schemes play a full role in delivering B-Lines, through improved targeting of appropriate management options
- Work with partners, including conservation charities, landowners and managers, local communities, and businesses to support and fund the creation of B-Lines
- Initiate programmes of work to restore and create new wildflower-rich habitats
- Seek funding to enable B-Lines to be created and extended around Scotland.



Project Timescale

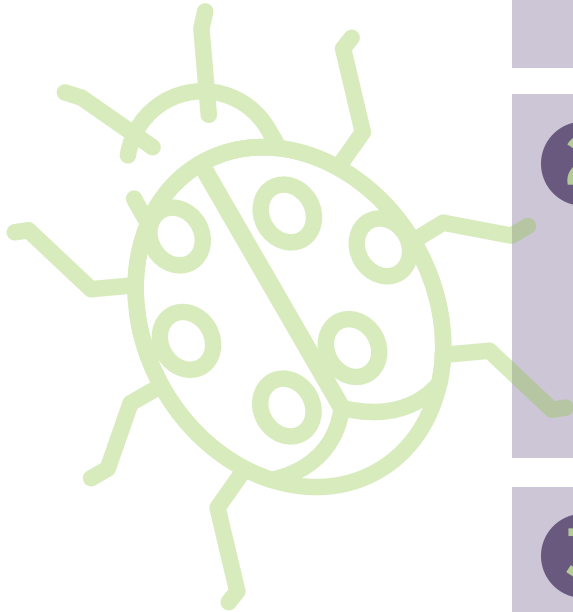
The national Scotland B-Lines map was launched in December 2020; and is now seeking funding to create and restore pollinator habitat along the B-Lines over the next 5 to 10 years.



Photo: Claire Punnett/Buglife



SBS Objectives



The aims from the *2020 Challenge for Scotland's Biodiversity*:

1 To protect and restore biodiversity on land and in our seas, and to support healthier ecosystems.

B-Lines will protect and restore biodiversity on land and support healthier ecosystems of which pollinators are a critical part.

2 To connect people with the natural world, for their health and wellbeing and to involve them more in decisions about their environment.

B-Lines will connect people with the natural world, for their health and wellbeing and to involve them more in decisions about their environment. B-Lines projects involve local communities and encourage people to take part in pollinator monitoring and work to restore and create pollinator habitats.

3 To maximise the benefits for Scotland of a diverse natural environment and the services it provides, contributing to sustainable economic growth.

Pollinators provide a critical ecosystem service for Scotland. B-Lines will maximise the benefits for Scotland of a diverse natural environment and the services it provides, contributing to sustainable economic growth.



Project Summary

The Scotland B-Lines map was launched in December 2020. B-Lines had previously been mapped across the CSGN area which covers over 10,000 hectares and 19 local authorities. It used the same methodologies with GIS mapping and community consultations to deliver a B-Lines map for all remaining local authority areas on mainland Scotland and the Scottish Islands.

The project has delivered, and is delivering, many successful projects which are turning B-Lines into a reality on the ground. These have included the **John Muir Pollinator Way** which runs 134 miles from Helensburgh in the west to Dunbar in the east of Scotland. On the ground habitat creation and enhancement has occurred at sites along the entire route of the John Muir Way, including through the **Falkirk's Pollinator Way** project. So far, it has created over 50 pollinator hotspots and further hotspots are planned for along the route. It has also delivered Central Scotland B-Lines with almost all the local authorities in the central belt and is contributing to B-Line projects, for example, in the **Garnock Valley** and along the River Tweed.



Climate Impacts

Unimproved and species rich grasslands have carbon and biodiversity benefits over amenity grasslands. The less intensive cutting regime also saves energy and money. Some of the big climate change benefits arising from B-Lines are, however, linked to ensuring pollinators have a functioning network of routes that will enable them to move through the landscape as climate change impacts where they will find suitable habitats to live and forage. Pollinators provide an essential ecosystem service, without which we cannot survive.



People Information

Direct employment: To support the roll out of B-Lines in Scotland will require a national coordinator, a fundraiser and 7 regional officers to liaise with land managers and develop and deliver habitat restoration and creation across the country. B-Lines also provide employment opportunities for local contractors who help with habitat creation and management.

Training: The B-Lines initiative provides plenty of opportunities for training others in how to manage their land for pollinators and how to monitor pollinator species. There will also be opportunities for skills-based training and placements. Project partners will benefit from bespoke training for staff teams and there will be numerous opportunities to involve volunteers.

Buglife provides training about how to manage land for pollinators, how to identify pollinators and how to monitor pollinator species.



Photo: Claire Pumfrey/Buglife



Successes and achievements

On the back of the launch of Scotland's B-Lines, Buglife is currently working with partners to ensure there are B-Lines projects across all of Scotland. The aim is to have regional B-Lines officers across Scotland, each delivering habitat restoration and creation to benefit pollinators.

It is anticipated that, over five years, the project could deliver 1,750ha of new or restored habitat together with up to 40 training placements.



Issues and challenges

Ensuring that enough habitat is in a good condition for pollinators will always be a challenge. Sites of over 2ha are preferred, but these can be hard to find particularly in urban areas. As more grassland is managed for pollinators, there is increased need for specialist equipment to maintain and manage areas which is not always available to land managers.



Funding

This is not yet fully in place, but a five-year project, delivering 1,750ha of habitat across Scotland and employing a national coordinator, fundraiser, and 7 regional officers, amounts to an anticipated five-year budget of £4.9m.



Further information

<https://www.buglife.org.uk/our-work/b-lines/b-lines-scotland/>

Case Study 10



ONGOING



PLANNED

Landscape Leadership Soil Association Scotland



Photo: Soil Association



Background

Transforming land management in Scotland to restore nature and a safe climate will require innovative leaders and diverse groups and networks working collaboratively to achieve a shared vision. To do this, investment in developing leadership is needed. This was a pilot project that developed the leadership capacity of individuals who can all make positive environmental change at scale. It was led by the Soil Association Scotland, in partnership with Scottish Land & Estates.



Project aims

The aim of **Landscape Leadership** is to deliver impactful and long-lasting benefits for Scotland's environment and people – restoring nature, tackling climate change, and supporting thriving rural businesses and communities. This will be achieved by enabling, empowering, and connecting land managers to create an environmental movement for making transformative change at a landscape scale.



Project Timescale

Launched in November 2019, the pilot was completed at the end of October 2020. The original intention was to complete the pilot by the end of April 2020, but this had to be changed due to Covid-19 restrictions.

Based on the success of the pilot, it is planned to deliver Landscape Leadership to new groups of participants in the future, subject to securing funding.



SBS Objectives

The aims from the **2020 Challenge for Scotland's Biodiversity**:

1

To protect and restore biodiversity on land and in our seas, and to support healthier ecosystems.

This project will, within a managed landscape, protect and restore a wide variety of biodiversity, as well as improve several ecosystems, with a particular focus on woodlands and peatlands.

2

To connect people with the natural world, for their health and wellbeing and to involve them more in decisions about their environment.

The focus on engaging land managers and their staff will connect a wide range of key audiences with nature and involve them in decisions.

3

To maximise the benefits for Scotland of a diverse natural environment and the services it provides, contributing to sustainable economic growth.

The aim of involving land managers will ensure that the habitats protected or enhanced will be recognised for their ecosystem services, be economically sustainable and support employment.





Project Summary

Soil Association Scotland ran the pilot for this programme from January to October 2020.

The project was originally due to be run as a series of overnight sessions, but due to Covid-19 restrictions, most were moved online. Participants were all able to take part in workshops and developed action plans for the landscapes that they are responsible for. Between sessions participants received coaching to further progress their Landscape Action Plans, with a focus on their own personal development. There was an intentionally diverse mix of participants based on ownership type (privately owned estates, environmental NGOs), ownership intention (forestry, agriculture, tourism, etc.), and gender.



