Agenda Item	11
Report No	ECI/20/2021

HIGHLAND COUNCIL

Committee: **Economy and Infrastructure**

Date: **5 May 2021**

Report Title: **Highland Nature: Biodiversity Action Plan 2021-2026**

Report By: **Executive Chief Officer Infrastructure and Environment**

1 Purpose/Executive Summary

1.1 This report presents the draft Highland Nature: Biodiversity Action Plan 2021-2026 (BAP). The BAP sets out a series of commitments by partner organisations to take action to improve biodiversity and address issues related to biodiversity/habitat loss over the next five-year period.

1.2 The BAP has been developed, written and produced by the Highland Environment Forum on behalf of a range of partners and stakeholders, including Highland Council; the BAP is not a Council document. The Council is, however, a key partner central to the region's aspirations of supporting positive action to protect and enhance our outstanding and internationally recognised biodiversity and ecology. The proposed Council commitments and specific contributions to the BAP are outlined in this report.

2 Recommendations

2.1 Members are asked to:-

i. Agree the proposed Council commitments in Highland Nature: Biodiversity Action Plan 2021-2026;

ii. Identify any additional Council commitments Members would wish to see included within Highland Nature: Biodiversity Action Plan 2021-2026; and

iii. Approve and adopt the commitments outlined in Highland Nature: Biodiversity Action Plan 2021-2026.

3 Implications

3.1 **Resource** - currently the Council has no resource dedicated specifically to biodiversity or delivering biodiversity improvements. Several of the commitments are reliant on the Council securing, in partnership with NatureScot (NS), an additional resource to assist with delivery. A 2-year fixed-term position has been agreed in principle with NS and final confirmation of funding is awaited. It should be further noted that if Members identify significant additional Council commitments it is likely that additional resource would be required to ensure delivery.

3.2 **Legal** - The BAP has no statutory weight and any commitments made by the Council or other partners are not legally binding or enforceable.

3.3 **Community (Equality, Poverty and Rural)** – There are no implications arising from this report.

3.4 **Climate Change / Carbon Clever** - Climate change and biodiversity, biodiversity loss and the ecological emergency are inextricably linked, and they face many of the same challenges. In many cases, improvements made for the benefit of biodiversity result in positive action in tackling the global climate emergency.

3.5 **Risk** - Failure to deliver, in whole or in part, on the commitments made by the Council in the BAP may negatively impact the organisation's reputation and weaken (in the eyes of the public and its partners) the Council's commitment to the declared climate and ecological emergency. It is therefore important that, whilst the Council should take a proactive and positive position in this document, the commitments made should be both realistic and achievable with the level of resourcing available.

3.6 **Gaelic** - There are no Gaelic implications arising from this report.

4 Background

4.1 The draft BAP is the fourth biodiversity action plan for Highland and focuses on actions that can be delivered locally, whilst taking a lead from international and national priorities. The BAP recognises that here are many biodiversity/ecology concerns that require national action and policy to address but, as a local biodiversity action plan, these are out with the scope and remit of this document. It should be noted that the Cairngorms National Park has its own biodiversity action plan ('Cairngorms Nature') and there is much shared ground in the aspirations of both plans.

4.2 Biodiversity Action Plans do not have a statutory basis, or associated funding, and so they are only as strong as the commitments made, with the plans 'owned' by the partners. The draft BAP has been developed through a series of surveys, workshops and meetings with Highland Environment Forum members (including Highland Council) and the wider public. This work was overseen and coordinated by the Highland Environment Forum's Biodiversity Working Group. It is likely that changes to the general text, layout and formatting of the draft BAP may occur prior to the formal release of the document in late May.

4.3 Forty-three land managers, conservation NGOs, local groups and public bodies have come together to make a commitment to the long-term visions and the actions that are required to achieve them.

4.4 It should be noted that the BAP is a starting point. A number of short life working groups will be convened to consider some of the more difficult and/or pressing issues in more detail, and these will help to identify priorities and establish opportunities for further partnership working. The BAP will be reviewed and updated as actions and targets are fine-tuned, as new policies and opportunities arise, and as new partners and/or new commitments are identified.

5 Highland Council BAP Commitments

5.1 The BAP has identified nine key actions with relevant commitments from partner organisations listed for each. Six priority landscapes/habitats are also identified (upland and moorland; peatland and wetland; woodland and forest; freshwater: rivers, burns and lochs; agricultural land and; coast & marine), which also have a series of commitments from partners listed. The following sections of this report outline the proposed Highland Council commitments.

5.2 Action 1: Planning and development protects biodiversity and seeks opportunities for biodiversity net gain

Section 1.1 and Section 1.2 set out the Council's commitment to protecting and delivering positive outcomes for biodiversity in both development planning and development management. The commitments outlined in the BAP are broad but cover a range of planning and development policy and guidance, and how this is implemented as part of the development management process.

Additional commitments include the development of a mechanism to secure biodiversity improvements in development (as is required by the Planning (Scotland) Act 2019 and the emerging NPF4); this commitment is a substantial piece of work requiring the successful implementation of the shared resource identified in the Implications section above.

5.3 Action 2: Landscape scale nature conservation and restoration work

The Council are making a commitment to identifying areas of The Pollinator Strategy for Scotland 2017-2027 that can be taken forward within the organisation, noting the welcome offer from BugLife Scotland to assist the Council in developing our own strategy if required (Section 2.6). The Council are also committing to developing partnership projects with Highlife Highland, BugLife Scotland (as part of their B-Lines initiative) and the Cairngorms National Park.

Section 2.8 outlines a commitment to identify (and implement) opportunities to better manage the Council's estate for the benefit of biodiversity. It is recognised that there are numerous opportunities in this area where the Council can make a difference and demonstrate its commitment to the ecological emergency. It is further recognised that the implementation of this commitment requires buy-in from across the organisation and successful partnership working with relevant stakeholders.

5.4 **Action 3: Identify and conserve priority species**

As per Section 3.4, the Council will continue with the Species Champion programme with local Councillors.

5.5 **Action 4 Invasive non-native invasive species are controlled**

As per Section 4.1 the Council, alongside partners, will continue to play an active role in the invasive non-native species working group.

5.6 **Action 6: Access to green and blue health benefits is increased**

The Council will continue to commit to encouraging and safeguarding green space, green corridors and networks (Section 6.3). Likewise, the Council will continue to review the Core Path Plans and operate and manage the three existing statutory Long-Distance Routes (West Highland Way, Speyside Way and Great Glen Way), as well as enhancing active travel infrastructure (Section 6.5).

5.7 **Action 9: Long-term research into environmental change continues to expand**

The Council have made a number of suggestions for long term research and data collection to contribute to Action 9, and we would be keen to commit to contributing to all of the areas identified, including the use of pesticides as currently under review, where we have the in-house expertise to do so.

5.8 **Priority Habitat: Peatlands and Wetland**

The Council will restate our commitment to supporting UNESCO World Heritage Site status for the Flow Country and have registered interest in being involved in a peatlands working group. Additionally, we will continue to encourage, promote and secure peatland restoration from development where appropriate.

5.9 **Priority Habitat: Woodland and Forest**

The Council will restate its commitment to the objectives outlined in the Highland Forestry and Woodland Strategy and specifically will support the creation of woodland crofts (sub-sections 2 and 5).

5.10 **Priority Habitat: Coast & Marine**

The Council will facilitate and keep abreast of changes to aquaculture regulation on anti-predation methods and risk based spatial planning and where appropriate, require suitable assessments and/or planning conditions to ensure interactions with the natural environment are understood and important biodiversity features are safeguarded.

6 Next Steps

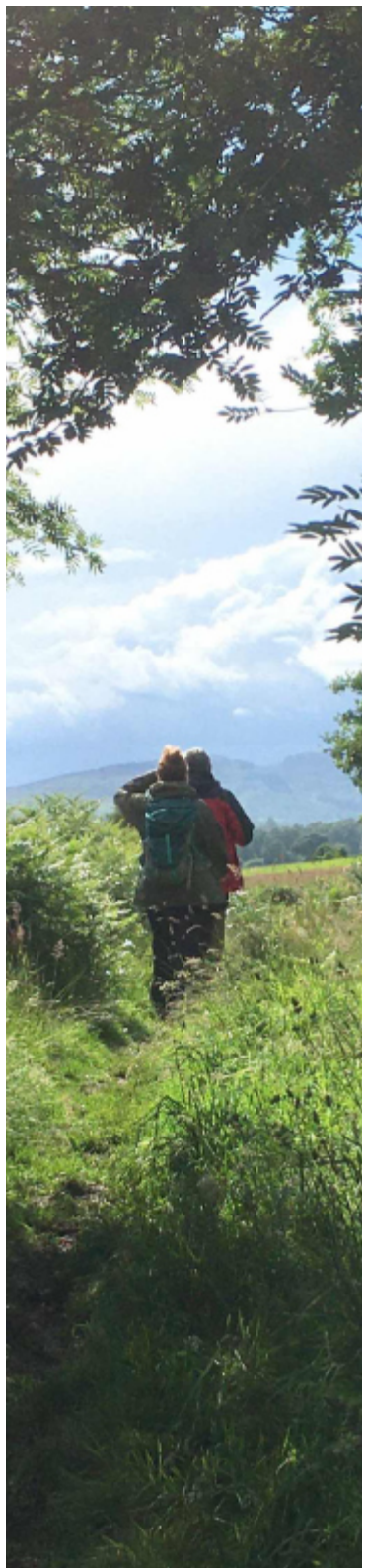
6.1 Following agreement by the Economy and Infrastructure Committee of the proposed Council commitments in the BAP and inclusion of any further additional commitments as identified by this committee, the Council will become an official signatory of Highland Nature: Biodiversity Action Plan 2021-2026.

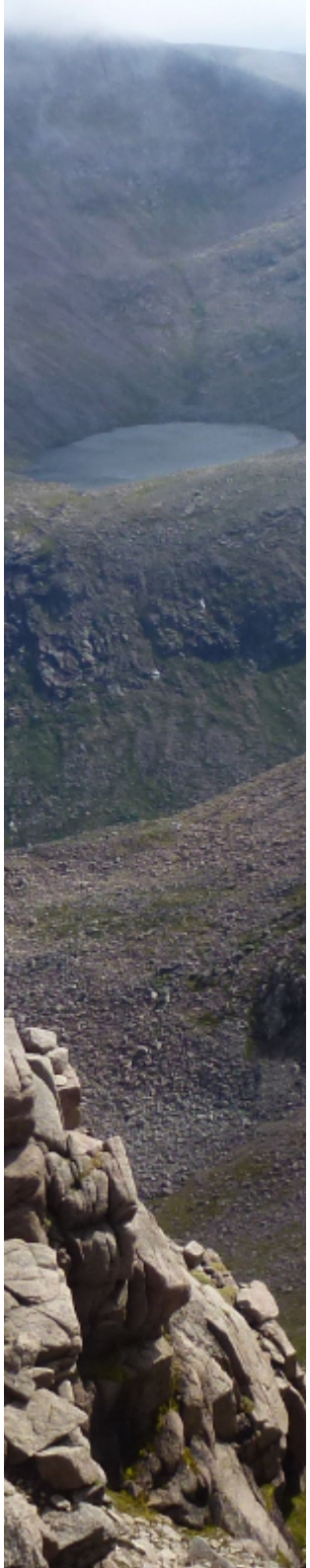
6.2 The Highland Environment Forum intend the public launch of the BAP to take place in the second half of May in advance of the UN Biodiversity Conference (COP15) in Kunming and UN Climate Change Conference (COP26) in Glasgow. Both of these events will offer opportunities to re-focus attention on the Highland BAP and attract new partners and additional resources to tackle biodiversity loss and the ecological emergency in Highland.

Designation: Executive Chief Officer Infrastructure and Environment

Date: 16 April 2021

Author: Andrew Puls, Acting Environment Manager





Draft

Highland Nature

Biodiversity Action Plan

2021 - 2026

‘We humans are part of, and fully dependent on, this web of life: it gives us the food we eat, filters the water we drink, and supplies the air we breathe. Nature is as important for our mental and physical wellbeing as it is for our society’s ability to cope with global change, health threats and disasters. We need nature in our lives.’

EU Biodiversity Strategy for 2030: Bringing nature back into our lives,
Communication from the European Commission to the European Parliament

Contents

Partners

Ardtornish Estate

Association of Deer Management Groups

Assynt Field Club

Beauly Fisheries Board

Buglife Scotland

Bumblebee Conservation Trust

Bunloit Rewilding

Butterfly Conservation Scotland

Cairngorms National Park Authority

Caithness Biodiversity Group

CONFOR

Corrour Estate

Cromarty Firth Fishery Board

Findhorn, Nairn and Lossie Rivers Trust

Forestry and Land Scotland

Highland Biological Recording Group

Highland Council (provisional)

Highland Environment Forum

High Life Highland

John Muir Trust

Lantra

Lochaber Biodiversity Group

Marine Conservation Society

Ministry of Defence

Moray Firth Coastal Partnership

National Farmers Union, Scotland

National Trust for Scotland

Nature Friendly Farming Network

NatureScot

Plantlife Scotland

Royal Society for the Protection of Birds Scotland

Scottish & Southern Electricity

Scottish & Southern Electricity Networks: Transmission

Scottish Environment Protection Agency

Scottish Forestry

Scottish Land and Estates

Scottish Wildlife Trust

Spey Catchment Initiative

Spey Fisheries Board

Trees for Life

West Sutherland Fisheries Trust

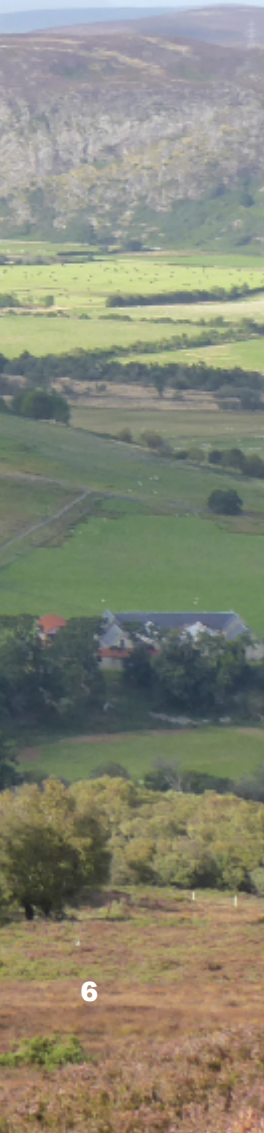
Wester Ross Biosphere

Woodland Trust Scotland

Partner abbreviations

AE	Ardtornish Estate
ADMG	Association of Deer Management Groups
AFC	Assynt Field Club
BFB	Beauly Fisheries Board
Buglife	Buglife Scotland
BBCT	Bumblebee Conservation Trust
Bunloit	Bunloit Rewilding
BCS	Butterfly Conservation Scotland
CaithnessBG	Caithness Biodiversity Group
CNPA	Cairngorms National Park Authority
CONFOR	CONFOR
Corrour	Corrour Estate
CFB	Cromarty Firth Fishery Board
FNLRT	Findhorn, Nairn and Lossie Rivers Trust
FLS	Forestry and Land Scotland
HBRG	Highland Biological Recording Group
HC	Highland Council
HEF	Highland Environment Forum
HLH	High Life Highland
JMT	John Muir Trust
Lantra	Lantra
LBG	Lochaber Biodiversity Group
MCS	Marine Conservation Society
MOD	Ministry of Defence
MFCP	Moray Firth Coastal Partnership
NS	NatureScot
NFUS	National Farmers Union, Scotland
NTS	National Trust for Scotland
NFFN	Nature Friendly Farming Network
Plantlife	Plantlife Scotland
RSPB	Royal Society for the Protection of Birds
SSE	Scottish & Southern Electricity
SSEN	Scottish & Southern Electricity Networks: Transmission
SEPA	Scottish Environment Protection Agency
SF	Scottish Forestry
SLE	Scottish Land and Estates
SWT	Scottish Wildlife Trust
Spey CI	Spey Catchment Initiative
SFB	Spey Fisheries Board
TfL	Trees for Life
WSFT	West Sutherland Fisheries Trust
WRB	Wester Ross Biosphere
WTS	Woodland Trust Scotland

Introduction



As he followed the slanting path the bushes came together into a low sheltering wood that had looked from a distance like a coverlet on the hillside. Stunted birch trees and hazels full of small singing or chirping birds: chaffinches, tits, green linnets, a scolding blackbird, a resounding robin; a flash, a flight, a scurry; with bounteous green-leaved space for one and all.

Neil Gunn ' The Well at the World's End'

The 'Highlands of Scotland', recognised recognised around the globe for stunning landscapes, internationally important habitats and iconic species, covers 26,000 square kilometres – a third of the land area of Scotland. The region has Britain's highest mountains, Europe's largest expanse of blanket bog, the highest proportion of ancient woodland in Scotland, and the longest coastline (4,905km) of any local authority area in the UK.

Highland supports over 75% of UK priority habitats. The Scottish Biodiversity List contains more than 2,000 priority species and over 1500 of these are found in the Highlands.