Climate Impacts

Landscape Leadership is a leadership programme, underpinned by environmental principles. It develops the leadership of participants who have the capacity to make change at scale. All participants have prepared Landscape Action Plans for their own landscapes, and these will include actions that mitigate climate change, including woodland creation and peatland restoration.

Implementation of these Action Plans will contribute to Scotland's efforts to address climate change and, if/when the programme expands, these changes can be replicated across Scotland.



People Information

Direct employment:

The delivery of the pilot project included: an external facilitator who was contracted in, and a Soil Association Scotland communications manager who worked on the project for part of each week. The project was developed and overseen by a senior Soil Association Scotland manager.

Wider engagement:

The action plans developed by the participants were for their own landscapes, considering social (including community engagement), economic, and environmental factors. Actions within these plans would have included projects that retain employees or bring in additional labour such as for native woodland planting/management.



Successes and achievements

Collectively, the pilot project group of Landscape Leadership participants **manage over 75,000 acres of land**. Despite a diverse set of aims and priorities, all are united in their desire to restore nature and tackle climate change for Scotland's future generations.

Feedback has been very positive with participants saying that Landscape Leadership has made them think differently about how they manage land to balance environmental, economic, and social objectives. All participants benefitted from the course, developing leadership and strategic management skills, and enhancing their motivations to take action to address climate change and increase biodiversity. Although the project has only just completed, participants are already taking concrete actions within their landscapes and local communities.





Photo: Soil Association



Issues and challenges

Covid-19 restrictions have been a huge challenge for this project. What should have been four overnight sessions interspersed with coaching, leading up to all participants having completed their action plans within a concentrated period, changed to virtual sessions over a protracted period, as key staff were furloughed.

This challenge has highlighted how important face to face contact is, and the need to remove people from their surroundings to be able to take a step back and look at their landscape from a different perspective. A future iteration of this programme would include virtual sessions, but these would not replace bringing a diverse group of people together to work on common problems.



Funding

The funding for the pilot project was £80,000 from a private donation, which included project development costs and the use of an external facilitator. Additionally, all participants were charged £500. A new programme would have a lower cost per participant.

Funding for future iterations is currently being sought.



Further information

<https://www.soilassociation.org/our-work-in-scotland/scotland-farming-programmes/landscape-leadership/>

Case Study 11



ONGOING



PLANNED

Cairngorms Connect

A partnership of neighbouring land managers



Photo: Cairngorms Connect/scotlandlandscape.com

11

Cairngorms Connect

A partnership of neighbouring land managers



Background

The biggest habitat restoration project in the UK, Cairngorms Connect was founded in 2014 and has four partners: Wildland Limited, RSPB Scotland, Forestry & Land Scotland, and NatureScot, all of whom serve on the partnership board. Collectively, the partners manage 600km² within the Cairngorms National Park and the National Park Authority is a supporting partner.

The partners are represented by senior staff at all meetings and have met (almost continuously) monthly since inception. A small team (9FTE) has been appointed to develop the partnership and build the work programme. These posts are funded by the **Endangered Landscapes Programme**.



Project aims

Cairngorms Connect has a range of aims – most notably:

1 Habitat restoration:

- a. General reduction in impacts of deer grazing through collaborative deer management across 60,000ha.
- b. Restoring forest habitats:
 - i. Improving quality of existing forests (13,000ha).
 - ii. Expanding forests to their natural limit, including montane woodland at ca. 900m asl (ca 13,000ha potential new woodland).
- c. Restoring peatland habitats (total 10,000ha).
- d. Restoring rivers and floodplains (approx. 1,000ha).

2 Delivering Ecosystem Service benefits, in particular:

- a. Contributing to Net Zero targets by:
 - i. Reducing carbon emissions.
 - ii. Increasing carbon sequestration in woodlands, peatlands and coarse vegetation.
- b. Adaptation to likely impacts of climate change.

3 Communications and involvement.

- a. Building understanding and awareness of the importance of the partnership area, amongst communities of 'place' and 'interest', including local communities and visitors.
- b. Building understanding and value amongst local businesses.
- c. Providing opportunities for involvement, as volunteers, interested members of the community, direct employment, contract work, and study.
- d. Enabling active engagement in planning land management decisions, in accordance with guidance from the **Scottish Land Commission**.

4 Skills development – through a restoration apprenticeship programme.

Cairngorms Connect

A partnership of neighbouring land managers



Project Timescale

The project has a 200-year vision, shared by all the partners, which includes the following description of the “end result”:

“By 2216, Cairngorms Connect’s woodland habitats are the best examples in NW Europe of an oceanic boreal forest. The forest has extended well towards its natural altitudinal limit, including montane scrub which has become well-established across the montane ownership of the partnership. This has been achieved principally by natural regeneration, in the presence of grazing animals. Limited planting has been used to establish seed-sources for under-represented tree and shrub species, which have become well established. These woodlands – including some plantation areas – have a high degree of naturalness, characterised by structural variety and high deadwood content. Wetlands have water tables at near-natural levels, and attributes of more-natural floodplains and hydrological systems, are well-established. Peatland habitats have recovered from the impacts of historic grazing and subsequent erosion. There are no longer extensive areas of ‘hagging’; the blanket bog is actively building. Invasive non-native species are rarely recorded in the project area.”

The current work programme is scheduled and itemised, to the end of December 2023.



SBS Objectives

The aims from the **2020 Challenge for Scotland’s Biodiversity**:

1

To protect and restore biodiversity on land and in our seas, and to support healthier ecosystems.

This project’s central goal is the protection and restoration of a wide variety of biodiversity, as well as improving several ecosystems, with a focus on woodlands, peatlands, and wetlands. This project is particularly significant as the area managed is both large and contiguous, and the shared vision extends to 200 years.

2

To connect people with the natural world, for their health and wellbeing and to involve them more in decisions about their environment.

The project is led by landowners/managers and involves their staff, contractors, and suppliers. It connects a wide range of key audiences, including members, visitors, and local communities, with nature.

3

To maximise the benefits for Scotland of a diverse natural environment and the services it provides, contributing to sustainable economic growth.

Led by landowners/managers, the project will ensure that the habitats protected or enhanced will be recognised for their ecosystem services, be economically sustainable and support employment.

Cairngorms Connect is cited as an exemplar in the **Scottish Biodiversity Strategy Post–2020: A Statement of Intent** (pages 4 and 15).

Photo: Cairngorms Connect/scotlandbigpicture.com



Cairngorms Connect

A partnership of neighbouring land managers



Project Summary

Cairngorms Connect is a partnership of neighbouring land managers, committed to a bold and ambitious 200-year vision to enhance habitats, species, and ecological processes across a vast area within the Cairngorms National Park. Its 600km² is a landscape of ancient woodlands, intersected by rivers and lochs, encircling an Arctic-like mountain massif. It is the most extensive landscape of its type in Britain, with vast tracts of blanket bog, tranquil wetlands, and secret woodland bogs. It is home to plants, insects, birds, and mammals that are found in few other parts of the UK.

The project will expand native woodlands to their natural limit; repair damaged blanket bogs and bog woodlands, and restore natural processes to 1,000ha of modified floodplain. It demonstrates how habitat restoration can be achieved in collaboration with local communities, providing nature-based solutions to address climate change and biodiversity loss, whilst benefitting the local economy.



Climate Impacts

Land management to reduce carbon emissions, and increase carbon sequestration, include:

- Repair damaged bog woodlands (900ha by Dec 2023).
- Repair damaged blanket bogs (1,400ha by Dec 2023).
- Collaborative deer management reducing grazing and trampling impacts on 10,000ha of peatlands across the partnership area.
- New Scots pine regeneration (800ha by Dec 2023).
- New native woodland establishment by planting (600ha by Dec 2023).

Land management changes, aiding the adaptation to the likely effects of climate change, include:

- Increased water-holding 'sponge' capability of the bogs retains water high in the catchment; while increases in coarse vegetation and tree cover will increase 'catchment friction' and slow water movement.
- Slower-moving rivers and restored floodplains, slow water and increase flood-storage capacity.
- Wooded habitats are a lower fire risk than open moorlands and grasslands, and restored bog woodlands are a lower fire risk than drained bogs.
- Wooded catchments reduce warming of watercourses.
- The expansion of the forest to its natural limit, increasing altitudinal range and providing opportunities for species to move to occupy a new climate envelope.



People Information

- **Direct employment within the partnership area:** 46FTE across the 4 partners, and 9FTE employed in the Cairngorms Connect Team (Dec 2020).
- **Supported jobs** not yet known, however, in 2019 the total value of contracts awarded across the partnership was £632,400.
- **Wider engagement:** Measuring engagement is complicated but, as an example, in 2019, around 23,000 people learned about the project and 2.1 million people heard about it on BBC *Autumnwatch*.
- **Visitor numbers:** around 1.1m visitors come to the project area each year, with Glenmore the most visited location.

Cairngorms Connect

A partnership of neighbouring land managers



Photos: Cairngorms Connect/scotlandpicture.com



Successes and achievements

As an example of progress, in 2019, the project achieved:

- > 184ha cleared of non-native conifers.
- > 114ha of Scots pine plantation restructured.
- > 550ha of new native woodland planted.
- > 348ha of blanket bog restored.



Issues and challenges

Some restoration elements have been difficult to fund, for example:

- > Floodplain and hydrological restoration.
- > Deer management in remote locations and at high altitude, where tree regeneration is slow, so Scottish Forestry grants are of limited value.
- > Some partners are ineligible for Scottish Forestry grants.
- > Small-scale planting in remote locations to establish seed-sources, such as montane willows.
- > Large-scale floodplain restoration measures.
- > Community engagement and involvement.

It is for these aspects of the project that support from ELP has been particularly important.

A shortage of experienced peatland restoration contracts has also made it difficult to make the most of the substantial assistance available from the Peatland Action Fund.



Funding

This is highly variable and depends on the funds available to each partner in any given year. As an example, the total invested in restoration and communications in the project area, in 2019, was more than £2m. It is expected that the total investment from 2019–2023, including ELP funds (see below) will be over £9m.

In 2017, the partnership applied for funding from the **Endangered Landscapes Programme**, and in 2018 was awarded a US\$5m grant to support the project over a five-year period (2019–2023). Cairngorms Connect is one of only **8 landscape-scale restoration projects in Europe** to have received this funding.



Further information

<http://cairngormsconnect.org.uk/>
<https://www.endangeredlandscapes.org/>

Case Study 12



ONGOING

Hebridean Marine Mammal Monitoring Hebridean Whale and Dolphin Trust



Photo: Hebridean Whale and Dolphin Trust



Photo: Hebridean Whale and Dolphin Trust



Background

The project is led by the Hebridean Whale and Dolphin Trust (HWDT), operating from a specialised research vessel, Silurian, on the Isle of Mull. It is a long-term citizen science project which has been running since 2003 to monitor marine mammals off the west coast of Scotland.

Species monitoring is vital to conserve wildlife. But long-term monitoring seldom gets the attention it deserves. Monitoring enables a fuller understanding of species and habitats and how best to protect them. Widespread, long-term monitoring provides the information on which conservation efforts are based; it improves the effectiveness of conservation efforts and thus the protection for wildlife.



Project aims

HWDT's mission is to conserve Hebridean whales, dolphins and porpoises through robust science, inspirational education, and meaningful engagement, so that they thrive in harmony alongside coastal communities. The project aims to:

- > Provide long-term visual, acoustic, and photographic monitoring of Hebridean cetaceans to:
 - > Identify significant areas.
 - > Identify emerging threats in our waters.
 - > Track trends and changes in the marine environment.
- > Provide training for volunteers in marine mammal monitoring techniques.
- > Conduct conservation driven and long-term, impactful research studies.
- > Improve the understanding and knowledge of cetaceans in Hebridean waters.
- > Provide evidence to inform marine protection policy and encourage responsible use of the seas.



Project Timescale

The project launched in 2003. It is a continuous, long-term species monitoring project with no planned end date.



SBS Objectives

The aims from the *2020 Challenge for Scotland's Biodiversity*:

1

To protect and restore biodiversity on land and in our seas, and to support healthier ecosystems.

Whales, dolphins, and porpoises are key indicators of healthy, biodiverse seas – in protecting them, the whole marine environment is safeguarded.

2

To connect people with the natural world, for their health and wellbeing and to involve them more in decisions about their environment.

This project provides a totally unique opportunity for volunteer citizen scientists to participate in a research programme, which directly contributes to the protection of Scotland's whales, dolphins, and porpoises. The programme connects people with world beneath the waves, inspiring them to care for the marine environment.

3

To maximise the benefits for Scotland of a diverse natural environment and the services it provides, contributing to sustainable economic growth.

Protecting and restoring global marine biodiversity is critical in achieving healthy seas and it has a significant implication for public health, business and industry, ecosystem services, food production and energy. On the west coast of Scotland, tourism is vital for coastal communities and whale-watching can be a sustainable way of contributing to that economy.

Photo: Hebridean Whale and Dolphin Trust



Project Summary

HWDT operate dedicated research expeditions year-round. It has used the same rigorous survey methodology for the last 18 years ensuring that the data collected are consistent and comparable between years. Doing so provides a wide-scale assessment of cetacean distribution through which HWDT can answer questions about population size, habitat preference, site usage, and through our photo identification work, animal behaviour.

Each year, more than 80 volunteers join the crew of the specialist research vessel travelling thousands of nautical miles to monitor the cetaceans and sharks found off the west coast of Scotland. This pioneering Marine Mammal Monitoring Programme has generated one of the largest coherent databases of its kind for UK waters.

At its core, this is a citizen science project; every single data point has been collected by volunteers who have joined HWDT to survey the waters of western Scotland diligently. It is these people who make the surveys possible, year after year. All these data combined have created a unique and powerful evidence base, which has critically advanced the understanding of species that visit seasonally or are resident in the Hebrides and have led to the identification and designation of marine protected areas – a national and global first for some species.



Climate Impacts

Protecting and conserving cetacean populations is crucial in our fight against climate change. Not only are cetaceans indicators of healthy seas, but they encourage vertical mixing of nutrients, feeding at depth before returning to the surface to breathe, as well as defecating at the surface. This results in surface waters becoming more fertile and stimulating phytoplankton growth, which helps to regulate climate by absorbing carbon dioxide and producing oxygen.

The long-term monitoring undertaken by HWDT is essential in understanding the effects that climate change is having on the world's oceans. The data that are collected help to detect changes and assess trends in indicator species, which provides an insight into the health of the ecosystem.



People Information

Direct employment: The programme is run by HWDT's Marine Biodiversity Officer, and the vessel is managed by HWDT's Boat Manager. Surveys are delivered with support from crew (Skipper and First Mate) as well as five other members of staff at the Trust who provide operational support for the programme.

Volunteers: Each year more than 80 volunteers join the crew of the specialist research vessel, Silurian, to monitor the cetaceans and basking sharks in the Hebrides. On board the volunteers receive training in species identification, how to conduct surveys and identify underwater sounds. Each data point collected on board Silurian has been collected with the help and support of the volunteers who join us on board.