The importance of the Highlands for nature, from individual species to landscapes has won international recognition. There are three UNESCO recognised landscapes within Highland; the Wester Ross UNESCO Biosphere with the Beinn Eighe National Nature Reserve at its core, and two UNESCO recognised geoparks – Lochaber and North West Highlands – which owe their success to sustained community enthusiasm and effort. The Flow Country, which is being presented to UNESCO for consideration as a World Heritage Site, is significant for its specialised biodiversity and for the carbon sequestered within its peat layers.

Protected nature

In Highland, many landscapes and habitats are protected for their national and international significance. These include:

368 SSSIs

12 Ramsar wetland sites

48 Special Protection Areas

90 Special Areas for Conservation

12 National Nature Reserves

12 Nature Conservation Marine Protected Areas

14 National Scenic Areas

1 Local Nature Reserve

Acting for Nature

The costs and challenges that result from our 'broken relationship with nature' are becoming increasingly accepted. Awareness of the need to mend this relationship now extend beyond environmental organisations to national governments and international strategies.

Climate change, biodiversity loss and Covid-19 all highlight the close interaction that exists between human behaviour, the natural environment and ultimately our own health and survival. Put simply, all that we do has an impact on nature. It is a responsibility that we have to take seriously.

As we begin the UN Decade of Ecosystem Restoration, Highland Council recognises this responsibility and has declared an ecological and climate emergency for the region (May 2019).

The biodiversity actions identified in *Highland Nature* also take their lead from international strategies and targets to deliver benefits across the region. This report identifies the commitments made by 43 partners to undertake biodiversity action and to establish short life working groups that will look for opportunities for additional actions and partnership working.

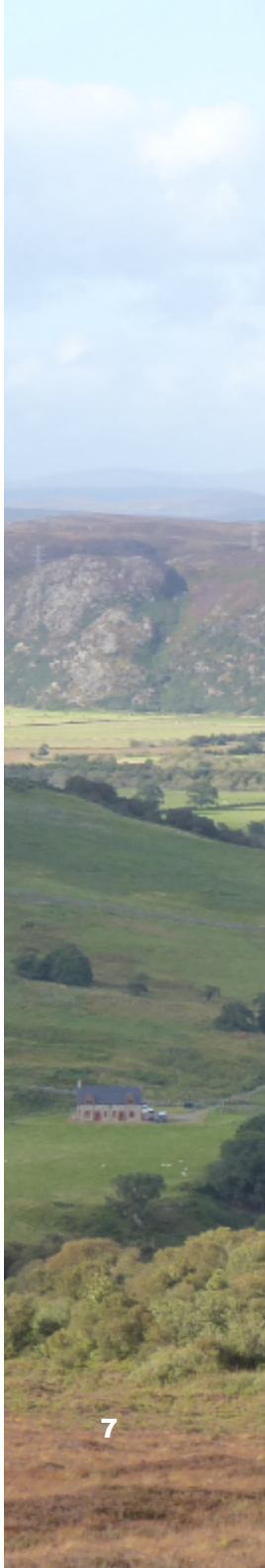
The Edinburgh Declaration agreed in August 2020 in preparation for the UN Biodiversity Conference in Kunming, China in 2021, is being signed up until the conference by many international partners representing sub-regions within their country. The declaration recognises the need for action at all levels of government and community, calling on parties to the UN post-2020 global biodiversity framework to:

> 'The UN Decade on Ecosystem Restoration is a rallying call for the protection and revival of ecosystems all around the world, for the benefit of people and nature. It aims to halt the degradation of ecosystems, and restore them to achieve global goals. Only with healthy ecosystems can we enhance people's livelihoods, counteract climate change, and stop the collapse of biodiversity.'
>
> UN Decade on Ecosystem Restoration website

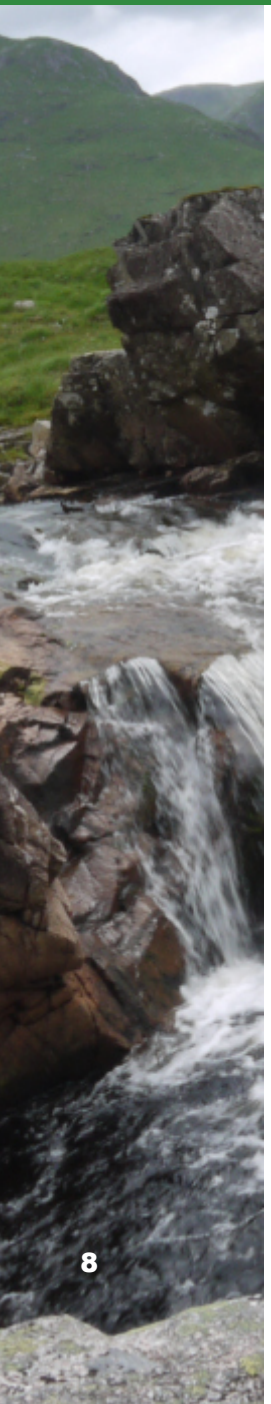
'Take strong and bold actions to bring about transformative change . . . in order to halt biodiversity loss.' The Declaration further notes 'the need to develop effective policy, governance and financing solutions at all levels of government and to ensure vertical integration across national, subnational, city and local levels to effect transformative change.'

2021 will also see the gathering of 26th UN Climate Change Conference in Glasgow (COP26) to agree measures to tackle carbon emissions and climate change. Both these gatherings of world leaders come at a time when acting to tackle the ecological and climate emergency is crucial.

Partners in *Highland Nature* all make an important contributions to translating this responsibility into practical action. There are many examples of recent positive work for nature collated in '*Highland Nature Action* 2015 – 2020'. It is a comprehensive, but inevitably, not exhaustive, document, and additional examples are always welcomed.



Creating Highland Nature 2021 - 2026



'Climate change, the unprecedented loss of biodiversity, and the spread of devastating pandemics are sending a clear message: it is time to fix our broken relationship with nature.'

Ursula von der Leyen, President of the European Commission at the launch of the European Biodiversity Strategy 2030

Highland Nature, 2021- 2026, is the fourth biodiversity action plan for Highland since 2006, and focuses on where positive biodiversity action can be taken to conserve and enhance important habitats and species. The Cairngorms National Park has its own biodiversity action plan 'Cairngorms Nature'. There is much shared ground in the aspirations of both plans.

Highland Nature is focussed on the actions that can be delivered locally, whilst taking a lead from international and national priorities. There are continuing conservation concerns that can only be addressed through national policy, and these lie outwith the remit of this plan. Some national priorities have been highlighted in the Scottish Government Statement of Intent for the Scottish Biodiversity Strategy post-2020.

'We cannot go back to the old normal of inequality, injustice and heedless dominion over the Earth.

Instead we must step towards a safer, more sustainable and equitable path.

We have a blueprint: the 2030 Agenda, the Sustainable Development Goals and the Paris Agreement on climate change.

The door is open; the solutions are there.'

United Nations Secretary-General
António Guterres (December 2020)

Many partners, many actions

Biodiversity Action Plans do not have a statutory basis, or associated funding, and so they are only as strong as the commitments made to them. In essence, a biodiversity action plan is 'owned' by the partners.

Highland Nature 2021 - 2026 has been created through surveys and meetings with Highland Environment Forum members and the wider public, and through the commitments undertaken by partners. This work was overseen and coordinated by the Highland Environment Forum's Biodiversity Working Group.

Forty-three land managers, conservation NGOs, local groups and public bodies have come together to make a commitment to the long-term visions and actions that are required to achieve them. There are many others in Highland who will share these aspirations, and all are welcome to become partners in the plan at any point during the 5-years of its delivery.

Highland Nature is a starting point. Short-life working groups will look at some of the action sections in more detail in order to identify priorities and see what the opportunities are for new partnership working.

The Plan will be reviewed and updated as actions and targets are fine-tuned and new policies and opportunities arise.

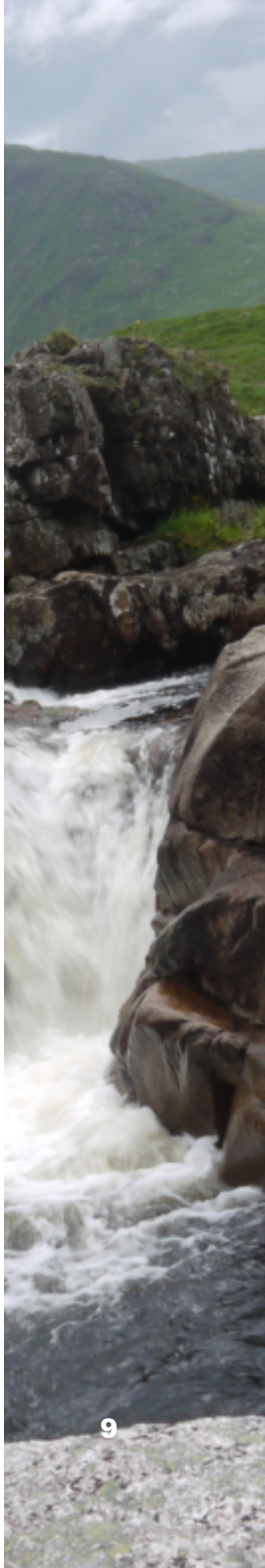
One Earth.

One home.

One shared future.

By 2045: 'By restoring nature and ending Scotland's contribution to climate change, our country is transformed for the better – helping to secure the wellbeing of our people and planet for generations to come.'

The Environment Strategy for Scotland: vision and outcomes (2020)



A plan for nature and people

'Biodiversity and ecosystems provide us with food, health and medicines, materials, recreation, and wellbeing. They filter our air and water, help keep the climate in balance, convert waste back into resources, pollinate and fertilise crops and much more.'

'Making nature healthy again is key to our physical and mental wellbeing and is an ally in the fight against climate change and disease outbreak . . . and is part of a European recovery that gives more back to the planet than it takes away.'

Ursula von der Leyen, President of the European Commission at the launch of the Eu Biodiversity Strategy 2030

Of all the factors affecting Highland Nature, people and their actions have the greatest influence. This can be through negative impacts such as climate change, species decline and overexploitation of resources, or it may be through the many positive actions that are undertaken from individual contributions to landscape-scale change. The companion document to this biodiversity action plan 'Highland Nature Actions 2015 to 2020' shows many positive examples of action that benefits Highland nature.

Underlying all the priorities and commitments made in this document is an awareness that the widespread sharing of information, skills and training are essential to make the plan a success and encourage positive interaction with nature.

Some of the ways identified to support people's understanding of, and involvement in, nature are through:

- More people actively and responsibly enjoying nature
- Greater collaboration and engagement in decision making
- Good conservation work recognised and celebrated

50-year vision

People

Everyone living in or visiting the Highlands enjoys and is proud of, the region's landscape and nature; and is more involved in its conservation and care. The health benefits provided by access to green and blue space are available to all.

People feel empowered to speak up for, engage with, and stimulate action for nature. Businesses based on the natural resources of land and sea thrive by looking after the natural environment they rely on. The work undertaken by land and sea managers to benefit nature is widely understood.

Making and recording wildlife observations is more accessible and people know how and where to report them.

'Protected places are especially valuable providers of ecosystem services because the ecosystems within them are in the best condition. They integrate conservation with people's enjoyment of nature, provide jobs, particularly in rural Scotland, and offer many other public benefits to health, education, employment, environmental justice and tourism.'

Paul Harris, Scottish Government, 2020 Challenge for Scotland's Biodiversity, 2013

Biodiversity protection, strategies, policies & targets

International

The UN Convention on Biodiversity 2050 target of '*Living in Harmony with Nature*' remains central to international thinking. Its aim is that: 'By 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people.'

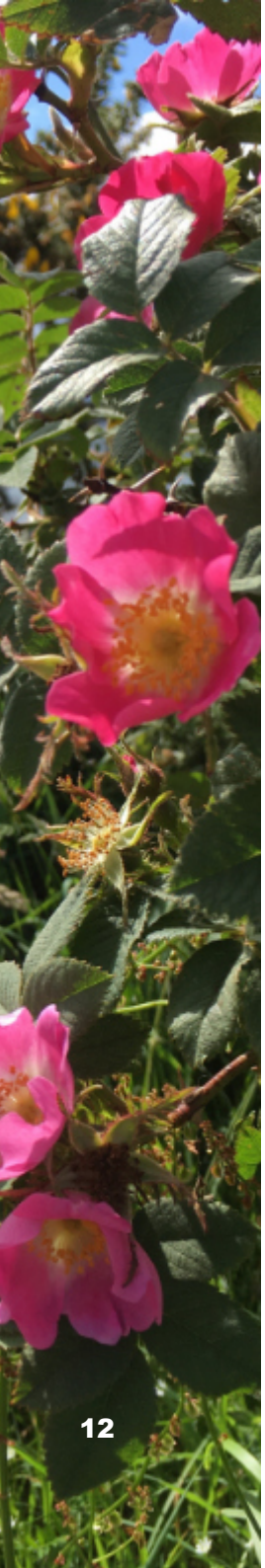
The IPBES 'Global Assessment Report on Biodiversity and Ecosystem Services' (2019) identified five main direct drivers for biodiversity loss. These are:

1. Land-use change
2. Climate change
3. Pollution
4. Natural resource use and exploitation
5. Invasive species

All of these are of fundamental importance to considering Highland biodiversity and the actions that we need to take to protect and enhance it.

The Aichi Targets (2010) similarly focused on action to be undertaken by 2020. These twenty targets were ambitious, and have not yet been met, but they remain central to the task. The targets are intended to meet 5 strategic goals:

1. Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society
2. Reduce the direct pressures on biodiversity and promote sustainable use
3. Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity
4. Enhance the benefits to all from biodiversity and ecosystem services
5. Enhance implementation through participatory planning, knowledge management and capacity building



'We will help to safeguard the wonders of nature for their own sake. We will honour our responsibilities to other nations. And we will help to ensure that we pass on a planet fit to live in to future generations.'

Roseanna Cunningham, Cabinet Secretary for Environment, Climate Change and Land Reform in The Environment Strategy for Scotland: vision and outcomes (2020)

Scottish

Designated Sites

Management of these sites is regulated and monitored by NatureScot.

Sites of Special Scientific Interest (SSSI), intended to protect a representative series of the best examples of habitats, flora, fauna and geological features. Scotland has 1,422 SSSIs, covering around 1,011,000 hectares or 12.6% of Scotland's land area.

European and international designations applied in Scotland

- Special Protection Areas
- Special Areas of Conservation
- Ramsar wetlands

Marine Protected Areas (MPAs)
The Scottish MPA network consists of 244 sites, 230 of which are for nature conservation.

Scottish Government made the commitment to continue to meet, or to exceed, these nature protection designations and the legislation that supports them post Brexit.

Strategy and policy

Scottish Biodiversity Strategy Post-2020: A Statement of Intent (Dec 2020). This includes the ambition to have increased 'the area protected for nature in Scotland to at least 30% of our land area by 2030' and 'ambitious new proposals to secure positive effects for biodiversity through development, through our work on National Planning Framework 4 (NPF4)'.

The Scottish Biodiversity Strategy (2013) highlighted Six Big Steps for Nature, identifying areas in which action should be undertaken: Ecosystem restoration; Investment in natural capital; Quality greenspace for health and education benefits; Conserving wildlife; sustainable management of land and freshwater; Sustainable management of marine and coastal ecosystems.

Scotland's National Marine Plan (to be reviewed in 2021)

National Planning Policy Framework 4 (NPF4) (not completed at the time of publication)

Securing a green recovery on a path to net zero: climate change plan 2018–2032 - update

The Environment Strategy for Scotland: vision and outcomes (Feb 2020)

Draft Strategy for Environment, Natural Resources and Agriculture Research (not completed at the time of publication)

Grouse Moor Management Group recommendations: Scottish Government response (Nov 2020)

The river basin management plan for the Scotland river basin district: 2015–2027

Testing a natural capital approach on NatureScot land (2019)

Scotland's Forestry Strategy 2019 - 2029

Wild Deer: A National Approach (2018/19)

Scottish Government Response to Deer Working Group (2021)

Soil Carbon and Land Use in Scotland (2018)

Scottish Pollinator Strategy (2017)

Aquaculture Growth to 2030: a strategic plan for farming Scotland's seas

Wildlife and Natural Environment (Scotland) Act 2011

SEPA Water Framework Directive (2007)

Highland

Highland Council, Declaration of Climate and Ecological Emergency (May 2019). A Climate Working Group has been established.

Highland Adapts

Highland Adapts has three years funding to begin to role out the priorities of the Highland Community Planning partners who recognise the need work closely with communities to :

- Undertake a Highland-wide climate risk assessment which will highlight vulnerable species, habitats and landscapes and identify actions to protect the environment
- Increase understanding and build the business case for nature-based adaptation actions, such as natural flood risk management

Highland Forest and Woodland Strategy (2018)

Highland Aquaculture Development Guidance

Highland Council Biodiversity Duty Report (2018 - 2020). Includes Highland planning policies for biodiversity

Local Biodiversity Action Plans - not being updated

Scottish NGO and industry papers

A Nature Recovery Plan for Scotland (2020)

Biodiversity, forestry and wood, CONFOR (2020)

Farming for 1.5 degrees (2020)

State of Nature, Scotland Report (2019)

A Network for Net Zero – Our Approach to Implementing Biodiversity Net Gain SSENetworks: Transmission (Dec 2019)

Action 1: Planning and development protects biodiversity and seeks opportunities for biodiversity net gain

Consultations with partners and others during the creation of *Highland Nature* made it clear that a commitment to put biodiversity protection and enhancement at the forefront of Highland development policy and actions would make a significant contribution to caring for nature. Such a commitment reinforces the message that tackling the ecological emergency is a high priority in the Highlands.

> 'We will develop ambitious new proposals to secure positive effects for biodiversity through development, through our work on National Planning Framework 4 (NPF4).'
>
> Scottish Government : Statement of Intent, Scottish Biodiversity Strategy post-2020

50-year vision

Planning and Development

A sustainable, circular and low carbon economy has developed, based on net zero emissions and positive carbon sequestration, combined with maximising care of the natural environment. These concepts are now at the heart of decision-making.

Nature is valued in its own right, and the importance of 'natural capital' is fully recognised.

Businesses based on the natural resources of land and sea thrive by looking after the environments they rely on; and contribute to the conservation of biodiversity. Funding mechanisms for land and sea management reward practices that care for the natural environment, reduce the impacts of climate change and enable public access.

Commitments made

1.1 All public agencies have planning and development policies that protect biodiversity and reduce climate change impacts.

FLS works in partnership with SF, NS, SEPA, a wide range of partner NGOs, research institutions and stakeholders in landscape-scale work for the benefit of wildlife and habitats FLS land management plans are subject to public consultation and reviewed every 5 years.

HC will:

- Continue to develop Local Development Plans and policies that recognise the importance of biodiversity in line with the new Planning (Scotland) Act 2019 and the new National Planning Framework (NPF4)
- Ensure its Highland 'Statutorily Protected Species Supplementary Guidance' is implemented for all planning applications. This guidance is being updated post-Brexit
- Move towards implementation of a biodiversity net gain system for new development when the Environment Bill becomes law

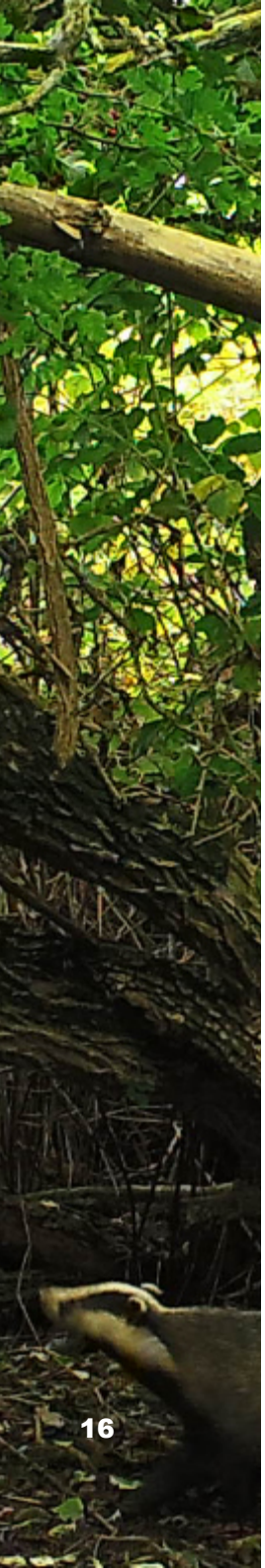
Bunloit would like to be involved in a Biodiversity Net Gain system when this is implemented by HC.

MOD has in-house environmental planners to ensure that projects follow best practice using the MOD Sustainability and Environmental Appraisal Tools.

NS contributes at policy level, as well as engaging with local development plans and individual planning applications - as described in the Planning for Great Places Service Statement.

SEPA has clear nature positive polices that adhere to designated sites protection and use planning guidelines to protect nature.

WTS comments on planning applications affecting ancient woodland, responds to Highland local development plans and advises on changes to planning policy that would protect ancient woodlands.



1.2 Planning policy and guidance is applied to deliver positive outcomes for biodiversity

HC will:

- Where appropriate, require suitable assessments and/or planning conditions to ensure that the biodiversity value of a development site is understood, and that they are safeguarded by suitable mitigation strategies
- Continue to encourage developers to adopt nature friendly Sustainable Urban Drainage systems (SUDs). HC notes that more work is needed to secure this with partners (Scottish Water and SEPA)
- Seek an additional resource to assist in developing (with partners) a strategic response to the ecological emergency, and to progress projects that will deliver practical biodiversity actions on the ground

NS will be gathering data on SUDs invertebrates in association with Edinburgh Napier University.

SEPA will continue to regulate activity

WTS advise on changes to planning policy that could protect ancient woodlands from inappropriate development.

1.3 Land managers have development plans that ensure the retention and creation of habitat that is good for nature.

A number of Highland estates, including *Highland Nature* partners – Ardtornish, Bunloit and Corrour – are committed to this approach.

NS manage their NNRs ensure the retention and creation of habitat that is good for nature.

SSEN Transmission has adopted a biodiversity net gain approach that will:

- Ensure natural environment considerations are included in decision making at each stage of a project's development
- Utilise the mitigation hierarchy to avoid impacts by including biodiversity in project design
- Achieve an overall 'No Net Loss' on new infrastructure
- Achieve biodiversity net gain on projects gaining consent in 2025 onwards

1.4 Ensure that a Highland Land Use Partnership has biodiversity protection and climate change impact reduction as priorities

Highland Nature partners, including RSPB and SWT, are committed to this approach.

1.5 Public agencies with a planning and development remit to continue to encourage a participatory approach

HLH could provide education, support and advice for the public, builders, planners and home-owners on bats – including running workshops (funding dependent).

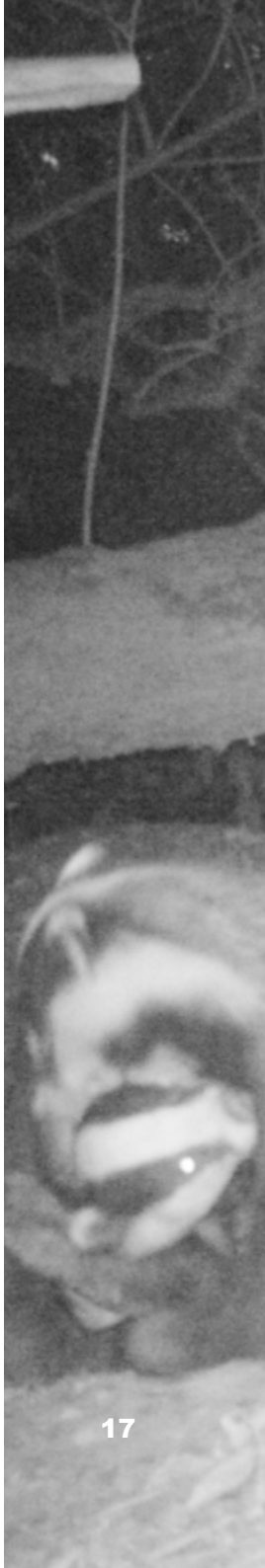
1.6 Provide biodiversity training for HC staff and Councillors.

Training support offered by:

HC ecologists, AssyntFC, HLH rangers, Plantlife, RSPB, WTS CNPA, SLE, HLH, NS.

BFB can offer on site learning opportunities.

Additional funding would allow other organisations to provide support - e.g. MFCP and WTS



Action 2: Landscape scale nature conservation and restoration work

This action focusses on land management. Marine management is considered under the 'Coast and Marine' habitat section.

Highland has many outstanding habitats and species, but loss continues to occur. To help meet these challenges conservation effort has expanded beyond individual sites to work at a landscape scale, generating imaginative initiatives that benefit both nature and communities. A number of landscape partnerships in Highland have demonstrated the success of this approach.

The challenge now is to move beyond these partnerships to create a Highland nature network, linking together areas to create opportunities for natural habitat connectivity and expansion, and native species spread and migration. Such links are vital to reverse the effects of habitat loss and to give Highland species the chance to survive climate change. *Highland Nature* partners will seek opportunities to undertake landscape scale nature conservation focussing on habitat protection, quality, restoration, connectivity and integration with other land uses.

Highland and the Cairngorms National Park have been chosen by Scottish Government to establish trial Regional Land Use Partnerships. It is hoped that these will put nature networks at the heart of their proposals.

Highland landscape scale partnerships

Caithness Wildlife and Waders Initiative

Coigach and Assynt Living Landscape

Croft Woodlands project

Isle of Eigg

Lochaber Geopark

Nevis Landscape Partnership

North Highlands Geopark

Peatland Partnership

Saving Scotland's Rainforest

Skye Corncrake Initiative

Skye Connect

Species-on the-Edge

Wester Ross biosphere

In the Cairngorms National Park: Strathspey Wetlands and Wader Initiative, Cairngorms Connect

A number of land managers and agencies also work at a landscape-scale and across multiple sites.

Commitments made

2.1 If there is sufficient support from partners, HEF will establish a working group to discuss opportunities for *Highland Nature* partners to work together.

Interested partners: AssyntFC, BFB, Buglife, BBCT, CNPA, Corrour, CFB, FLS, MFCP, NS, Plantlife, RSPB, SEPA SLE, SSEN, SWT, WRB, WTS

2.2 Identify landscape scale work that demonstrates the potential of integrated land management.

FLS's land management planning process operates at a landscape-scale. We actively seek to work in partnership with neighbouring land managers and stakeholders to achieve large scale change through joint action. Examples within North Region include Cairngorms Connect, East West Wild, The Flow Country Partnership, the Spey Catchment Initiative, the Cairngorms Capercaillie Project and multiple deer management groups.

HEF to work with partners to collate and to disseminate knowledge amongst partners and to the wider community of interest.

HLH Ranger service can support and give advice to community based landscape-wide partnerships and run guided walks within these areas.

SLE can facilitate discussion between land mangers and other interested parties.

Funding dependent: HLH and HC to work together to look at how to manage HLH sites better for wildlife as part of a HC-wide estate review.

2.3 Wildlife corridors along infrastructure routes

Buglife has mapped B-Lines across Britain. HC is in conversation with Buglife about the potential to work together (also see 2.4).

BCS have 'Building Sites for Butterflies' to encourage establishment of species-rich grassland along infrastructure routes, and in the built environment more generally.

Fisheries Boards work to improve the ecological connectivity of river systems / river corridors through e.g. re-naturalising flow and regeneration and planting of riparian woodland.

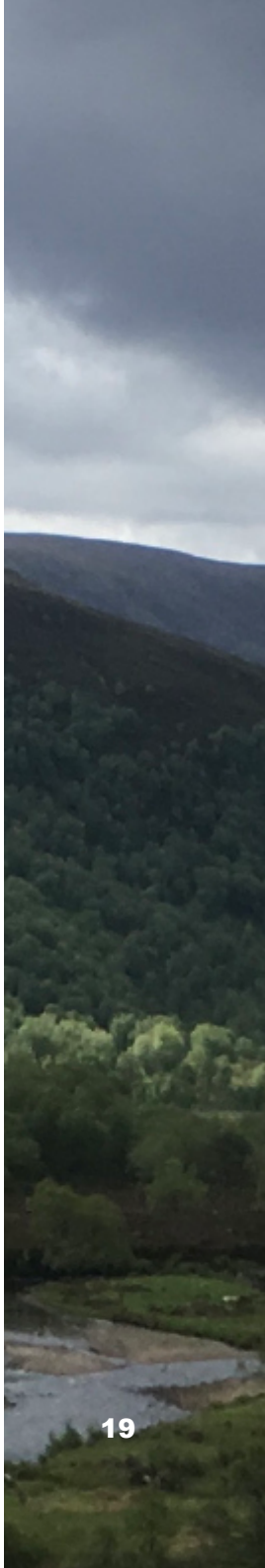
HC is working with CNPA to look for opportunities for verge management for wildlife.

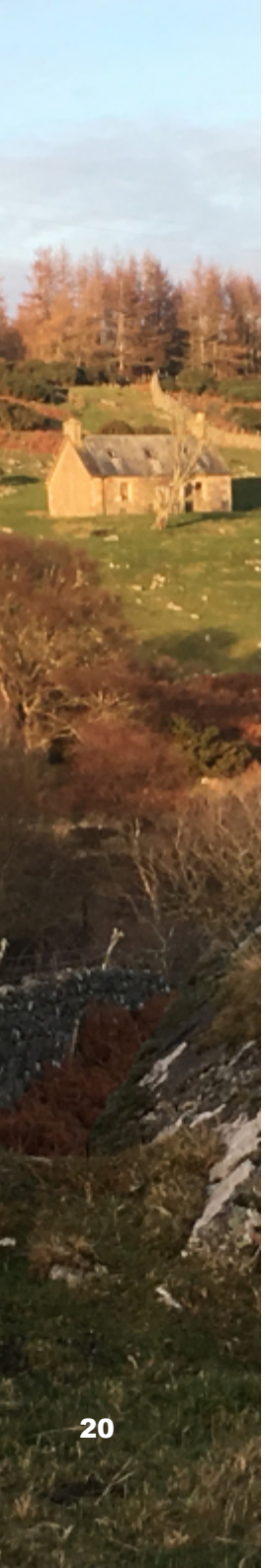
PS can provide guidance on verge management.

SSEN Transmission works closely with Fishery boards and trusts to explore opportunities for riparian tree planting.

SSE Hydro works closely with fishery boards and trusts to improve river connectivity and function.

SWT is leading a national Riverwoods partnership, to create a network of riparian woodlands and healthy rivers.





2.4 Look for opportunities for new partnership-based landscape scale work.

BFB hopes to engage with local land managers to demonstrate the links between land-use and fish productivity.

Buglife has mapped B-Lines across Britain. Buglife is looking for Highland partners to help to create a network of pollinator habitat. Additionally, the Buglife Important Invertebrate Areas highlight the most important sites for invertebrates across the UK. Fine-scale mapping is being undertaken in Scotland.

Corrour is looking at the potential for landscape-scale peatland restoration and native woodland expansion. They would be interested in linking up with other partners.

Plantlife to promote Important Plant Areas as part of a Highland nature network.

SWT is leading a national Riverwoods partnership, to create a network of riparian woodlands and healthy, resilient river systems across Scotland.

The Alliance for Scotland's Rainforest is working to raise awareness and action to restore and expand these woodlands.

TfL and partners, including Bunloit, FLS, NTS, RSPB, are seeking funding for East West Wild woodland restoration project stretching from Glen Affric to the west coast.

WTS is looking at the potential to create a landscape-scale project in Glen Torridon, joining with neighbours for woodland creation and restoration.

2.5 Improved integration of strategy and planning for land, coast and marine zones

Funding dependent actions include: Regional Marine Planning for the Moray Firth (MFCP) and west coast

2.6 Adoption and use of the Scottish Pollinator Strategy

Buglife can help HC to develop a pollinator strategy.

HC

- will identify areas of the pollinator strategy that they can take forward
- is currently reviewing its' policies on the use of pesticides and herbicides

2.7 Restoration of soil fertility, focussing particularly on agricultural land and upland areas

Nature-friendly farming adopts this approach, under the label 'regenerative farming'.

2.8 Public agencies to manage their estate to benefit wildlife

HC will assess its own estate and identify opportunities to manage it more effectively for biodiversity.

MOD will continue conservation management of mixed coastal habitat at Tain Air Weapons Range and upland and coastal habitat at Cape Wrath Training Area.

The State of Nature Scotland report

(2019)

24% decline in mammals, birds, butterflies and moths numbers since 1994 (averaged across 352 species).

Kittiwake populations have fallen by 72% since 1986.

Arctic skua numbers have dropped 77%.

Breeding curlews have declined by 61%, lapwings have dropped by an estimated 55% and oystercatchers have declined by 38%.

The abundance indicator for nine mammal species has shown a decline in average abundance of 9% since 1998.

Climate change is putting pressure on species that have their southern limits in Scotland.

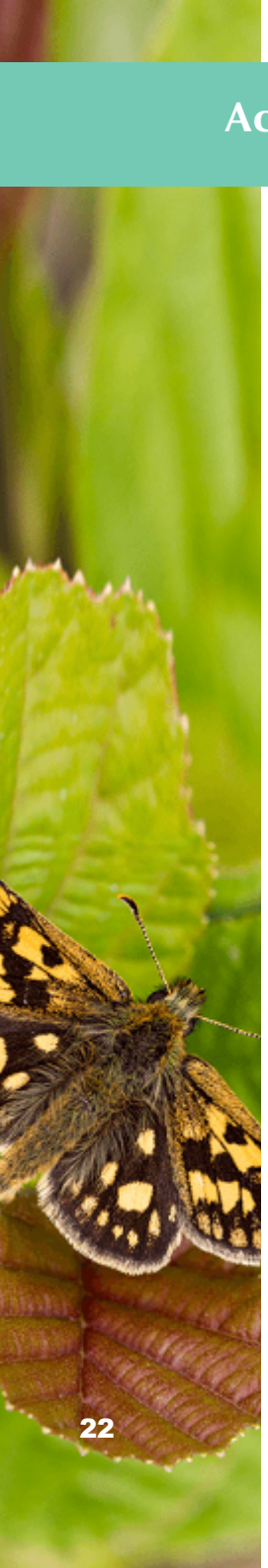
Species associated with cold montane habitats are likely to see their ranges pushed to their most northerly and high-altitude locations.