Successes and achievements

Since 2003 the programme has:

- > Trained more than 900 volunteer citizen scientist's marine mammal monitoring skills.
- > Delivered more than 200 Silurian research expedition surveys to monitor local cetacean populations and individuals.
- > Conducted more than 120,000 kilometres of visual and/or acoustic surveys monitoring Hebridean seas; equivalent of sailing three times around the world.
- > Recorded 40,000 marine animals during 16,000 sightings and compiled more than 9,000 hours of acoustic recordings during which more than 20,000 harbour porpoises have been detected.

As well as species monitoring, these recordings are increasingly called upon to assess the changing soundscape of the marine environment and the impact of acoustic pollution on cetaceans in the region. HWDT data shows **the widespread and increasing use of acoustic deterrent devices (ADDs)** and highlights this as a significant and chronic source of underwater noise.

Data collected have provided the evidence to show where the most important areas are for cetaceans and basking sharks on the west coast of Scotland. These data have been used by the Scottish Government to inform protection measures for minke whales, Risso's dolphins, harbour porpoises, and basking sharks, and have contributed to the identification and designation of Marine Protected Areas (MPAs).





Issues and challenges

Securing long-term funding for this programme has been the main challenge, yet long-term monitoring is vital to detect trends and changes in cetacean populations and identify emerging threats. The nature of monitoring free-ranging, and highly mobile marine species is also much more challenging and costly, especially in comparison to monitoring terrestrial animals. With the support of our members, donors and funders, our monitoring programme is now entering its nineteenth year.



Funding

In 2002, with a grant from the Heritage Lottery Fund, HWDT purchased and refitted the motor-sailor, Silurian. Since its inception, the programme has been partly funded by NatureScot, which supports the training of volunteer marine mammal citizen scientists. Volunteers also contribute financially to the long-running monitoring programme.

Average annual programme cost:

NatureScot:	£30,000 – 40,000
Volunteer time (in kind contribution):	£47,250
Volunteer participant fees:	£80,000
HWDT:	£52,750 – £62,750
Total:	£220,000

Funding to support the programme from April 2021 is currently being sought.



Further information

Hebridean Whale and Dolphin Trust (2018), *Hebridean Marine Mammal Atlas, Part 1: Silurian, 15 years of marine mammal monitoring in the Hebrides. A Hebridean Whale and Dolphin Trust Report (HWDT), Scotland, UK 60 pp.*

Case Study 13



ONGOING



PLANNED

Species on the Edge (multiple projects)

Multiple eNGOs in partnership with NatureScot



Photo: Scottish Environment LINK

13

Species on the Edge (multiple projects) Multiple eNGOs in partnership with NatureScot



Background

“Rethink Nature” is a partnership of leading species conservation organisations, including Amphibian and Reptile Conservation, Bat Conservation Trust, Buglife Scotland, Bumblebee Conservation Trust, Butterfly Conservation Scotland, Plantlife Scotland and RSPB Scotland. These bodies initiated the Species on the Edge concept and have since worked jointly with the lead partner, NatureScot to develop the Programme.

Species on the Edge follows the award-winning model set by the **Back from the Brink** programme, with Rethink Nature partners working with a government agency in an innovative partnership to help wildlife species and offering local communities a chance to get involved.



Project aims

The key Species on the Edge objectives are:

- 1 To secure and improve the future for some of Scotland’s most important coastal and island species.
- 2 To take a new partnership approach to species conservation in Scotland, maximise conservation gain by joint working and building on synergies and a common agenda.
- 3 To empower people, particularly island and coastal communities, to safeguard biodiversity and share learning and approaches between communities.
- 4 To engage a new, wide, and diverse audience with coastal and island wildlife, raising awareness of its importance.

As a result of the project’s efforts, it is hoped that the following outcomes will be delivered:



- (a) Target species and populations will be more resilient, and there will be an increased understanding of their requirements which will inform conservation action.
- (b) Working together, the Species on the Edge partnership will establish effective conservation approaches including several partners and stakeholders to benefit target species.
- (c) Communities will be better informed, more engaged, and better equipped to deliver species conservation for locally important species.
- (d) A new and diverse range of people will be aware of the risks and challenges to our coastal and island species and the importance of action needed to conserve them and their habitats.

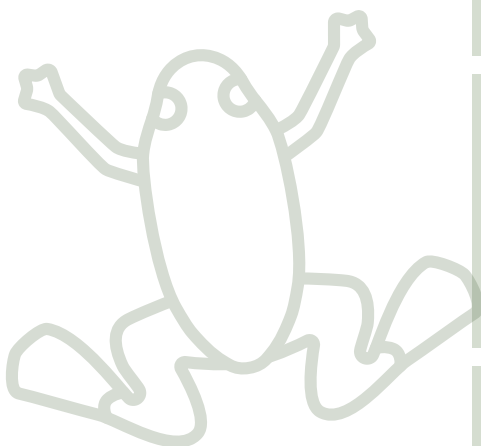


Project Timescale

This is a five-and-a-half-year programme. Stage One development began in July 2020. A Stage Two bid will be made to the National Lottery Heritage Fund in November 2021. If funding applications are successful, the four-and-a-half-year delivery phase is expected to run from June 2022 to December 2026.




SBS Objectives



The aims from the *2020 Challenge for Scotland's Biodiversity*:

- 1

To protect and restore biodiversity on land and in our seas, and to support healthier ecosystems.

By seeking to protect and enhance the populations of Scotland's scarcest and most threatened species, this project will protect and restore both those species and a wide range of others associated with the habitats protected or improved.

- 2

To connect people with the natural world, for their health and wellbeing and to involve them more in decisions about their environment.

The partnership nature of the project, as well as its focus on engaging and involving land managers and local communities will connect a wide range of key audiences with nature and involve them in decisions.

- 3

To maximise the benefits for Scotland of a diverse natural environment and the services it provides, contributing to sustainable economic growth.

The aim of involving land managers and the local communities will ensure that the species protected or habitats expanded will be recognised for their ecosystem services, be economically sustainable and support employment.



Project Summary

Continuously sculpted by waves and winds, Scotland's spectacular coasts and islands are amongst the most biodiverse areas in the UK. They provide a last refuge for some of our most beautiful and unusual, but also most vulnerable species, pushed to the edge by changes in land use and climate. These species urgently need our help to save them from extinction, to build resilience within their populations and to address the pressures that could result in further loss of biodiversity.

Species on the Edge is supported by a unique suite of partners working collaboratively to deliver significant benefits for Scottish biodiversity. It will build on the common goals of the organisations in the partnership to put in place proven and novel approaches to working with communities; encourage pride in the local environment and its species; and develop a strong element of community action for species conservation. It will invest in training and up-skilling of local communities to enable them to take practical action and be actively involved in shaping the future of effective species conservation.

Capitalising on the partners' experience, communication skills and networks, the project will use a range of methods to raise the profile of a diverse suite of species – often poorly known or misunderstood – amongst a wider audience and create more opportunities to support practical conservation through volunteering and citizen science.

A list of target species has been carefully chosen for Species on the Edge based on a set of specific criteria:

- All species are highly reliant on Scotland's coasts and islands for their continued survival or have important populations in these areas.
- They are listed on the Scottish Biodiversity List.
- Their management requirements are known and specialists within the Species on the Edge partnership are confident that they can implement conservation measures to benefit them.