Snow cover and its duration are projected to decrease further, with the possibility of no snow cover below 900 metres by the 2080s.

Survey in 2017 showed 13.4% of Scotland's rivers and burns were in poor or bad condition regarding barriers to fish migration, and 8% affected by adverse flow rates.

The research showed that of the 6,413 species which have been assessed, 11% have been classified as threatened with extinction in Scotland.

Overall, 49% of Scottish species have decreased.



Action 3: Identify and conserve priority species

Action to protect individual species through habitat conservation, species translocation and re-introduction will benefit the species in focus and lead to the conservation of the supporting habitats. Priority species are not only vital in their own right, but become flagship species for investment, research and public understanding that generates much broader ecological benefit.

The species listed below are those that have been suggested by *Highland Nature* partners. This, and other priority lists, will be used by partners to agree priorities for action.

Invertebrates

Butterfly Conservation Scotland lists 78 priority species in Highland. 14 species are in the highest category that require urgent action across all occupied landscapes. 25 species need action in some occupied landscapes and 39 are medium priority species.

Upland summer mayfly

Northern damselfly

Azure hawker

Narrow-headed ant

Lemon slug

Cloud-living spider

Lichen running spider

Window-winged sedge

Freshwater pearl mussel

Bees

Great yellow bumblebee,

Moss carder bee

Northern colletes mining bee

Pinewood mason bee

Hoverflies

Aspen hoverfly

Pine hoverfly,

Moths

Transparent burnet

Talisker burnet

Portland

Choreutis diana

Kessleria fasciapennella

Butterflies

Chequered skipper

Marsh fritillary

Pearl bordered fritillary

Mountain ringlet

Northern brown argus

Small blue

Priority lichens, bryophytes & fungi

Flowering plants

Alpine pearlwort

Intermediate wintergreen

Pugsley's marsh-orchid

Purple oxytropis

Mountain sandwort

Drooping saxifrage

Rannoch rush

Small cow-wheat

Small white orchid

Scottish primrose

Twinflower

Trees and shrubs

Juniper

Sessile oak

Aspen

Wild crabapple

Montane tree species

Mammals

European beaver

Mountain hare

Red squirrel

Scottish wildcat

Water vole

Pine Marten

Bats

Brown long-eared

Daubenton's

Natterer's

Pipistrelles: common, soprano and Nathusius'

Birds

Waders

Curlew

Dunlin

Golden plover

Greenshank

Lapwing

Snipe

Oystercatcher

Redshank

Wood sandpiper

Raptors

Golden eagle

White-tailed eagle

Goshawk

Hen harrier

Merlin

Peregrine falcon

Red kite

Black grouse

Capercaillie

Corncrake

Common scoter

Dotterel

Black-throated diver

Red-throated diver

Greenland white-fronted goose

Ring ouzel

Scottish Crossbill

Swift

Terns: common, Arctic and Little

Fish and eel

Atlantic salmon

Arctic char

European eel

Marine

In 2021, Scottish Government will consult on conservation strategies for dolphins, porpoises, minke whale and seabirds.

Flameshells

Atlantic salmon

Firework anemone

Flapper skate

Herring

Northern sea fan

Sea trout

Northern February red stonefly

Commitments Made

3.1 If there is sufficient support, HEF will establish a working group to prioritise work that *Highland Nature* partners can take forward

Interested partners: AssyntFC, BBCT, Buglife, Bunloit, Corrour, CNPA, CFB, FLS, HLH, LBG, Plantlife, RSPB, SEPA, SSEN, SWT, WRB

3.2 Priority species conservation

Ardtornish estate's long term management plan includes the intention to support reintroductions of missing native species of flora and fauna – possibly including red squirrels, native oysters, and beavers.

Buglife Scotland will continue to work to conserve the:

- Northern February red stonefly through citizen science river surveys and work with land managers
- Upland summer mayfly

Bunloit will prioritise species and habitats for conservation action and research.

Corrour will undertake survey and monitoring of priority species.

Dounreay Site Restoration Ltd carries out surveys for great yellow bumblebee, breeding arctic tern and short-eared owl etc on its estate.

Fishery boards undertake conservation of freshwater fish species and freshwater pearl mussel separately.

FLS North Region works with partners to devise and implement land management activities which benefit a wide and growing range of rare and vulnerable species.

NS will continue to:

- Give support and advice on land management that will benefit species
- Work with the National Species Reintroduction Forum to encourage best practice in species translocations
- Support the 'Save our Scoters' project on the West Inverness-shire Lochs SPA

MOD would support projects for native species recovery on the defence estate.

Plantlife is undertaking twinflower conservation through the Cairngorms Rare Plants and Wild Connections project.

Saving Scotland's Rainforest undertakes landscape-scale conservation work that includes the protecting and expanding habitats for globally threatened lichen and bryophyte species.

SSEN Transmission will explore opportunities to ensure developments contribute, where possible, to species conservation.

3.2 Priority species conservation (continued)

The Species-on-the-Edge partnership is; Amphibian and Reptile Conservation, Bat Conservation Trust, Buglife, BBCT, BCS, NS, Plantlife and RSPB. The project covers 40 of Scotland's most vulnerable coastal and island species. In the Highlands the projects will be:

1. **Bees on the Edge:** great yellow bumblebee, moss carder bee, northern colletes mining bee
2. **Terning the Tide:** common, Arctic tern, sandwich tern and little tern
3. **Rockin' the Blues:** small blue and northern brown argus (CaithnessBG is a member)
4. **A brighter future for herb rich pastures:** marsh fritillary, new forest burnet moth, transparent burnet moth and Talisker burnet moth.
5. **Jewels of the North coast:** Scottish primrose, purple oxytropis, eyebrights

TfL, WTS will continue red squirrel translocation to establish new populations.

The National Wood Ant Group, James Hutton Institute, NTS and others are undertaking actions for this species.

3.3 Promote research on priority species

Corrour is working in partnership with the University of Stirling and the Montane Woodland Action Group to research montane tree restoration.

Fisheries Boards prioritise the conservation of Atlantic salmon.

SFB is working with CNPA on freshwater pearl mussel research and conservation, including looking at re-introduction or translocation within the catchment.

MFCP will work in partnership with:

- Marine Scotland to undertake research into coastal and marine species classified as at risk
- East Coast Regional Inshore Fisheries Group to identify changes in fish species populations

See action 9 for further research suggestions.

3.4 Education and awareness

HC will continue to run the Species Champion programme with councillors.

HLH will focus each year on a community education project to highlight a species. This will include recording and conservation.

Additional funding dependent actions include specific projects such as better protection and monitoring of little terns at Dunnet and Keiss beaches, the management of existing wildflower meadows and creation of new ones.

SWT's Living Seas project Communities Officer is responsible for raising awareness of good stewardship and conservation with local communities and increasing public knowledge on the sustainable uses of our seas.

Action 4: Invasive non-native invasive species are controlled

Highland invaded

Some of the top invasive non-native species of concern:

American skunk cabbage

Cotoneaster

Giant hogweed

Himalayan balsam

Himalayan knotweed

Japanese knotweed

New Zealand pygmyweed

New Zealand willowherb

Rhododendron ponticum

Salmonberry

White butterbur

Piri piri burr

American mink

American signal crayfish

Pink salmon

New Zealand flatworm

Marine invasive non-native species

50-year vision

Invasive non-native species

Major areas of invasive non-native species are largely eliminated. Invasive non-native species are controlled at levels that mean they are not a threat to native species and habitats.

People are aware of non-native invasive species and the need to report them. Non-native species are dealt with before they become widely established. Land managers are controlling non-native invasive species on their land.

Invasive non-native species are recognised by the international IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services) report as one of the five main drivers of biodiversity loss, and can be found on land, in freshwater and marine environments. Consultation whilst developing this plan highlighted the invaluable role undertaken by volunteers, but this needs to be supported by consistent and long term funding in order to maintain effort and to bring in contractors where required.

4.1 HEF to continue to run the Highland Invasive non-native species working group in order to share experience and ideas, and to assist with discussions about where to prioritise control effort.

Interested partners: BBCT, Buglife, CFB, FLS, HC, NTS, MFCP, Plantlife, RSPB, SEPA, SLE, SWT, WRB, WTS

4.2 Avoid introducing or spreading invasive non-native species (INNS) through development activity

HEF members all support and help promote biosecurity messages (e.g. Check, Clean, Dry and Be Plant Wise campaigns) locally and online as appropriate.

HLH rangers promote good practice for cleaning pond dipping equipment

RSPB is working to prevent invasion of peatlands by non-native trees, particularly seeding commercial conifers, is a key action.

SEPA will:

1. Continue to work with partners to prevent introductions of Invasive Non-Native Species to fresh and coastal waters
2. Coordinate dealing with new occurrences of priority freshwater and coastal INNS
3. Promote biosecurity within Sector Plans

Additional funding dependent ideas include: A media campaign on garden escapes, and dumping of garden waste.

4.3 Have a single site for recording INNS information

MCS can provide data for marine invasive species Big Seaweed Search and from Seasearch via NBN.

SEPA will promote their Scotland's Environment website and encourage its use as the primary reporting INNS portal.

4.4 Continue to map Invasive non-native species

Fisheries boards will undertake this work in relation to invasive species whilst funding covers staff time.

4.5 Biosecurity plans are kept up-to-date

Fisheries Boards are reviewing Biosecurity plans by 2021 as part of SISI.

4.6 Work at landscape-scale in order to make areas biosecure and prevent re-invasion

Partnership working with neighbouring land managers is carried out by FLS, HLH, JMT, NTS (Project Wipeout), WTS

Work on their own properties is undertaken by Corrour, FL, JMT, MOD, NTS, RSPB, SGA members, WTS.

Assynt Field Club will continue to support WSFT American mink control.

Fishery boards continue to co-ordinate American mink control.

NS removes INNS on their land - e.g. rhododendron on Rum.

Saving Scotland's Rainforest partners will control INNS within the project area.

The Scottish Invasive Species Initiative (SISI) will run until spring 2022, and supports fisheries boards to tackle Japanese knotweed, Himalayan balsam, white butterbur, giant hogweed and American mink.

Additional funding dependent actions include:

Possible SISI project extension to Oct 2022.

Fishery Boards: Employ contractors to control large stands of INNS. Continue volunteer programme post SISI.

MFCP: Monitoring ports and marinas for invasive species.

NS support the control of invasive Spartina cord-grass in the Dingwall Bay area (part of Cromarty Firth SPA/SSSI).

Scotland's Rainforest project will undertake increased INNS removal and habitat recovery.

4.8 Education and awareness

HLH rangers

- Promote good practice for cleaning pond dipping equipment
- Organise volunteer days to record and control INNS
- Provide education on INNS and encourage data collection
- Deliver the Alien Detective toolkit to schools and community groups

MFCP will raise awareness about the potential impacts of non-native, invasive species.

SISI has produced an education pack 'Alien Detective' about invasive species. This is hosted on their website. The SISI website will be maintained by Nature Scot until 2026.

SISI and fishery trust partners deliver schools programmes and attend shows and events (e.g. Moy Game Fair) to raise awareness about invasive species.

SISI and other HEF members support the national Invasive Species Week (annually in May) with events / online messages.

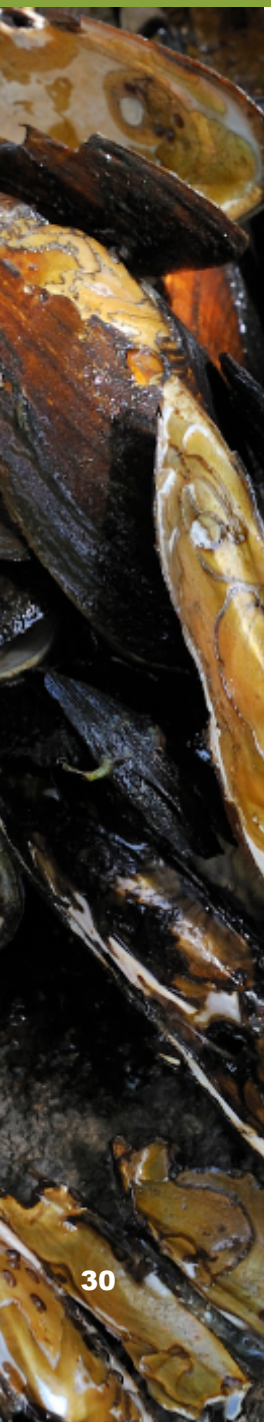
4.5 Review success of INNS control to date

Report and share good practice at an annual HEF invasive species forum.

'INNS impact our ecosystems by out-competing native species, which diminishes biodiversity and reduces the resilience of systems to adapt to change. In a number of places, INNS are a significant cause of damage to river banks, and prevent communities benefitting from, and connecting with, their local environment. Climate change will further shift the balance, and will mean that a wider range of non-native species become invasive in future.'

SEPA, Significant Water Management Issues for Scotland (2019)

Action 5: Wildlife crime is deterred and prosecuted



The Scottish Government supports action against wildlife crime in a number of ways. In Highland, this work is undertaken by Police Scotland working through the Highland Partnership Against Wildlife Crime (HPAWC) and in partnership with others.

Partners include Fisheries Boards, High Life Highland Rangers, RSPB, Scottish Partnership Against Rural Crime and individual land managers. Members of the public are encouraged to report wildlife crime to the police using the 101 number or 999 in an emergency.

Work is undertaken to collate information, improve detection, pursue wildlife crime incidents and take them to court. Publicity and awareness raising about wildlife crime is ongoing. NatureScot has produced an Aide Memoire for dealing with suspected wildlife crime.

NatureScot also increases awareness of wildlife crime though information about the importance of wildlife and habitats, how and why they are protected, the impacts of wildlife crime and how to stay within the law.

The North Highland College of UHI provides training for gamekeepers and the Game and Wildlife Conservation Trust offers training on correct methods to avoid inadvertent wildlife crime.

Commitments made to prevent:

5.1 Killing, disturbance of, and damage to, protected species, including their places of rest/shelter

The Scottish Government set up the Grouse Moor Management Group to examine the environmental impacts of upland management and this work is ongoing. Birds of prey hotspot maps are produced annually. These show incidents where birds of prey have been confirmed as poisoned, shot, trapped, nests destroyed or disturbed. Information is also collated in annual reports. From February 2021, tougher penalties were made available for the most serious wildlife crimes. The maximum penalty is now five years imprisonment and/or an unlimited fine.

Scottish Government has prepared a report on the use of acoustic deterrent devices on fish farms. These are used to deter predation by seals.

From 1 March 2021mountain hare are protected from being killed, injured or taken at any time of the year, except under licence for limited purposes.

Fisheries Boards protect salmon, sea trout, freshwater pearl mussel, European eel. Two operations annually are undertaken to combat salmon poaching and freshwater pearl mussel fishing via pro-active patrols. Police and Fishery Board personnel carry out joint patrols.

MFCP and Moray Firth SAC run the Dolphin Space Programme.

5.2 Damage to protected sites

FLS works in partnership with Police Scotland and NatureScot in response to incidents and activities resulting in damage to protected sites and species.

NatureScot will continue to monitor designated sites, record damage and report damage to the police where appropriate.

5.3 Illegal marine dredging and trawling

The Scottish Government are encouraging the roll out of Remote Electronic Monitoring in the scallop fleet through a voluntary approach until summer 2021. They will then consider introducing legislation to make it a mandatory requirement by the end of 2021.

5.4 Illegal 'sport' activities, such as hare coursing and badger baiting

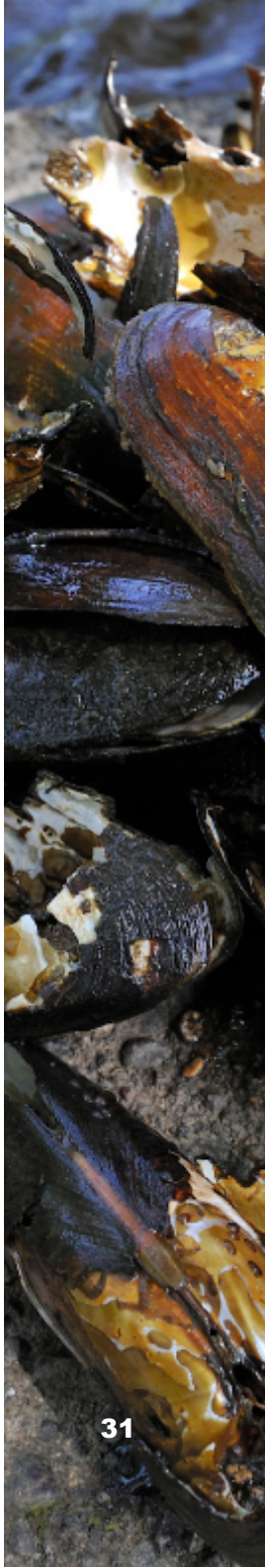
Pro-active patrols are carried out by police and estate staff to combat deer poaching.

5.5 Illegal fly tipping and littering

The Highlands and Islands Local Resilience Partnership includes Police Scotland, the Fire Service, the Councils, Scottish Water and SEPA. They take an enforcement approach to problems of fly tipping and the illegal disposal of motorhome and caravan waste. Fixed penalty notices are issued and if no action is taken, cases can be referred to the courts.