The projects/species selected have been agreed as:

- **Coastal Treasures of the Eastern Solway (led by Amphibian and Reptile Conservation):** amphibians, primarily natterjack toads.
- **Bees on the Edge (led by Bumblebee Conservation Trust):** great yellow bumblebee, moss carder bee, northern colletes mining bee.
- **Invertebrates on the Edge (led by Buglife Scotland):** tadpole shrimp, medicinal leech, narrow-mouthed whorl snail, bordered brown lacewing, short-necked oil beetle, plantain leaf beetle.
- **Jewels of the north (led by Plantlife Scotland):** Scottish primrose, purple oxytropis, Irish lady's tresses, eyebrights, curved sedge, oysterplant, autumn gentian.
- **Rockin' the blues (led by Butterfly Conservation Scotland):** small blue and northern brown argus.
- **Protecting Scotland's island wonders (led by Bat Conservation Trust):** common pipistrelle, soprano pipistrelle, brown long-eared bat and Daubenton's bat.
- **Farming horizons (led by RSPB Scotland):** Greenland white-fronted goose, red-billed chough, lapwing, curlew, dunlin, red-necked phalarope, twite and corncrake.
- **Terning the tide (led by RSPB Scotland):** arctic tern, sandwich tern and little tern.
- **A brighter future for herb-rich pastures (led by Butterfly Conservation Scotland):** marsh fritillary, new forest burnet moth, slender scotch burnet moth, transparent burnet moth and talisker burnet moth.

The nine projects are co-ordinated and managed as programme by a Programme Manager provided by NatureScot.





Climate Impacts

These projects will make species more resilient to climate change and other pressures through habitat restoration and creation, habitat management, understanding their ecology, and undertaking rearing and releases.



People Information

A central objective of Species on the Edge is engagement with the coastal and island communities to empower local people to safeguard biodiversity and share learning and approaches between communities. There will also be opportunities for local people to volunteer with the project.



Successes and achievements

Few, to date, as phase two of the project is the main delivery phase. However, phase one has seen successful project preparation, including development of a shared vision and fundraising – which has demonstrated successful partnership building and raised awareness of the species' conservation needs.



Issues and challenges

The main challenges have related to the size and scale of the project, the complexities of partnership building and the nature of funding, which is competitive and with no guarantee of success. Added to this, the new challenge of project development during the Covid pandemic has meant a reliance on remote working and limited the scope of some engagement activities.



Funding

The cost of phase 1, the development phase, is a total of £544,082. NatureScot has contributed £175,000; the remainder has been funded by the eNGO partners and a £260,000 NHLF 'kick-starting' grant.

The total budgeted cost of the second, delivery phase is £5.8 million over four and a half years. NatureScot has made a commitment of £1,118,000 over 4 years to this phase. The remainder will be raised by the application to the NLHF and from the eNGO partner contributions.

The overall cost is thus £6.34 million.



Further information

<https://www.nature.scot/nature-fund-tackle-most-risk-and-vulnerable-species>



Photo: Daniel Hargreaves

Case Study 14



PLANNED

Saving Morvern's Rainforest Alliance for Scotland's Rainforest



Photo: Colin Prior



Background

This is one of a number of projects being co-ordinated and promoted by the **Alliance for Scotland's Rainforest**, a voluntary partnership of more than 20 organisations that are all committed to collaborative action for the temperate rainforest habitat found along the west coast. Led by RSPB Scotland, this project aims to enhance and restore important areas of rainforest on the Morvern peninsula, one of the most defensible and practical areas in Scotland for large scale rhododendron eradication.

The Morvern peninsula is an area of land of around 200 square miles which is bounded by Loch Sunart, the Sound of Mull and Loch Linnhe. This means that if rhododendron is cleared, it will be difficult for it to re-invade. This project will demonstrate best practice for clearing this invasive species with the scale and long-term maintenance required to produce long-lasting results.

Morvern's supportive community and forward-thinking landowners also provide a positive environment in which to apply grazing measures to enable woodland expansion. The ethos of this project is to bring local benefits, with the aim of locally employed project and eradication teams, generating eight direct new jobs, as well as promoting the rainforest as a visitor destination. Overall, the project represents a great model for green recovery – restoration of habitat and sustainable local livelihoods.



Project aims

The project will:

- Create a shared vision for the restoration and enhancement of Morvern's rainforest using an ecological network approach that helps plan and target conservation action.
- Create four new posts to deliver habitat improvements, project management and administration, locally employed by RSPB Scotland.
- Eradicate *Rhododendron ponticum* from target Special Areas for Conservation (SACs), as well as the wider landscape and buffer zones around these sites via a locally based works team of four (additional to those above), which will provide training opportunities and the potential to leave a legacy enterprise.
- Provide information and support for appropriate grazing management that allows woodland restoration and creation.
- Improve the resilience of the rainforest habitat through woodland expansion and connection, including establishing a local tree nursery.
- Inspire people living in and visiting Morvern about the rainforest through a programme of interpretation, citizen science and arts activities.
- Carry out engagement activities with local communities and schools, including youth training (such as a trainee post each year) and dissemination of culturally based folklore.
- Be part of Scotland's 'Green Recovery' – providing rural jobs and involving local people with the aim of securing a legacy that sustains nature as well as local economic benefits.



Project Timescale

On the ground implementation is anticipated to start in August 2021 and continue until June 2026.



SBS Objectives

The aims from the *2020 Challenge for Scotland's Biodiversity*:

1

To protect and restore biodiversity on land and in our seas, and to support healthier ecosystems.

Scotland's rainforest is an international important habitat, for its assemblages of lichens and bryophytes. This project focusses on two SACs which contain globally rare epiphytic lichens, restricted in the UK to this part of Scotland. However, both SACs are in unfavourable condition due to the threats that are prevalent across the remaining 30,000ha of this habitat type: primarily invasive species and herbivore impact. This project will be an exemplar of how to restore this habitat.

2

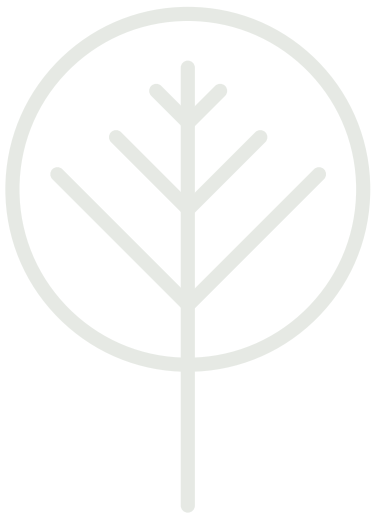
To connect people with the natural world, for their health and wellbeing and to involve them more in decisions about their environment.

Interpretation will promote the special nature of temperate rainforests and allow people to access them in a sensitive way. Work with the community and schools on cultural stories, songs, poems, and artworks will create a rainforest resource based around folklore (past and present). Free advice to landowners will enable them to assess the best way to address issues for their woodlands. Traineeships and voluntary opportunities will provide further connections to nature.

3

To maximise the benefits for Scotland of a diverse natural environment and the services it provides, contributing to sustainable economic growth.

Saving Morvern's Rainforest has been identified as a priority project for the Alliance for Scotland's Rainforest. This is a flagship project for the Alliance, its first landscape scale rainforest restoration project. The legacy aspect of a community based post-project works team will illustrate local sustainable green growth.



Project Summary

Saving Morvern's Rainforest is a £3.8 million project led by RSPB Scotland which aims to enhance and restore rainforest habitat on the Morvern peninsula, focussing on Special Areas of Conservation. Temperate rainforest is a globally important habitat, and Scotland has the best examples in all of Europe. It is an Annex 1 habitat under the Habitats Directive.

As well as restoring rainforest habitat by eradicating *Rhododendron ponticum*, encouraging natural regeneration and planting native trees, the project will also create local jobs; engage the school and local communities; improve access and understanding of rainforest habitat for local people and visitors; and work closely with land managers and community partners to ensure it has a lasting legacy, including a native tree nursery.



Climate Impacts

Restoring and expanding Scotland's rainforest is a nature-based solution, as it provides a long-term sink for carbon; and can act as a natural system that soaks up groundwater and stabilise slopes in the face of the predicted increased intensity of rainfall within the area. Carbon storage within the native woodland created/restored will offer a large, long-term forest carbon store through the planting/regeneration of slow-growing deciduous trees.

Rainforest expansion and ensured regeneration within woods will enhance the resilience of existing rainforest landscapes an important adaptation measure for its unique associations of epiphytes, delivered through its biodiversity focus on native old-growth woodlands.

A recent **report** for RSPB Scotland highlighted the benefits of good quality woodlands for climate and nature.



People Information

Direct employment: The project will create eight new posts:

- Four new posts to deliver project management and administration, habitat plans and improvements, locally employed by RSPB Scotland.
- A work party of four further posts will eradicate *Rhododendron ponticum* from target Special Areas of Conservation, as well as the wider landscape and buffer zones around these sites. The work of this team will be supplemented by contractors.

The latter posts are intended to be continued after the project finishes to leave a legacy enterprise which will ensure that the area remains rhododendron-free and has the potential to expand out in terms of rhododendron control from the core project areas. Further traineeships will provide skills and foster careers within sustainable native woodland conservation.

Wider engagement: The project also involves capacity building of local organisations/partnerships to maintain project outcomes and encourage community investment in long-term stewardship and conservation of woodlands. The project will also provide indirect benefits to the local service economy through tourism, through promotion of the rainforest through interpretation and access.



Successes and achievements

The project has yet to start. However, preparation of the project proposal and fundraising has already considerably raised awareness of the issues the project seeks to address.



Issues and challenges

The most significant challenge to date has been the securing of funding to get the project 'off the ground'. This is the third attempt to find funds to support this project – the first of which was in 2016. The more the project is delayed, the worse the rhododendron problem becomes, and the more expensive it will be to restore this globally important habitat.



Funding

Saving Morvern's Rainforest is a £3.8 million project led by RSPB Scotland, working with several partners in the Alliance for Scotland's Rainforest. It has successfully reached Stage 2 in the LIFE funding bid process, and the next stage application is currently being prepared. If successful, LIFE will provide £2.3 million funding towards the project.

RSPB has committed £440,000, the maximum available in the current circumstances, and a further £560,000 has been pledged by partner organisations and others. This leaves a £500,000 gap, or £100,000 per annum over the five-year project, which needs to be filled.



Further information

<https://www.woodlandtrust.org.uk/publications/2019/05/state-of-scotlands-rainforest/>
<https://savingscotlandsrainforest.org.uk/>
<https://savingscotlandsrainforest.org.uk/asr-projects/saving-morverns-rainforest>

Case Study 15



PLANNED

Riverwoods Scottish Wildlife Trust



Photo: Alan Anderson/Scottish Wildlife Trust



Background

Improving the habitat alongside Scotland's rivers, streams and lochs will substantially contribute to building a much-needed Scottish Nature Network, helping to make Scotland's wildlife and communities more resilient for the future.

The Scottish Wildlife Trust leads this initiative and has been working with SEPA, Forestry and Land Scotland, Tweed Forum, Woodland Trust, NatureScot (previously SNH), Centre for Sustainable Forests and Landscapes, James Hutton Institute, Forest Research, Confor, Buglife and Scottish Water. NFUS is also keen to become involved.



Project aims

The overriding aim of the project is to create a network of riparian woodland and healthy river systems throughout Scotland delivering a range of environmental, socio-economic and financial benefits.

The following specific objectives have been identified:

- > A wide range of partners supported to deliver Riverwoods projects
- > A Blueprint for Scotland-wide delivery, underpinned by strong evidence and open data
- > A Centre of Excellence promoting knowledge exchange from existing leaders
- > A variety of traditional and innovative funding mechanisms available for Riverwoods

It is hoped that the network of riparian woodlands protected and expanded as a result of this project will be seen as a key part of the Scottish Nature Network.



Project Timescale

The Scottish Wildlife Trust has been working with a range of stakeholders and interested parties to shape the initiative since 2019. Timescales for implementation will be funding dependent.



SBS Objectives

The aims from the *2020 Challenge for Scotland's Biodiversity*:

1

To protect and restore biodiversity on land and in our seas, and to support healthier ecosystems.

By seeking to protect, expand and connect Scotland's riparian woodlands, this project will protect and restore a wide variety of biodiversity, as well as improve several terrestrial and aquatic ecosystems.

2

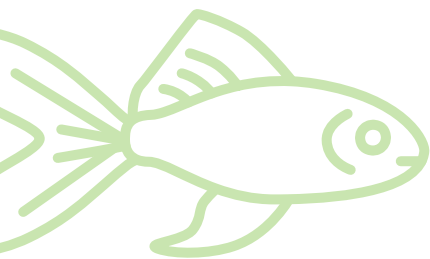
To connect people with the natural world, for their health and wellbeing and to involve them more in decisions about their environment.

The partnership nature of the project, as well as its focus on engaging and involving land managers and local communities will connect a wide range of key audiences with nature and involve them in decisions.

3

To maximise the benefits for Scotland of a diverse natural environment and the services it provides, contributing to sustainable economic growth.

The aim of involving land managers and the focus on innovative financing will ensure that the woodlands protected or expanded will be recognised for their ecosystem services, be economically sustainable and support employment.





Project Summary

Many organisations, including private landowners, public agencies, and conservation charities are involved in riparian restoration projects in Scotland. The Riverwoods project aims to bring these individual projects and activities together to:

- Build an evidence base and showcase what can be done.
- Effectively communicate the benefits of a Scotland-wide network of riparian woodland.
- Secure future support (financial, social, political) for riparian woodlands in Scotland.

Scotland's streams and rivers cover 125,000km, 12.5 times the length of the country's coastline. Improving and restoring the riparian zone would make an important contribution to the Scottish Nature Network and deliver for biodiversity in addition to mitigating the impacts of climate change.



Climate Impacts

Carbon sequestration through tree planting, soil improvement and increased sediment. Adaptation through water management preventing flooding and regulating during drought, water cooling through increased shade. There will also be an important element of local empowerment in relation to tackling climate change.



People Information

This project is currently at the scoping stage and further information will be available in the short to medium future. This project will 'link together' other work that is already underway by various partner organisations. At the time of writing, recruitment for a Project Manager was underway.



Successes and achievements

It is too early to claim any specific success, but indicators of success will be :

- **Ecological restoration of river systems.**
- **A focus on use of innovative finance, job creation and income generation.**
- **The involvement of local community and landowners/managers.**



Issues and challenges

This is a complex project focusing on transformative change at scale and, as such, is unlikely to deliver progression in a linear fashion. One of the challenges has been taking a concept that is new, particularly on the innovative finance front, and building in these principles from the ground up.

On a more practical level, the pandemic led to a pause in the development of the project while other projects that were already in delivery had to be prioritised.



Funding

This is yet to be determined and will involve a number of sources, including traditional philanthropic support alongside innovative conservation finance approaches.

The Riverwoods project was identified as a "spotlight" project in the **Route Map to £1 Billion** published jointly by SEPA and SWT in May 2020.



Further information

<https://scottishwildlifetrust.org.uk/our-work/our-projects/riverwoods/>



Discussion

1 Biodiversity

The 15 projects described in this report benefit a wide range of Scotland's wildlife – from flowering plants, bryophytes and fungi, insects, amphibians, birds, to terrestrial and marine mammals. These species benefit from monitoring, protection, and direct management to improve their numbers. The latter is often carried out in the form of habitat improvement, (re)creation and/or (re)connection. Examples illustrated here include woodlands of various types, wetlands and peatlands, offshore islands and marine or coastal habitats – as well as working with commercial land managers to improve the wildlife value of “worked landscapes”. The species and habitats benefiting from these interventions are all those of conservation concern, as prioritised by both science and public policy.