5.6 Education and Awareness

Other organisations can support the work of HPAWC, including through the provision of educational materials, newsletter and community watch networks. To do this they need a checklist of crimes to look out for and a clear, simple reporting system. Organisations that have expressed a willingness to do this are: HLH rangers, MFCP, WRB



Action 6: Access to green and blue health benefits is increased

The many advantages of having opportunities to enjoy nature are now well recognised, and are identified as green (land) and blue (water) health benefits.

Access to nature is encouraged by all *Highland Nature* partners, and actively promoted by the Highland Green Health Partnership, which through its 'Think Health, Think Nature' programme encourages people to enjoy the outdoors, and focuses on reducing inequality of access to green and blue spaces.

Greater access to nature is to be welcomed, but alongside there is also a recognition that it can bring accompanying pressures on nature including through littering, path proliferation and wildlife disturbance. This plan recognises the need for continued promotion of the access code and respect for landscapes, nature and other people.

Nature does not need to be rare to be valuable, study after study demonstrates the value of greenspace and time out-of-doors to mental and physical health, and surveys such as Plantlife's 'Every Flower Counts' shows that even a small patch of grass can make a positive difference. In 2019 The average lawn produced 12 grams of nectar sugar per day, enough to support 1,088 honeybees.

Commitments Made

6.1 HEF will continue to run the outdoor volunteering working group, and to work with the Green Health Partnership

Interested partners: BFB, HLH, RSPB, WRB, WTS

6.2 Embed outdoor and nature activity to benefit health in NHS and GP practice

The Highland Green Health Partnership, branded 'Think Health, Think Nature', was established in late 2018 and has project officer funding provided by NatureScot's 'Our Natural Health Service' through to summer 2021. The aim of the partnership is to embed use of nature and outdoor activity within NHS and GP practice.

There is potential for liaison with the Rural Mental Health Forum.

6.3 Policies to encourage and protect green spaces and routes

HC will ensure planning policies continue to encourage and protect green spaces, including green corridors and networks.

SSEN Transmission will ensure green spaces and routes are protected wherever possible.

6.4 Continue to offer services and programmes that provide access to nature and outdoor activity

FLS - Scotland's national forests and land are open for everyone to connect with nature and undertake a range of outdoor activities, benefitting health and wellbeing.

HC manages the Great Glen and sections of the Speyside and West Highland long distance walking routes.

HLH will:

- Continue to support the ranger service, who run nature-based activities, guided walks and outdoor events. Rangers support volunteer groups, such as the Caithness Countryside Volunteers and provide volunteer opportunities
- Maintain its commitment to the green gym agenda, including 'short walks to nature' for people in disadvantaged, disabled and other under-represented groups
- Promote the Access Code to schools, general public and on guided walks
- Use social media to promote responsible access
-
- Educate visitors about 'Leave No Trace' principles

NS works with others to encourage greater participation in outdoor recreation, in particular among under-represented groups. NS promotes recreation on its land, and is a member of NHS Greenspace and the Green Exercise Partnership.

Ness Glens Volunteers is a partnership between RSPB Corrimony, TfL and WTS that provides volunteer opportunities for conservation action.

NTS will continue:

- Activities for social prescribing to support the health and wellbeing of participants.
- A refreshed programme of outreach and community based outdoor conservation projects

The Scottish Partnership Against Rural Crime and MFCP will contribute to raising awareness of access responsibilities.

6.5 Continued development of infrastructure to support active travel, access to nature and outdoor activity - e.g all ability paths, cycleways, car parks

Maintenance of access on properties by JMT, NTS, WTS

Corrour will maintain public access on the estate and encourage its use for outdoor recreation.

HC will:

- Continue to review and update Core Path Plans to ensure access to the countryside
- Continue to operate and manage Long Distance Routes
- (with partners) will enhance provision of Active Travel infrastructure across Highland

HLH will:

- In cooperation with HC access officers, survey core paths
- Organise volunteer path maintenance days
- Monitor and report on HC owned nature hotspots or areas needing further action/ effort

There is a presumption in favour of public access on the MOD estate for safe public enjoyment where this is compatible with military requirements.

SWT will continue to maintain public access on reserves.

WTS to upgrade access network on its own sites (funding dependent).

Action 7: Public engagement using knowledge, skills sharing and training is continued and expanded

Commitments Made

7.1 If there is sufficient support, HEF will establish a working group to prioritise work that *Highland Nature* partners can take forward.

Interested partners: CFB, MFCP, RSPB, SEPA, WRB

7.2 Embed nature and environment learning at all levels of education provision

Bunloit will work closely with Glen Urquhart High School to provide education opportunities and rural skills work experience.

Corrour will support undergraduate and postgraduate research projects and fieldtrips.

Lantra will:

- Work with HiBAP partners, learning providers and strategic skills organisations to help increase inclusion of environmental conservation in relevant school, further education, higher education courses, including apprenticeships and CPD.
- Work with public and private training providers and instructors to help improve environmental conservation and management

NS creates educational materials for education at all levels, such as activities for schools, or topics of interest to secondary students.

NS supports graduate placements (including at least one in Highland in 2020 – 2021), students undertaking post graduate research, rural skills training in at least one secondary school and employs students on work experience.

7.3 Informal learning and skills sharing

HEF will continue to run events, provide newsletters and social media updates, and to make links between partners to foster learning and stimulate thinking and partnership working.

HLH will continue to provide:

- Environmental education to schools in the Highlands
- Guided walks, events, citizen science projects and outdoor activities as well as through social media, publications and daily contact with the public and local communities
- Nature-based outdoor activities to organisations such as scouts, brownies, youth clubs etc.

And

- Support and encourage the running of existing and potentially new local biodiversity groups
- Engage with other Ranger services working in the Highlands to promote full coverage of the area

Volunteer ranger programmes are run by CPNA, JMT, Nevis Partnership, SWT.

JMT will continue to:

- Offer the John Muir Award
- Support and encourage local groups and individuals interested in contributing to citizen science surveys
- And in NW Sutherland use a Royal Society partnership grant to undertake a remote camera project with primary schools

Offers of training:

- SLE will promote training and events and encourage land managers to be involved
- CNPA can provide some training to staff on species and habitat management
- MCS can provide training for citizen science projects, such as Big Seaweed Search and Beachwatch.
- Seasearch training via the Scottish coordinator

Funding dependent ideas include:

- Grant support for volunteer nature and biodiversity groups
- BFB: Placemaking approach in Beauly to encourage residents to be more connected with the river. Engage with local schools and host evening talks in Beauly.
- MFCP: Guided coastal walks & snorkel trails. Species identification training
- WRB: Marine Ranger / Education officer; workshops & other awareness raising activity
- RSPB Scotland: Education/schools person in north Highland

7.4 Practical skills training, including rural apprenticeships

BCS provides training for recorders and volunteers

HLH will continue to encourage and promote the importance of wildlife recording, including by:

- Working in partnership with HBRG and Highland Libraries
- Running workshops and events and data gathering activities - e.g. bioblitz

Lantra will continue to encourage the uptake of rural apprenticeships and associated training.

MOD welcomes the use of their land for species training, on a not-for-profit basis, where this is compatible with military requirements.

NS will: look for opportunities to provide green apprenticeships.

Plantlife can provide training for species ID, when it is part of a funded project (e.g. through Species on the Edge)

WRB will be running webinars on INNS control and upland management in winter 2021.

Additional groups and organisations that could provide training if there is suitable funding include: AssyntFC, MFCP, RSPB, WRB, WSFB

7.5 Involving people in decision making and demonstrating best practice

Ardtornish estate will:

- Explore community participation and collaboration
- Support community engagement & partnerships
- Explore partnership opportunities

Bunloit carries out community consultation on their plans, and is in regular communication with the community via the Glen Urquhart Community Council and the Glen Urquhart Rural Community Association.

HBRG encourages active participation in biological recording.

JMT consults with communities over conservation land management and chairs a local 'Leave No Trace' group at Kinlochbervie

MFCP to establish a forum to discuss coastal and marine issues (funding dependent).

NS works with communities via community planning and other partnerships.

NS 'Shared Approach to Wildlife Management,' promotes communication and collaboration between stakeholders.

SEPA Sector Plans are subject to consultation.

SWT works with island residents and the Highland Council as part of the Isle of Eigg Heritage Trust.

Action 8: Biodiversity data gathering and sharing is improved

Long term data gathering, including through citizen science; sharing information between organisations and gathered during environmental impact assessment is essential for making sound biodiversity decisions, and remains a priority.

'Data from the National Biodiversity Network Atlas suggests the Highlands has by far the widest range of flora and fauna in Britain, boasting no fewer than 16,273 distinct types of plants, animals, fungi and micro-organisms. This is 2,052 more than second-placed Gwynedd in Wales.'

An analysis of wildlife records across Britain has shown the importance of recording by Highland Biological Recording Group (HBRG), which has now contributed around 250,000 records to the national database, a testament to the skills and effort of amateur naturalists in the demanding environment of the Highlands.'

Extract from UK survey of NBN data

Commitments made

8.1 If there is sufficient support, HEF will establish a working group to discuss how agencies, organisations and businesses can share data and make it publicly accessible.

Interested partners: AssyntFC, CFB, CNPA, FLS, HBRG, HLH, MCS, MFCP, RSPB, SSEN, WRB

8.2 Continue to update biodiversity databases

NS to facilitate and assist the sharing of information between organisations e.g. work on HabMap and GIS data

Annual submissions are made to NBN and other recording schemes (e.g. HBRG, WDC, national bat monitoring, fish survey database) by: AssyntFC, BCS, Corrour, Fishery Boards, JMT, MCS, MOD, MFCP, NTS, NS, RSPB

WTS would be keen to contribute to an update of the Ancient Woodland Inventory, should this be taken forward by NS.

8.3 Support the recommendations of the Scottish Biodiversity Information Forum (SBIF) Review

Highland Nature partners including HBRG, BCS, MFCP support this approach.

8.4 Seek opportunities for coordination between academic research and citizen and other data gathering

Bunloit is working with UHI to develop plans for three collaborative research projects: 1) effect of clear felling on red squirrel dispersal, 2) understanding and reducing human-wildlife conflicts in relation to wild boar 3) Understanding multi-generational perspectives on landscapes and change. (all funding dependent)

Corrour will improve biological recording on the estate.

WTS will continue to work with UHI research study 'Elm in the Highlands': Current status and potential management responses to Dutch elm disease.

8.5 Data collectors and land managers to have better data sharing and coordination, including sharing information on why data is being collected

Bunloit is happy to discuss sharing data gathered through their research.

JMT shares data with relevant deer management groups.

SLE can help to facilitate discussion.

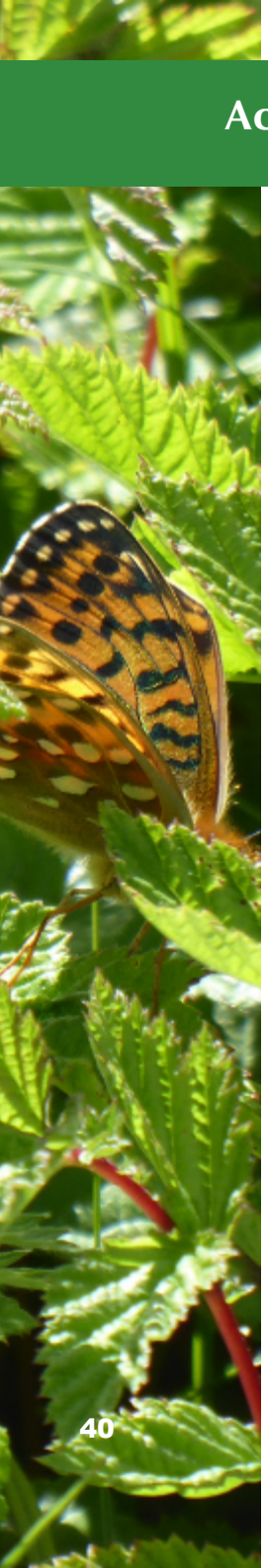
8.6 Increased awareness of, and coordination between, reporting schemes

The JMT and BBCT partnership at Sandwood will deliver BeeWalk and bumblebee ID training days.

8.7 Collect evidence to demonstrate the social and economic value of nature friendly land practices

Ardtornish estate will set up programmes to measure and provide evidence of the social and economic value of this approach.

Bunloit is undertaking an Innovate UK funded project to map out the biodiversity and carbon baseline of the estate, and to develop a platform that can easily communicate this data.



Action 9: Long-term research into environmental change continues to expand

Long-term research and data sets are essential to understanding change in the natural environment. Such an approach is vital at a time of climate change and significant species and habitat loss.

This section highlights suggestions made by partners of research that would be valuable in contributing to this understanding. It is, however, just a snapshot of ideas and current commitments.

9.1 Baseline of biodiversity data for Highland, so that conservation and monitoring efforts can be efficiently targeted.

Research idea: A baseline for targeted indicator species remains an ambition. The means are not currently available.

9.2 Climate change and habitat change

Commitments:

Bunloit will be looking at how land use change affects biodiversity and carbon capture. The estate will become an open-laboratory for Nature-Based Solutions demonstrating that natural capital can be grown for the planet, people and profit. They have applied for Phase 2 funding of the UK Government funded Innovate UK.

Corrour is developing ideas for long term research. These include: 1) Effectiveness of peatland restoration techniques on long-term carbon sequestration and peatland functioning

2) Conversion/restructuring of plantation woodland to increase and maximise biodiversity and ecosystem functions.

3) Long-term effects of climate change on montane woodland and scrub regeneration and expansion.

Ideas:

- Potential impacts of a warmer climate on non-native and invasive species
- The impact of climate change on snowbed and other alpine communities
- How land use change affects biodiversity and carbon capture.
- How the choice of tree species; planting habitat and whether growth occurs through planting or regeneration affects biodiversity and carbon capture
- Phenology and the changing seasons

9.3 Coastal and marine

Commitment:

MOD: Tain Air Weapons Range coastal geomorphology has been studied for decades and is a key site for the National Coastal Change Assessment and Dynamic Coast research project. Focused research and long term monitoring via universities and NGOs is welcomed. In other regions MOD has supported research into species conservation and habitat management.

Ideas:

- MPAs: The effectiveness of a community-led partnership approach in achieving a programme of sustainability measures
- Making MPAs work with limited government funding for monitoring and management
- Changes in zooplankton and phytoplankton in marine and freshwater habitats
- The impact of marine litter
- Marine habitat recovery / restoration (e.g. saltmarsh, sseagrass; maerl
- Beachwatch data, for long term marine litter analysis

9.4 Freshwater

Commitments:

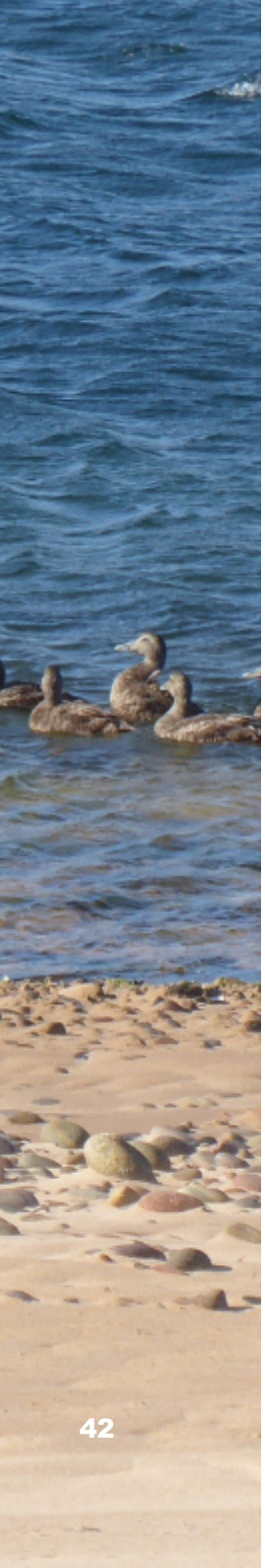
Spey CI has set up long term water temperature monitoring on the Raitts Burn on Balavil Estate to try to detect changes as the large woodland creation scheme in the burn's catchment - currently being planted - gets established.

BFB will continue to carry out juvenile fish surveys of historic monitoring sites.

9.5 Upland and moorlands

Ideas:

- The long-term effects of environmental management actions and habitat restoration practices
- The effect of extensive deer culls on natural tree regeneration
- The impact of extensive deer culls on mate selection and the genetic diversity of red deer
- Ticks, tick-borne disease and the impact on public health and ground nesting birds
- Ways to reduce tick numbers, including looking at the impact of a reduction in deer and sheep numbers
- Understand more about the carbon sequestration potential of wet heaths
- Wildfires and the relationship between fuel load/type and wildfire occurrence and intensity.



9.6 Invasive non-native species

Ideas:

- An assessment of the effectiveness of control measures
- Climate change and changing patterns of invasive non-native species growth and spread
- The impact of NZ flatworms on ecology and productivity of woodlands and croft land
- Control measures for non-native conifer establishment in areas of peatland and native woodland restoration

9.7 Woodland and forest

Commitments:

RSPB is undertaking research in to the influence of 'edge effects', such as between woodland and grassland, and how they affect the breeding success of common scoter and waders.