By enhancing habitats, creating new connections between habitats, and improving the wildlife value of “worked landscapes”, these projects are contributing to a nascent Scottish Nature Network. Along with eNGO initiatives and nature reserves not covered here, and overlapping with and complementing the statutory protected area network, such a Scottish Nature Network is essential in delivering many of the outcomes of the Scottish Government's Biodiversity Strategy, including the following:

- Scotland's ecosystems are restored to good ecological health.
- Natural capital [is increased] to pass on to the next generation.
- The special value and international importance of Scotland's nature and geodiversity is assured, wildlife is faring well, and we have a highly effective network of protected places.

The case studies presented in this report were all conceived by Scotland's environmental charities. These environmental NGOs are critically central to their delivery although, in most cases, delivery is through partnerships with each other and/or with relevant public sector bodies. They all serve to achieve public policy objectives, set out inter alia in the Scottish Biodiversity Strategy. While biodiversity conservation is often their primary objective and outcome, they also contribute significantly to climate change targets and deliver benefits in employment and well-being. Funding, particularly over the long term, is a key limiting factor.

- Nature is faring well, and ecosystems are resilient as a result of sustainable land and water management.
- Scotland's marine and coastal environments are clean, healthy, safe, productive, and biologically diverse, meeting the long-term needs of people and nature.

In the context of Scotland's challenges in meeting the 2020 Aichi biodiversity targets and future targets, and especially those related to ‘ends’ targets (compared to various ‘process’ targets), there is a need for greater focus on delivery. The projects described in this report illustrate delivery at its best – real outcomes for species and habitats, delivered by eNGOs working in partnership with public bodies and the private sector. To meet the likely targets for the forthcoming decade, arising from the Kunming CoP, the example provided by the EU Biodiversity Strategy and the new Scottish Biodiversity Strategy, there will be a need for more, and larger, projects of the type described here.

2 Climate change

While addressing climate change is not the primary purpose of any of the projects described in this report, all contribute to mitigation and/or adaptation. Efforts to protect woodlands and peatlands, as well as marine habitats, all ensure that carbon stores remain locked up rather than adding to emissions. Enhancements to those habitats further contribute additional sequestration potential. Nature-friendly management of wetlands and coastal habitats aids the mitigation of floods and/or droughts that may increase in severity due to climate changes.

As the Scottish Government recognises, the climate and nature emergencies are twin crises and need to be addressed together. These projects – and the wider eNGO initiatives they illustrate – are ideal examples of the “win-win” offered by nature-based solutions.

“Dealing with the twin crises of climate change and biodiversity loss is one of the most important challenges of this generation. ... As we begin to emerge from the pandemic, nature-based solutions such as woodland creation, peatland restoration, urban green infrastructure, regeneration, and a great range of sustainable enterprises will not only help the environment but create jobs helping us build a greener, more inclusive economy.”

Environment Secretary, Rosanna Cunningham MSP, 14 December 2020 ¹⁷

3 Employment and well-being

The 15 projects described in this report are responsible for the direct employment of over 100 people across Scotland, as well as the involvement of several thousand volunteers. However, none would exist without the staff and volunteer teams of Scotland’s environmental charities. In themselves, these organisations employ a significant number of people, all supported by an array of volunteers (see table 1). Voluntary roles include trusteeships, committee memberships, citizen scientists, those engaged in land management, welcoming and engaging visitors and communities, fundraisers and people helping with office work. These are, in turn, supported by a wide range of contractors and partners, as well as staff/volunteer expenditure in local economies.

As such, these projects deliver significant employment, often in more remote and rural communities. These jobs, as well the voluntary opportunities, are professionally managed, with training and skills development adding to the well-being thus provided.

The well-being of the wider population is also enhanced by the provision of outdoor access and connections with nature for both local communities and visitors. Participation and connections with nature, through these projects, is difficult to measure accurately but will certainly be the tens of thousands. Taken together with wider work of Scotland’s eNGOs, as well as the private wildlife tourism sector and sites managed by the public sector, Scotland’s wildlife already supports significant employment in Scotland ¹⁸ – as well as adding hugely to everyone’s well-being.

4 Funding

The 15 projects described in this report represent, at a minimum, a total investment of over £30 million, spread over the past few/next few years. This sum will be much larger if, or when, short or one-year projects are replicated/extended. They also only represent a small sample of the work carried out by Scotland’s eNGOs and an even smaller proportion of the work they aspire to carry out. All these projects depend on funds from the eNGOs’ core budgets – that is, money donated by their members and supporters. However, they are also all supported by additional funds raised by the charities’ fundraising teams from European, lottery or private foundation sources. This illustrates the critical role that eNGOs play in leveraging external funding to benefit Scotland’s environment, and the associated socio-economic benefits.

A significant source of funding for projects such as those illustrated in this report are private foundations and charitable trusts. A recent analysis¹⁹ of these funds underlined their importance of bringing funds to Scotland, but also demonstrated that:

“From 2012–15, private foundation support for environmental work in England and Wales was 20 times greater than in Scotland. That’s the equivalent of:

- **£2 per capita in England and Wales versus £1 per capita in Scotland and**
- **£768 per square kilometre in England and Wales versus £70 per square kilometre in Scotland.”**

¹⁷ <https://www.thenational.scot/news/18942995.scotland-nature-given-30-per-cent-country-snps-new-plans/>

¹⁸ <https://www.nature.scot/huge-potential-nature-based-jobs-boost>

¹⁹ <https://www.greenfund.org/where-the-green-grants-went-scotland/>

As they help to deliver public policy objectives, many are also supported by taxpayers' money – usually via NatureScot but also from the National Park Authorities and other agencies. These contributions are, however, often a small proportion of the total; many of the projects here have taken place without any public funds and others are yet to finalise funding arrangements. However, where funding sources are clear and complete, NatureScot contributions are often around the 20% level. That said, NatureScot or government support, is often critical in 'unlocking' other quasi-public sources such as European or Landfill Communities funds. NatureScot may also be involved in supporting the eNGO costs outwith the core project budgets.

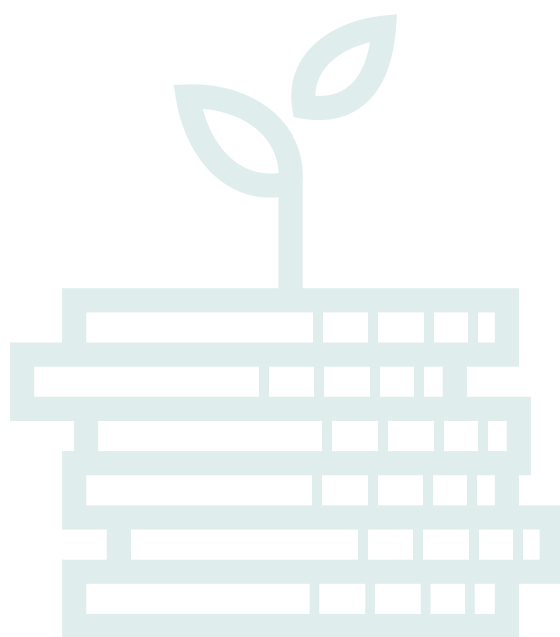
If current and future biodiversity are to be achieved, **there is a need for a step change in effort – and this can only be delivered with a step change in funding.** However, such a step change in funding also needs to be viewed against current threats to and recent declines in available funds. For instance:

- Scotland's key public sector environment agencies in Scotland have been subject to a 40% reduction in funding in real terms from 2010–2020²⁰. This undermines the ability of core nature agencies to deliver on biodiversity objectives and responsibilities.
- Brexit has introduced a major threat to the availability of LIFE funding from the EU which has been crucial to most of the large biodiversity projects in Scotland in recent years, including several of those described in this report (see, for example, case studies on Shiant Isles and Morvern's Rainforest). Scotland has benefitted enormously²¹ since the LIFE Nature fund's inception – it has funded over 25 LIFE projects, bringing in well over £25 million for conservation delivery, 21% of the UK total.

Both these threats need to be addressed – by finding a 'replacement' for European funds and reversing the recent cuts in domestic funding. However, those two actions must be the first, or minimum, response. To meet current and future targets, a significant increase in public funding for biodiversity is essential.

5 Wider policy context

Finally, it must be observed that none of these projects operate in a vacuum. They all take place in an environment influenced by public policy other than that focused on biodiversity. This wider policy framework has an impact on the need for, the success and the costs of all such projects. This contextual issue is recognised in international and European biodiversity policy (see, for example Aichi targets 2 and 3²², and the new EU Biodiversity Strategy²³). Going forward, it will be important that the Scottish Government ensures that its agriculture, fisheries, forestry, planning and other policies are better aligned to its biodiversity objectives – and thus provide a supportive framework.



²⁰ <https://www.scotlink.org/funding-the-nature-and-climate-emergency-reversing-a-decade-of-austerity-for-the-environment/>

²¹ Species and habitats benefitting have included the freshwater pearl mussel; the corncrake; the Flow Country peatlands; Caledonian pinewoods; the red squirrel; and machair grasslands.

²² <https://www.cbd.int/sp/targets/>

²³ https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/actions-being-taken-eu/eu-biodiversity-strategy-2030_en

“Conservation is not a luxury, an optional extra we can afford when the economy picks up, but a vital necessity if our species are to have a long-term future.”

Prof. Aubrey Manning, 1997 ²⁴

Conclusion

- 1** Scotland has one of the most vibrant and active voluntary environment sectors in the world. Our environmental charities represent over 500,000 individuals who subscribe as members, donors, supporters and/or volunteers. They underscore the deep connections between nature and people in Scotland, and the huge enthusiasm for wildlife conservation among the Scottish public.
- 2** Scotland’s environmental charities remain committed to playing their role in protecting and enhancing Scotland’s environment, and thus contributing to the delivery of current and future policy goals for biodiversity. Their role remains multi-faceted: delivery of ‘on-the-ground’ projects, such as those highlighted in this report, will remain crucial, but this will be accompanied by work to improve public awareness and understanding, to collect and publish relevant data, but also to challenge and constructively criticise public bodies, where necessary. Flexibility and commitment to deliver despite existential challenges brought by the impact of Covid-19 underline the ability of the sector to be creative and pivot to deliver impact.
- 3** The case studies highlighted demonstrate the track record and plans of Scotland’s environmental charities. They include delivery for species, habitats, and ecosystems, but also demonstrate significant contributions to climate mitigation/adaptation, well-being and considerable socio-economic benefits. Despite the successes, however, this review also highlights several challenges, especially funding and the difficulties associated with raising funds for such work. It further reveals the enormous reliance, by Government and public bodies, on the charities’ members and donors, and charitable funds they can access, to achieve their public policy goals.
- 4** Through these example projects, and other work, **Scotland’s environmental charities are making a massive contribution to the delivery of public policy objectives** as set by the Scottish Government. This contribution is:
 - a.** delivering a total investment of over £30 million
 - b.** rightly, supported by significant, but often proportionally limited, sums of taxpayers’ money; and
 - c.** only deliverable because of the investment, by those charities, of funds provided by their members, supporters, and donors, as well as the work, again by the staff of those charities, to raise funds from private foundations or European and lottery sources.

²⁴ Manning, A. (1997) Biodiversity Conservation in Scotland: personal reflections. In Biodiversity in Scotland: status trends and initiatives, ed Fleming et al, TSO, Edinburgh, pp286-294

5 On funding, the Scottish Government and NatureScot have made positive progress with schemes such as the Peatland ACTION Fund²⁵ and the Biodiversity Challenge Fund²⁶. These are welcome, as are some improvements to the core funding of NatureScot, announced in the most recent budget, albeit not fully reversing recent declines. However, as the funding issues highlighted by the case studies in this report demonstrate, this will be inadequate to meet the challenges ahead or to enable Scotland to meet either the 2020 targets, belatedly, or the likely 2030 targets.

At a minimum, to address this funding challenge, eNGOs have called on the Scottish Government to:

- ***“Review and reform existing public expenditure and procurement so that perverse and conflicting incentives are ended.***
- ***Transform the Biodiversity Challenge Fund into a large-scale nature fund for Scotland. This should be targeted explicitly at addressing the five direct drivers of biodiversity loss, at a project scale between £200k and £10m.***
- ***Properly fund the statutory environment agencies so they can carry out their statutory duties, at a minimum by reinstating budgets to 2010 levels.”***²⁷

It has been estimated that a “Scottish Nature Fund” as described above would need to be in the order of at least £10m per year over the decade to 2030; this would be additional to current expenditure on peatlands, agri-environment schemes, etc. In addition to these recommendations **the Scottish Government must urgently press the UK Government to develop a post-Brexit replacement for the LIFE Nature funding stream.**

Public investment in these public policy objectives is currently inadequate. **There is a clear need for a step change in funding for biodiversity conservation.** If this happens, Scotland’s environmental charities stand ready to increase delivery for and on behalf of Scotland’s people.

6 Biodiversity action does not take place in a vacuum. Its ability to deliver, and to contribute to national objectives, is heavily influenced by wider public policy. A supportive and integrated policy framework leads to the development of more projects, to an increase in funding for such projects, and to their delivery becoming part of a “greater whole”.

Related policy can also support, or undermine, biodiversity objectives – central to this is public policy related to land management and to the use and exploitation of marine resources. This is recognised in the current Aichi 2020 targets, in the likely post-2020 framework to be agreed at Kunming and in the new EU biodiversity strategy.

The Scottish Government should, therefore, along with a new Scottish Biodiversity Strategy move to ensure such a supportive policy framework. At the minimum, this should include:

- **Legally binding targets for nature’s recovery.**
- **Delivery of the “30x30 commitment” for protected areas.**
- **Commitment to, and delivery of, a Scottish Nature Network.**
- **Reform of land management incentives and policies on marine use.**

7 The Edinburgh Declaration²⁸ notes the important role of eNGOs and other stakeholders “in decision making and in taking action” for biodiversity. This recognition is very welcome and is also reflected in the case studies presented in this report – which demonstrate the central role of the environmental charities in delivering biodiversity outcomes. The new Scottish Biodiversity Strategy must recognise this role, continuing its support for such projects, enhancing funding, but also by improving participation in decision making, such as the developing implementation structures.

8 Overall, there remains a need for a step change, a phrase first used in the 2020 Challenge for Scotland’s Biodiversity, but the 2021 **Scottish Biodiversity Strategy must deliver a real and sustained step change**, in both policy actions and funding to enable more and bigger projects of the type illustrated in this report. The scale of the challenge faced by Scotland and the wider world to reverse biodiversity decline and restore it for future generations can only be achieved by working together: neither the public nor private sector can achieve this alone.

Environmental charities and civic society offer a key to success through their sustained action on the ground, working together at scale and over time.

²⁵ <https://www.nature.scot/climate-change/nature-based-solutions/peatland-action/peatland-action-fund-how-apply>

²⁶ <https://www.nature.scot/funding-and-projects/biodiversity-challenge-fund-bcf>

²⁷ <https://www.rspb.org.uk/globalassets/downloads/nature-recovery-plan---scotland/nature-recovery-plan.pdf>

²⁸ <https://www.gov.scot/publications/edinburgh-declaration-on-post-2020-biodiversity-framework/pages/call-for-action/>





Photo: Mae Mackay



Scottish Environment LINK



Alliance for
Scotland's
Rainforest



Cairngorms
Connect



Hebridean
Whale &
Dolphin
Trust



Plantlife