Ideas:

- Conversion/restructuring of plantation woodland to increase and maximise biodiversity

9.8 Soil health

Idea:

- Ecosystem phosphorus & calcium deficits and restoration methods

9.9 Birds

Ideas:

- The causes of common scoter decline and their conservation management
- The effect of forest-edge on waders populations
- Continue the Regional Eagle Conservation Management Plan for golden eagles
- Seabirds food supplies, breeding success, plastic ingestion

9.10 Invertebrates

Commitment:

BBCT BeeWalk for long-term monitoring of bumblebee populations.

Ideas:

- Autecological studies required for several species whose habitat and management requirements are poorly understood
- BCS transect data goes back to 1976 at some sites but continuation at some lapsed sites e.g. Creag Meagaidh is required, as well as the establishment of new sites for species/ areas/habitats that are under-represented. Analysis is required to identify the latter

9.11 Pesticides

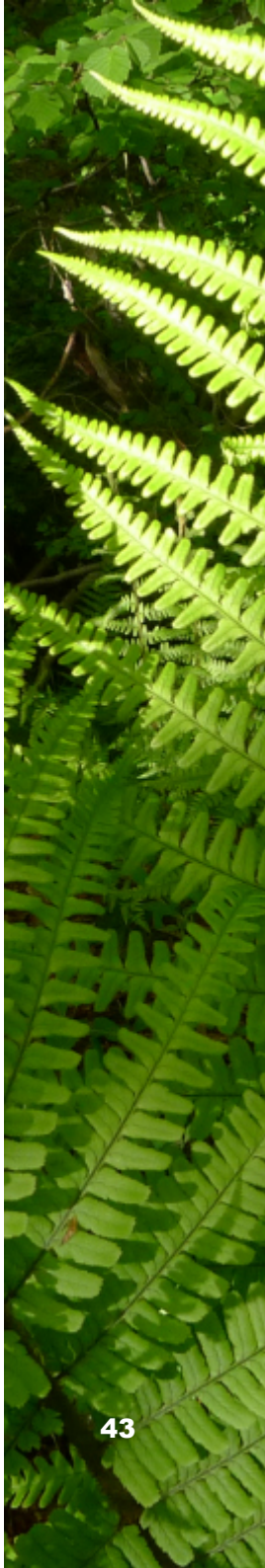
Ideas:

- The biodiversity impact of neonicotinoid use in forestry and agriculture
- Research into non-chemical control of INNS, and non-biological INNS control to avoid further release of non-native species whose long term impact is unknown

9.12 Access

Ideas:

- Assessing the potential negative impact of increased visitor numbers on sensitive habitats, and developing mitigation measures
- Economic benefits of footpath development (including assessment against environmental impacts - as above)



Upland and moorland

The upland areas of Highland include mountains, moorlands, peatland and rough grasslands. Most of these habitats have been modified through grazing, burning, drainage and forestry. Upland moorland/heath (above the limit of enclosed agricultural land and below the montane zone at around 600m) covers just under third of Scotland.

Grazing levels need to be reduced to allow natural regeneration to take place (see woodland and forest section). This requires a change in both land management and funding practices. A partnership approach – supported by legislation, policy and financial incentives – is essential to addressing these issues.

50-year vision

Upland and moorland

A mosaic of habitats are found in upland areas, with a natural altitudinal transition from woodland to upland heath and montane scrub. Bogs and wetlands are healthy and fully functioning. Open areas continue to provide habitat for waders and other ground nesting birds.

Deer are at a level which permits widespread regeneration of trees, shrubs, dwarf shrubs and flowering plants. Lichen and bryophyte populations are healthy. The uplands support greatly improved invertebrate and small mammal populations.

People play an important role in encouraging and managing this habitat mosaic. The driven grouse shoot is no longer a significant source of income, but people continue to make a livelihood from the uplands, using their skills and experience to enhance biodiversity, increase carbon capture and to provide services that enable local communities and visitors to enjoy the uplands.

Deer management and livestock farming is carried out at a level that encourages habitat diversity and tree regeneration. There is a local market for extensively reared animal products. Muirburn is only carried out under licence.

Raptor persecution ended decades ago and a full complement of native raptors live and breed across the Highlands.

Commitments made

1. If there is sufficient support, HEF will establish a working group to prioritise work that *Highland Nature* partners can take forward.

Interested partners: RSPB, SEPA, SLE, WRB

2. Deer and other herbivore numbers managed to allow natural regeneration of a diverse range of habitats including trees, shrubs and flowering plants

BFB hopes to increase engagement with land managers and anglers to encourage approaches that take into account the links between a range of habitats, species and land management – e.g. deer, trees and fish (funding dependent).

Corrour is reducing deer numbers to promote natural tree regeneration. This will be managed according the habitat responses studied through long-term monitoring.

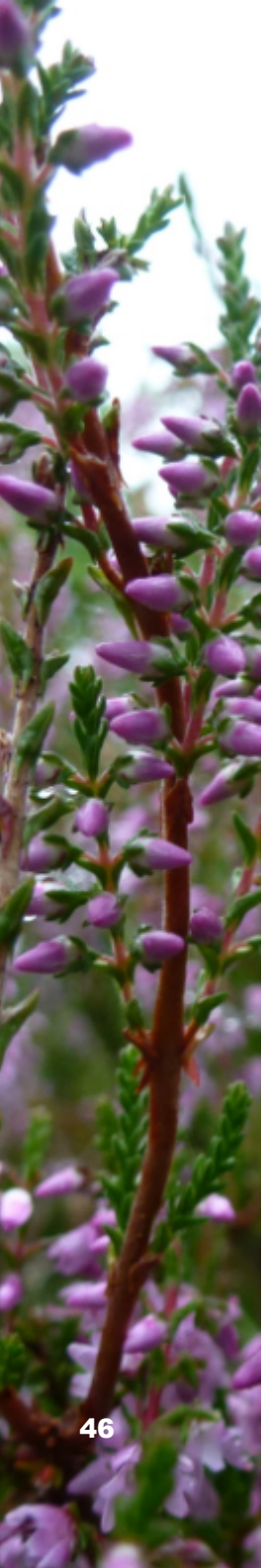
FLS focuses deer management effort on reducing negative biodiversity impacts from deer, not only to protect young planted trees and woodland regeneration but also highly palatable ground layer species, habitat structural diversity, fragile ecosystems like peat bogs and the species which depend upon them. Using a combination of habitat impact surveys, dung counting and population data we aim to establish management strategies appropriate to each locality. These strategies also take into account the positive and negative impacts of deer fencing, for example on woodland grouse, vegetation management and recreation access.

JMT is reducing deer numbers on its land to allow natural regeneration in order to increase native woodland, and associated understory. There is an ambition to increase uptake of training in deer management by encouraging community stalking, but this is funding dependent.

MOD Defence Deer Management group actively manage deer populations in response to monitoring of grazing impacts.

NS will continue to:

- Provide guidance to the Scottish Government, Deer Management Groups and individual land managers
- Collect and maintain national data on deer management, and supports the development of Wild Deer Best Practice guidance



3. Maintain and restore soil fertility

Muirburn will only be carried out under licence following Scottish Government commitments in made response to the report from the Grouse Moor Management Group (Dec 2020).

4. Education and awareness; training and apprenticeships

Lantra will help to promote relevant new entrant and continuous professional development courses, including:

- Deer management at UHI Thurso College
- Rural skills apprenticeships at North Highland College UHI
- Countryside Skills and Deer Management for Conservation NQ at West Highland College UHI
- Online Postgraduate CPD Award in Sustainable Deer Management at UHI

WRB hopes to run a webinar on uplands and moorlands in winter 2021.

Scottish Fire and Rescue Service, the Wildfire Forum and HLH all carry out work to increase public awareness of wildfires and the issues surrounding responsible lighting of fires in the countryside.

'Extensive studies and monitoring of Scotland's soils has demonstrated that they are rich in carbon, containing a total of around 3000 Mt which is more than half of the UK's total soil carbon stock, much of which is stored in the organic peaty soils located in the north and west of the country. This makes Scottish soils important carbon stores on an international basis. We know that the Scottish landscape acts as a net sink for carbon, removing CO2 from the atmosphere and storing it in soils at a rate of 10 Mt /year.'

Soil Carbon and Land Use in Scotland, James Hutton Institute (2018)

50-year vision

Peatland and wetland

Peat is no longer extracted.

Muirburn and development has long ago stopped on deep peat.

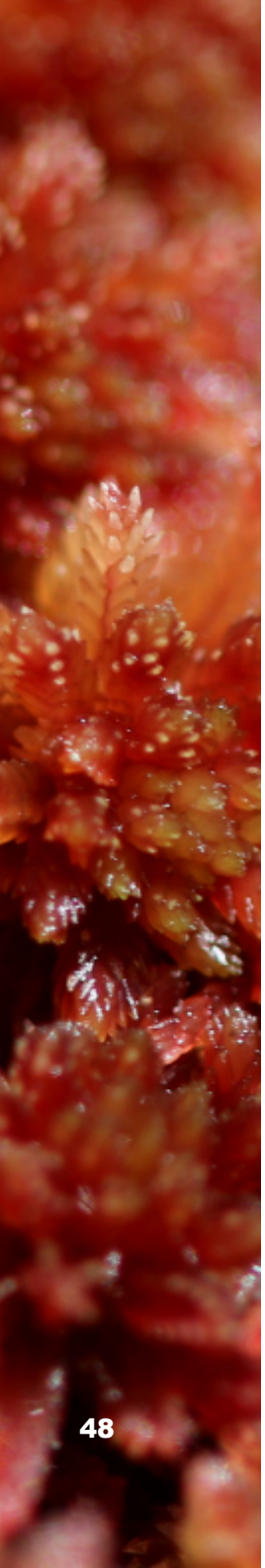
Blanket and raised bogs, with their associated wetlands are restored to full function and are retaining water and acting as a carbon sink.

The large, interconnected wetlands and natural river processes help to prevent damaging flood events. Rivers have a high water quality and biodiversity status.

Highland has internationally significant peatlands and there are many biodiversity and carbon capture gains to be made by restoring and managing this appropriately. There is already Scottish Government commitment to this landscape-scale work through Peatland Action funding. There is a bid for World Heritage Site recognition for the Flow Country blanket bogs.

Commitments made

1. If there is sufficient support, HEF will establish a working group to prioritise work that *Highland Nature* partners can take forward.
Interested partners: HC, RSPB, SSEN Transmission, WRB
2. Support World Heritage Site status for the Flow Country
Highland Nature partners including FLS, HC, NS, Peatland Partnership, Plantlife and RSPB support this proposal.



3 Restoration of peatlands, wetlands, bogs, mires, wet grasslands

Bunloit will restore peatlands, including through removal of plantations on peat.

Caithness Wetland and Wildlife Initiative does a survey of key wetland areas every 5 years.

Corrour will continue peatland restoration and explore the potential for landscape-scale action. The estate will trial techniques for restoration in remote and sensitive locations.

FLS is delivering an increasingly significant programme of peatland restoration work each year, aiming to restore all suitable areas by 2045 in support of the Scottish Government's net zero emissions target.

HC will continue to encourage, promote and secure peatland restoration from development where appropriate.

JMT has applied for funding for peatland restoration project on Skye.

MOD will assess the extent and feasibility of blanket bog restoration at Cape Wrath.

NS provides guidance on peatland restoration.

Plantlife continues to carry out research and restoration at their Munsary Peatlands reserve. Access for research and recreation is encouraged.

RSPB Scotland carries out peatland restoration on their own reserves, including on a large scale at Forsinard in the Flow Country. They respond to planning and forestry casework, and provide advisory services.

SEPA will support plans for the restoration of damaged peatlands where restoration can be expected to achieve multiple ecosystem benefits.

4. Prevent the loss of peatlands, wetlands, bogs, mires, wet grasslands

SEPA planning advice directs any development impacts away from wetlands where appropriate. For example, avoiding developments on peat that could affect the water environment or that would result in large volumes of excavated peat.

5. Share good practice

FLS shares good practice and innovation in peatland restoration by engagement with neighbouring estates, stakeholders, research institutes and other partners, and makes information on this topic publicly available through their website.

NS contributes towards the IUCN peatland Programme.

6. Education and Awareness

HLH deliver a series of guided walks in peatland areas that promote the value of peatlands.

Woodland and forest

‘Highland’s forests, woodlands and trees should be regarded as one of its most highly prized natural resources and those which deliver a wide range of economic, social and environmental benefits, from access and recreational facilities, opportunities to promote and encourage health and wellbeing to the protection and enhancement of its biodiversity– including the restoration of some of the most iconic ancient native woodland landscapes. In addition, by capturing carbon and helping to protect Highland’s infrastructure by stabilising soils and regulating water flows, forests, woodlands and trees also play a vital role in helping to meet Scotland’s climate change targets.’

Highland Council, Forest and Woodland Strategy, 2018

50-year vision

Woodland and forest

A much greater area of Highland is wooded, though a combination of new planting and the conservation management of existing woodland. As a result, forests and woodland are actively regenerating, with healthy understory shrub and herb layers. Deadwood is recognised for its value for many species, and is retained.

At landscape-scale there is a mosaic of habitats that includes; farmland and communities; glades; species-rich grassland; heathland; bog and wetland.

There is a local market for woodland products enabling more people live in, and make a living from, the woodlands.

Woodland expansion is one of the key actions to tackle climate change, which means a significant increase in woodland/forestry cover over the next 10 years. In this context it is essential to follow ‘the right tree in the right place’ principles, to have close partnership working and undertake new research in order to prevent loss of nature valuable habitats.

Native woodlands can be found from sea edge to mountain top, and they cover a diversity of trees and associated species. Scotland’s forests and woodlands are home to 172 protected species. The combined native woodland and plantation cover of Highland is c.310,000 hectares or 13% of land area.

Native woodland covers c.130,000 hectares, which is 37% of the total woodland area and 5% of the total land area of Highland (data from HC, Forest and Woodland Strategy, 2018).

Public funding for woodland and forestry comes largely from Scottish Forestry which, since 2016 has supported 9034 ha of native woodland planting with a further 1296 ha of natural regeneration. To date 195 ha of montane woodland has been approved for planting – estimated to be less than half of the level in the 1960s.

Commitments made

1. If there is sufficient support, HEF will establish a working group to prioritise work that *Highland Nature* partners can take forward.

Interested partners: Corrour, FLS, HC,HLH, RSPB, SEPA, SF, SSEN Transmission, WTS.

Woods by numbers

Percent of native woodland across Highland by type:

Native pinewoods (43%)

Upland birchwoods (34%)

Wet woodland (9%)

Upland oakwoods (4%)

Upland mixed ash woods (2%)

Data from Highland Council, Forest and Woodland Strategy, 2018

54% of Scotland's native forestry is in unsatisfactory condition

32% of Scotland's native woodland features in protected areas are NOT in good condition

Natural regeneration of woodland without fencing is unlikely when deer densities are above 5 per square km

Atlantic oak and hazel woodlands ('Scotland's rainforest') and montane wood and scrub are all conservation priorities.

2. Protect, regenerate and restore native woodland, including the control of INNS, conservation of veteran trees and retention of deadwood

Bunloit will remove non-native conifer plantations and encourage natural regeneration of native woodland.

Corrour is will continue to encourage natural tree regeneration through deer culls; planting native broadleaved trees and montane trees where suitable seed sources are not available; restoring ancient and other remnant native in areas that have become plantations. Deadwood creation and other forest diversification/restructuring is ongoing through the restoration process.

FLS undertakes management activities to enhance and expand native woodland. This is principally through deer control to promote natural regeneration, enrichment planting, removal of non-native trees, control of *Rhododendron ponticum* (and other INNS) and retention of deadwood.

Protection of woodland using deer fencing is undertaken as a last resort due to the potential impacts of deer fencing on woodland grouse, vegetation management and recreation access.

HC has made a commitment to the objectives outlined in the Highland Forestry and Woodland Strategy.

JMT:

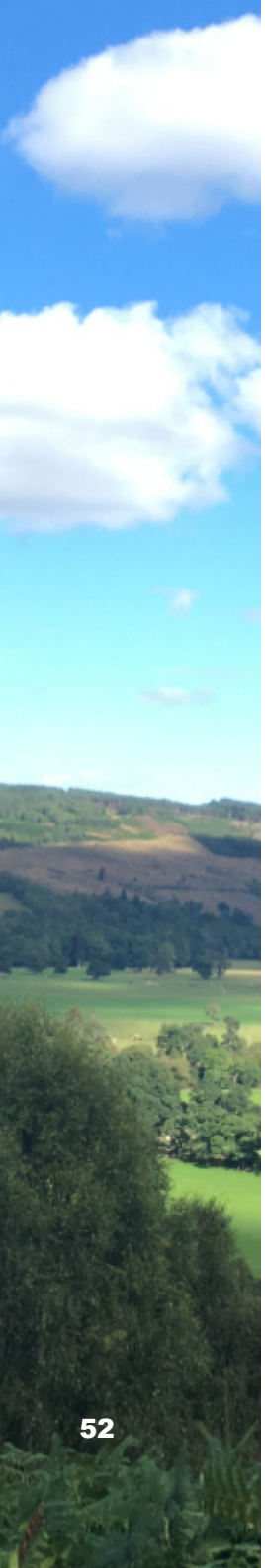
- Encourages tree regeneration through deer culls
- Woodland management includes continuous cover low impact silviculture
- 50,000 native broadleaf trees will be planted at Knoydart and Strathaird as part of the Wild Woods Appeal.

NS work includes considerable natural regeneration of woodland at Creag Meagaidh NNR, Craigellachie NNR, Inshriach NNR and others. NS woodland work also includes:

- Beinn Eighe NNR: For 3 years 20,000 trees per year will be planted in the wider area to connect fragments of ancient woodland. Encourage expansion of Northern prongwort through trial translocations
- Beinn Eighe and Invereshie NNRs: Restructure plantation woodland to increase deadwood to benefit invertebrates and birds
- Craigellachie NNR: Manage open areas for *Lepidoptera* and their host plants
- Dell Wood NNR: Manage for the rare green shield moss, though non-intervention
- Dell Woods, Invereshie and Loch Fleet NNRs: Translocate twinflowers to create additional populations
- Dell Wood and Invereshie NNRs: Trial a new method of habitat creation for pine hoverfly, *Blera fallax*.
- Loch Fleet NNR: Manage land for one-flowered wintergreen

RSPB is undertaking the conservation and expansion of native pine woodland at Corrimony.

SEPA has a Forestry and wood processing sector plan.



3. Partnership working to work at a landscape scale to create woodland networks that improve forest diversity and biodiversity

FLS is a partner in Cairngorms Connect with neighbouring landowners RSPB, NatureScot and Wildland Limited, covering 60,000 ha of land and connecting up the Caledonian pinewoods remnant of this area to create a contiguous area of forest, expanding the woodland uphill to the natural treeline and removing the non-native tree species.

FLS and TfL continue to undertake enhancement and expansion of native woodland in Glen Affric - planting in areas with no native seed source, enrichment planting in existing woodland areas and the removal of non-native trees.

East West Wild: TfL, Bunloit, FLS, NTS, RSPB and private land managers will work together to expand woodland cover between Glen Affric and the west coast.

Corrour will investigate the scope for neighbour partnerships.

NS supports Coigach and Assynt Living Landscape's woodland work.

NTS is working in partnership with TfL to establish montane scrub woodland on NTS West Affric, and is committed to expanding this habitat type. This will build on work that has already successfully established more woodland cover, and will be maintained through sustainable deer management, working with the deer management group.

SEPA and Scottish Forestry have agreed a protocol to facilitate and direct collaborative working.

SSEN Transmission would like to ensure that compensatory tree planting required as a result of development supports, where possible, the expansion of existing native woodland habitats, including restructuring of existing woodlands, natural regeneration and new planting.

SWT is lead partner in Coigach Assynt Living Landscape, which includes tree nursery work to boost native species in the area.

Through a summer ranger and residents help, SWT also monitors the health of native ash-hazel woods and their associated wildlife on Eigg.

The Alliance for Scotland's rainforest is a partnership of more than 20 organisations that are all committed to action for the benefit of Atlantic oak and hazel woodlands 'Scotland's rainforest'.

WTS undertake deer management, native woodland creation and restoration, on their land, and through work with others, at landscape scale.

4. Identify where woodland can be expanded without negative impact on other climate change and biodiversity resources and ensure that new woodlands follow these principles. Include mapping of breeding wader hotspots.

FLS assesses the condition of existing native woodlands and undertakes management activities to enhance and expand their extent through natural regeneration and enrichment planting. Where new planting is planned on open ground (usually due to a lack of native seed sources) FLS undertakes surveys to identify and protect areas of open habitat which should be maintained as such due to their conservation value.

Scottish Forestry and native woodland

The inclusion of the Native Low Density Broadleaves option in woodland creation applications is promoted to land managers, in order to encourage expansion of natural treelines. 140ha has been approved since the beginning of the forestry grant scheme in 2015 to March 2020.

From 2015 to March 2020, woodland creation has seen 6155ha of new native woodland be planted, with an additional 1225ha being approved for natural regeneration.

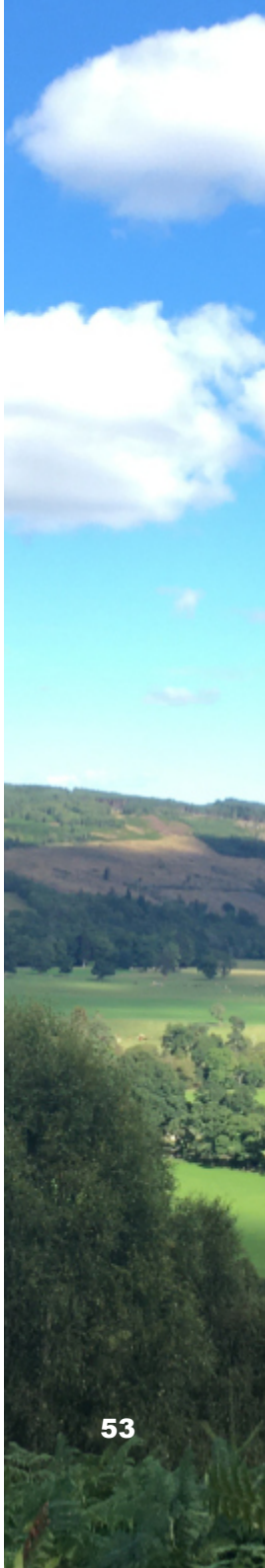
5. Support incorporation of trees and woods into agricultural systems

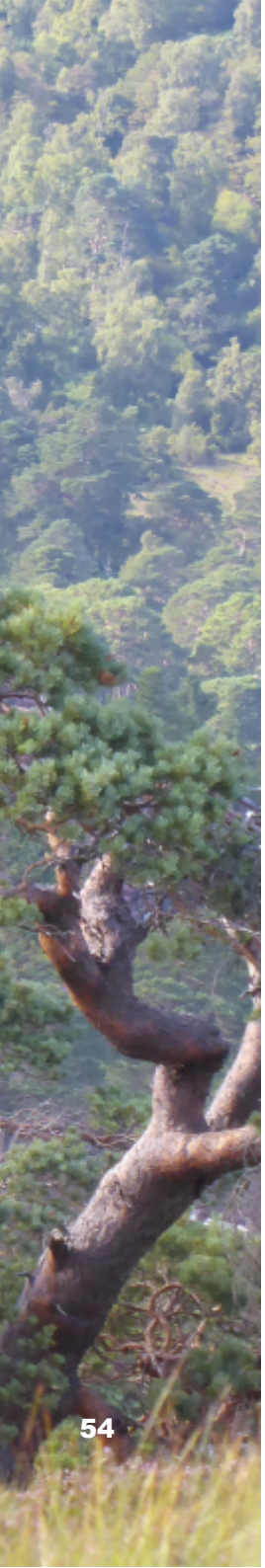
WTS will undertake phase 2 of the Croft Woodlands Project 2020-25

HC will support the creation of woodland crofts. This action is identified in the 'Forest and Woodland Strategy', 2018.

'Forests and woodlands support a diverse range of species and are rich in biodiversity; to date, researchers at Stirling University have recorded over 1000 species associated with Scottish Forests. These include 172 protected species, comprising some of Scotland's most charismatic and recognisable species, including the pine marten, twinflower, crested tit, Scottish crossbill, black grouse, capercaillie, as well as an estimated 75% of the UK's red squirrel population.'

Scotland's Forestry Strategy 2019 - 2029





6. Identify, conserve and expand from isolated trees and tiny woodland fragments

Corrour to survey isolated montane trees and explore options for enhancing populations.

Funding dependent ideas for action include: Continue the 'Lonesome pine' approach to identify isolated patches of trees, work with land managers to encourage expansion.

AssyntFC: Further research into the hazel woodlands of Assynt and options for management.

Caithness Biodiversity Group: Further work with farmers, including those along the along River Thurso, to use juniper plants that the group has raised to enhance populations that are struggling.

WRB: Support Action for Scottish Rainforests through local support / adoption of woodland fragments in partnership with land managers.

7. Continue to run, and create new, native tree nurseries

Tree nurseries are established at many places across Highland, including:

- Caithness Biodiversity Group Juniper Project
- Rogart Primary School
- CALL Assynt Tree Nursery
- Trees for Life, Dundreggan
- Alba Nursery growing aspen from Highland origin seed RSPB Abernethy

Corrour would like to collaborate with others.

8. Grants and planning

Scottish Forestry to continue to provide most of the funding via FGS, and lead or support as appropriate on other forest and woodland actions.

A number of partners highlight the need for a better level of funding for native woodland natural regeneration, so that it can compete with grant levels for native woodland creation.

9. Education and Awareness

HLH raise awareness and value of woodland ecology through school education packs, events and online content.

Commitments looking for partners:

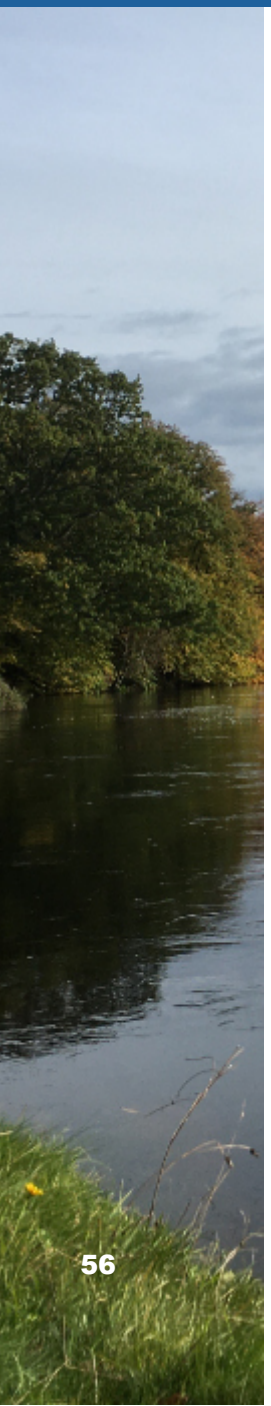
- Provide specialist advice for managing existing woodland
- Train farming advisors to increase their woodland biodiversity and funding knowledge
- Increase training in habitat impact assessment for deer managers.

10. Support local market for timber and related businesses

Bunloit is working with Makar to create eco-enterprises and housing in felled a plantation, using local timber and including some affordable housing This will only go ahead if received positively by local communities.

> In 2070, Scotland will have more forests and woodlands sustainably managed and better integrated with other land uses. These provide a more resilient, adaptable resource, with greater natural capital value, that supports a strong economy, a thriving environment, and healthy and flourishing communities.'
>
> Scotland's Forestry Strategy 2019 - 2029

Freshwater: rivers, burns and lochs



Highland rivers have many vital functions, and in healthy condition support important populations of native fish, European eels, invertebrates, plants, birds and mammals. Lochs and wetlands are an integral part of the freshwater ecosystem and along with rivers and burns they give clean water, help to moderate floods, maintain river flow and store vast amounts of carbon.

The management plan for the Scotland river basin district: 2015–2027 states that 34% of water bodies and 17% of protected areas are not in a good condition as a result of a combination of impacts on: water quality; access for fish migration; physical condition; water flows or levels; and direct impact from invasive non-native species.

> 'Too much soil and too many nutrients are lost from land, creating waste which then pollutes watercourses. A shift towards more efficient resource use, for example through nutrient and soil management planning will help to address the remaining issues. This will increase farm resilience as well as reducing environmental damage.'
>
> SEPA, Significant Water Management Issues for Scotland (2019)

50-year vision

Freshwater: rivers, burns and lochs

Water quality is good in rivers and lochs, with pollution incidents very few and far between.

Rivers naturally meander and waters rise and fall seasonally. Unnecessary river barriers have been removed and hydro dams all have eel and fish passes. Large, interconnected wetlands help to prevent damaging flood events. Beavers are widespread and riverine habitats thriving.

Freshwater pearl mussels and European eels are critically endangered and the population of adult Atlantic salmon returning to Scotland is estimated to be less than half of the level in the 1960s. Fisheries boards, land managers, SEPA and NatureScot all carry out conservation action that aims to reverse this decline.

Commitments made

1. If there is sufficient support, HEF will establish a working group to prioritise work that *Highland Nature* partners can take forward.

Interested partners: Buglife, CFB, SEPA

C

'Beavers are industrious ecosystem engineers. Their dams create wetland habitats that support a wide range of other species, and they slow the flow of water, reducing flood risk downstream and keeping streams and rivers running during droughts.'

Sarah Robinson, Director of Conservation, Scottish Wildlife Trust

2. Work at water catchment level to create healthy ecologically diverse freshwater systems

Ardtornish Estate: Long term plans are to restore the ecology of catchments to improve water retention, flows and capacity (to benefit also hydro generation).

BFB hope to increase engagement with land managers and anglers to encourage approaches that take into account a range of habitats and species and to help see the linkages between deer, trees and fish.

Corrour monitors fish and invertebrate populations and water quality in order to see if there are changes in relation to land management.

CFB: Research at river system and inshore marine environment level (funding dependent).

FLS land management plans incorporate native broadleaf planting along all suitable riparian areas.

MFCP: Establish 'Peak to Creek' community-led projects (funding dependent).

NS:

- Consulted by SEPA and local authorities on flood protection schemes and flood risk management plans
- Helps to support a number of Catchment Management groups

SEPA Water Framework and One Planet Prosperity: Flooding Strategy. Scotland's River Basin Management Plans (RBMPs) and Flood Risk Management Plans (FRMPs) all include management recommendations to benefit biodiversity.

Spey CI activity under the Catchment Management Plan includes:

- Sustainable flood management, focusing on natural flood management
- Improving riparian, riverine and wetland environments for multiple benefits

3. Map and undertake follow up measures to slow down rates of river bank and bed erosion. Decrease river canalisation and reconnect rivers to floodplains

FLS land management plans include native broadleaf planting along all suitable riparian areas helping to stabilise river banks. Control of deer numbers also allows revegetation.

FLS North Region are undertaking:

- Opportunities for reconnecting rivers to floodplains are being discussed with agricultural tenants and neighbouring landowners.
- Riparian planting to benefit freshwater pearl mussel, stabilising banks and providing shade.
- Infrastructural barriers to salmonid passage identified on rivers and burns (culvert pipes and fords) are being removed and replaced with suitable alternatives.

Fisheries boards and trusts, including *Highland Nature* partner Spey CI, will continue to work to improve riverine habitats.

SWT will lead national Riverwoods partnership to boost riparian trees.

4. Safeguard and increase populations of vulnerable freshwater species including European eel, river lamprey, fresh water pearl mussel, Atlantic salmon

NS will:

- Support Scottish Government in the delivery of Atlantic salmon strategy
- Be consulted on freshwater aquaculture proposals
- Support the River Restoration Centre information hub
- Work with SEPA on pollution control, e.g. River Spey
- Employ a recent graduate to work on freshwater pearl mussel conservation in west Highland
- Support the Save our Scoters project on the West Inverness-shire Lochs SPA

RSPB Scotland will continue:

- The Save our Scoters' project
- The long-running black-throated diver raft project on around 40 lochs across the Highlands

5. Reduce diffuse pollution of freshwater systems, including through land management and transport infrastructure drainage

FLS follows UK Forestry Standards in the design and management of buffer areas to protect the aquatic environment from forestry activities.

SEPA will continue to:

- Aim for a c.95% compliance with the water quality regulations
- Undertake the development of sector plans in association with environmental and industry partners.

6. Remove unnecessary barriers to the migration of eels and fish and install appropriate artificial river routes. Aim to prevent turbine mortality, where barriers remain.

BFB work with SSE to help achieve improved ecological outcomes.

FLS North Region has identified the remaining barriers to salmonid passage on rivers and burns (culvert pipes and fords) and these are being removed and replaced with suitable alternatives.

WSFB identify barriers to migration and assist with monitoring and research.

If funding becomes available WSFB would undertake more habitat management and barrier removal.

7 Understand and mitigate for the effects of climate change, such as increased drought, flooding and water temperatures

CFB work contributes to understanding and mitigating effects of climate change.

8. Increase quantity and quality of riparian habitat, including through reduction of grazing partners can take forward.

Also see upland and woodland actions.

Fisheries boards and trusts, including *Highland Nature* Partner Spey CI, will continue work to improve riverine habitats. BFB: hope to carry out riparian woodland planting in the upper catchment (funding dependent).

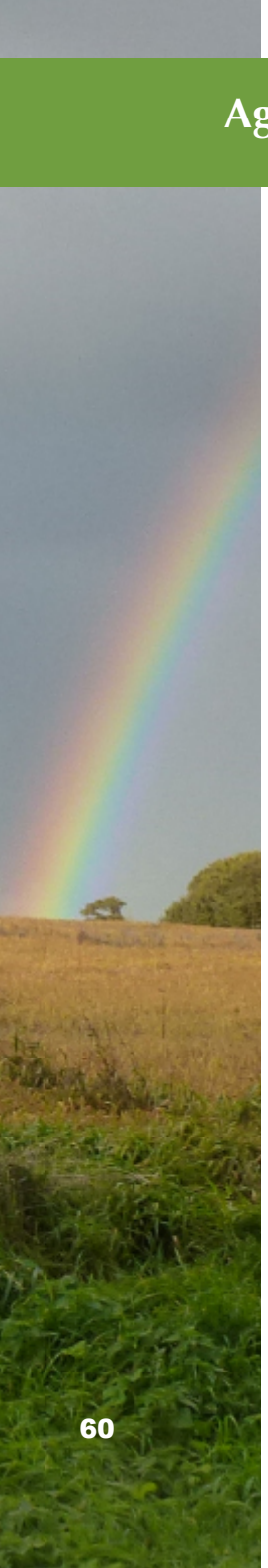
JMT has riparian planting plans for its estate (funding dependent).

SSEN Transmission will explore opportunities for riparian planting as part of woodland compensatory planting requirements from their developments.

9. Education and Awareness, including guidance on land management practices to reduce erosion and sediment discharge. Increase public awareness of the need to maintain septic tanks

MFCP awareness raising relating to freshwater issues and how they can impact on the coastal and marine environment.

Agricultural land



Sensitively managed farming and crofting can be productive for both food and wildlife. Leaving field margins and habitat networks, such as woods and hedges provides valuable food and shelter for wildlife. Unimproved, species-rich grassland, lowland heath and wood pasture are all valuable but declining habitats. Policies to encourage nature friendly farming are led by Scottish Government, and there are a number of initiatives already working successfully in the Highlands. Many land managers already look after their land to benefit nature as well as food production.

Croft Woodlands

The Scottish Forestry Development Programme contributed financially toward the Croft Woodland project. By March 2020 there was supported submission of 80 woodland creation applications, with a further 18 in development. A total of 478ha has been planted.

Advice has been given on woodland management totalling 1007ha. 30 training events (including the Croft Woodland Conference in May 2019) has been delivered to 678 attendees.

50-year vision

Agricultural land

High nature value farming is financially supported and encouraged, and land is farmed to create a patchwork of productive land use that is also good for wildlife.

Pasture land includes species-rich grassland that supports a healthy range of nationally and locally important species, through the use of low intensity grazing and conservation of species-rich hay meadows.

Crop land is farmed with soil conservation as a priority; the use of herbicides and pesticides is kept to a minimum and boundary grassland, hedge and tree shelter forms a valuable nature network. Farmland wader populations have increased.

People have a good understanding of the benefits of nature friendly farming, and the public goods provided by this and natural flood management are recognised. There is a preference for buying locally grown nature and climate friendly produce, resulting in increased diversification into fruit and vegetable production.

Commitments made

1. If there is sufficient support, HEF will establish a working group to prioritise work that *Highland Nature* partners can take forward.

Interested partners: SEPA, WRB, WTS

2. Agricultural practices move to more natural systems and nature-based solutions, reducing CO2 emissions and the need for artificial fertilisers, pesticides and herbicides

Ardtornish Estate long term management plan is to reduce the stocking densities and negative impacts of grazers (sheep & deer) and avoid impacts of cattle on river habitats & freshwater ecology.

NFFN are committed to exploring innovative and improved ways of achieving agronomic, environmental and social benefits (whilst retaining valued aspects of tradition) to demonstrate what farmers can do to help wildlife, the environment and climate whilst producing plentiful quality produce.

SEPA Water Industry and Rural Economy (WIRE) Team staff provide advice on reducing diffuse pollution, particularly in priority catchments and focus areas - including buffer strips, encouraging of farm wetland construction and fencing off river corridors.

3. Integrate trees and agriculture

WTS run the Croft Woodland Project and have a farm woodland adviser.

Further actions in Forest and Woodland section.

RISS (Scotland's Rural Innovation Support Service) has an Agroforestry group working with farmers and crofters to look at the potential for this approach.

4. Survey, protect and expand suitable agricultural habitat for vulnerable species

Species on the Edge will undertake survey and mapping of vulnerable species

RSPB will continue the:

- Caithness Wetlands and Waders Initiative and Strathspey Partnership
- Skye corncrake Initiative and corncrake advisory service in Caithness

JMT manage some JMT agricultural land to encourage breeding waders.

5. Education and Awareness

Lantra will continue to:

- Increase understanding amongst partners and wider public of the availability and value of biodiversity-aware vocational training
- Provide training and skills sharing to land managers and farm advisors, and work together on training delivery

The Nature Friendly Farming Network will continue to build a knowledge base, share research and offer advice, support, and training to land managers and farmers creating a strong community that will provide a strong voice for nature friendly farming.

NS helps to supports the Monitor Farm programme.

Farming, uniquely, has the opportunity to not just improve its own performance by reducing emissions from agricultural activity, but to impact positively on wider societal emissions through good soil and land management, by locking up carbon in trees and soil, and by supporting ecosystems.

Without the engagement of the agricultural community, with its ability to absorb emissions and not just cut them, it will be impossible for Scotland to deliver against its targets.

Farming for 1.5 degrees

Scotland has around 18,000 km of coastline; and seas that host more than 8,000 species. The richness of life reflects the variety of habitats – the many sea lochs and estuaries, the mixing of warm and cold currents along the west coast and rich feeding grounds on, and at the edge of, the continental shelf. Highland has the longest coastline of all local authorities.

50-year vision

Coast & Marine

The Highland seas and coastlands have many iconic species and distinctive habitats which are managed to protect their rich biological diversity.

They can provide valuable ecosystem services, such as marine nursery areas, coastal protection and climate mitigation in perpetuity. No-take zones occupy at least 30% of Scotland's inshore sea areas and methods will be sustainable and low impact.

Populations of large marine mammals have largely recovered and are a valued part of Highland ecotourism.

Coastal and marine habitats, including sand dune systems, maerl, horse mussel and kelp beds, saltmarsh and seagrass are recognised for their importance to biodiversity, carbon sequestration, and protection of the Highland coastline.

Sea Recovery

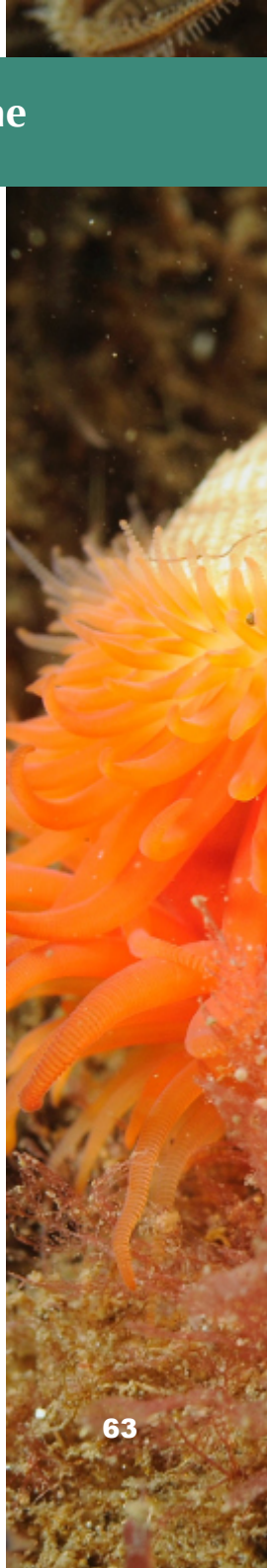
Future fisheries management in Scotland must have an ecosystem-based approach which includes the recovery of marine nature at its core.

State of Scotland's Nature Report (2019)

Maerl, and flameshell beds on the west coast, and horse mussel beds off the north east coast are all important, delicate habitats, which can be damaged by trawling and mechanical dredging. Kelp beds around the coast are productive fish nursery grounds, and help to protect the coastline from storm surges – which is likely to become increasingly important as the climate changes. Scotland has the bulk of the UK's sand dune systems (c.71%) – covering more than 50,000 hectares.

Blue carbon is captured and stored in a number of habitats that are extensive in Highland coastal waters, such as kelp, maerl, mussel and flameshell beds, salt marshes and sea grass beds. Saltmarshes and seagrass meadows can capture carbon and lock it into sediments for centuries, in addition to helping with coastal protection.

Shingle ridges on sheltered coasts provide valuable sites for specialised species, and cliffs are home to large seabird colonies.



The impacts of marine litter on marine habitats and species are now well recognised. Government policy and industry action is essential to reduce this, but there are also many initiatives in Highland that carry out coastal clean ups and look for potential new uses for the waste.

Commitments made

1. If there is sufficient support, HEF will establish a working group to prioritise work that *Highland Nature* partners can take forward.

Interested partners: MCS, MFCP, SEPA.

2. Conservation and protection of coastal habitats, including sand dune systems and machair

Many coastal sites including sand dunes and machair are protected as SSSI or SAC sites.

MOD will continue the conservation grazing and gorse control programme to maintain and restore saltmarsh, dune, juniper heath and fixed grassland at Tain AWR (Morrich More SSSI).

Species-on-the-Edge will undertake projects to conserve a number of vulnerable species.

Stressed seas

'Over the past 30 years, warming has been most pronounced to the north of Scotland and in the North Sea, with sea-surface temperature increasing by up to 0.24°C per decade.'

'In the past five years, salinity of eastern North Atlantic waters west of the UK has dramatically decreased, probably in response to atmospheric changes in the western North Atlantic earlier this decade.'

'Human activities can have an impact on the ability of marine and coastal ecosystems to respond naturally to stressors associated with climate change, such as increasing sea temperature, ocean acidification and oxygen depletion.'

'Climate-driven declines in primary production and copepods in the North Sea have led to declines in fish stock recruitment for some commercial species, including cod, herring, whiting and sprat.'

'A global analysis of fisheries productivity highlighted that the North Sea and Celtic–Biscay Shelf are among the most negatively impacted regions as a result of ocean warming and historical over exploitation.'

Marine Climate Change Impacts: Marine Climate Change Impacts Report Card 2020, MCCIP (2020)

3. Conservation and protection of marine ecosystems and resources

A number of SEPA marine and coastal sector plans are published, or are in development. These cover fin fish, aquaculture and shellfish production. Close working with stakeholders is undertaken during plan development.

NS advises on:

- Marine licences, planning matters, harbours, Environmental Impact Assessments, and Habitats Regulations Appraisals
- Oil pollution and marine non-native species.
- Marine Protection Areas and other designated sites, and on developing national policy

And

- Contributes to 'Dynamic Coast', research on coastal change and advice on future management 'Planning ahead for coastal change' (2019)

MFCP - Partnership working with coastal partnership organisations on 'State of the East Coast Review'.

RSPB responds to marine casework and continues to monitor tern rafts at Avoch and Foulis.

4. Aquaculture to be sensitively sited and use methods that limit negative impacts on the wider marine environment

HC Aquaculture Planning Guidance supports the Highland Development Plan. It contains Aquaculture Framework plans to guide development to appropriate locations and help minimise conflicts of interest. These have been produced for Loch Nevis, Loch Sunart, Loch Bracadale, Loch Hourn, Loch Inchard and Loch Eriboll.

HC will:

- Facilitate and keep abreast of changes to aquaculture regulation on anti-predation methods and risk based spatial planning.
- Where appropriate, require suitable assessments and/or planning conditions to ensure interactions with the natural environment are understood and important biodiversity features are safeguarded. For example, HC will continue to condition adaptive management measures at fish farms in order to monitor and mitigate impacts of sea lice on wild fish populations.
- Work in partnership with other stakeholders and regulators to ensure effective marine planning

RSPB and JMT comment on applications for new fish farms sited in sensitive marine habitats.

5. Marine Litter

HC will utilise the planning system to encourage the prevention of marine litter from coastal developments.

HC will continue to work with KIMO to tackle marine litter.

MCS will continue to run Beachwatch and compile marine litter data.

MFCP will continue beach cleans in association with other partners. MFCP to create a Moray Firth coastal officer post (funding dependent).

6. Climate change and the sea

Funding dependent actions include:

MFCP + University of Aberdeen SEANet3 have proposed a project to find ways to reduce emissions to meet the Scottish Government's 2045 net zero targets covering 'three nets'; habitat restoration; net zero; welfare and wellbeing.

University of St Andrews/HES and Dynamic Coast have proposed a citizen science project to map Scottish coastal vegetation and compare this to SNH 1970s photos.

Outpaced by sea rising

In Scotland, for the first time since the last glaciation, sea-level rise is outpacing vertical land movement caused by post-glacial crustal 'rebound', increasing coastal erosion rates.

Marine Climate Change Impacts: Marine Climate Change Impacts Report Card 2020, MCCIP (2020)

7. Education and Awareness

Aquaculture Modern Apprenticeship courses at West Highland College UHI.

HLH rangers will continue their education and awareness work, including through seashore safaris and nature events.

Citizen Science:

- RSPB Beached Bird Survey and co-ordination of volunteer tern counts around the Moray Firth
- MCS Beachwatch
- Seasearch
- Big Seaweed Search

MFCP - Dolphin Space Programme promotes the Scottish marine wildlife watching code and monitor for wildlife disturbance

MFCP raises awareness of marine and coastal issues through newsletters and social media.

MCS has a Cool Seas website with a wide variety of education resources

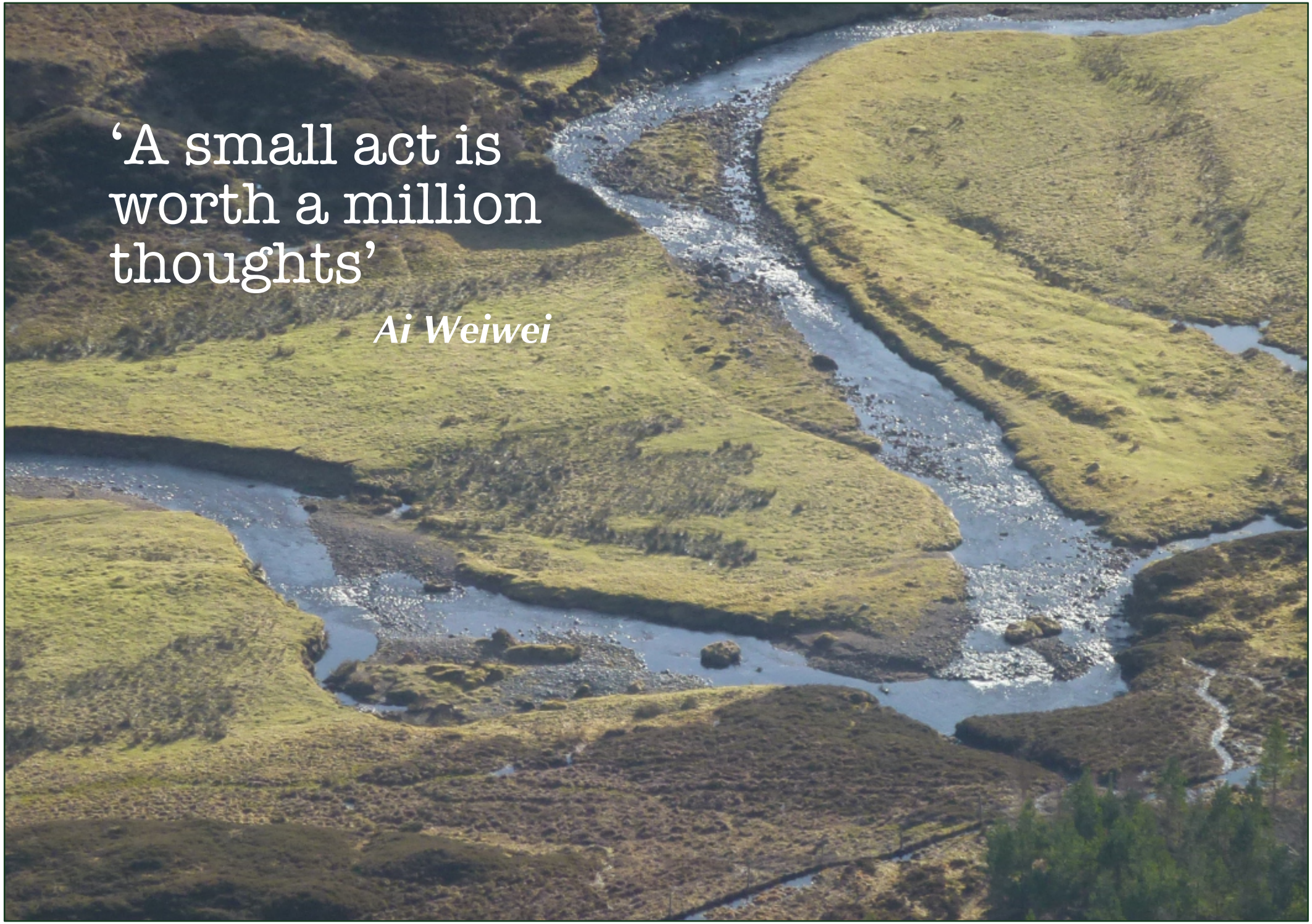
RSPB Scotland will continue to involve the community in the tern colony protection project at Dalchalm beach, in conjunction with the Brora Golf Course.

SWT will continue work to expand and promote snorkel trails to boost appreciation of inshore marine wildlife and its protection.

Funding dependent ambitions include:

WSFB: Assist with citizen science projects and coastal monitoring.

MFCP: Moray Firth coastal officer.


‘A small act is worth a million thoughts’
Ai Weiwei

Partners in Highland Nature