

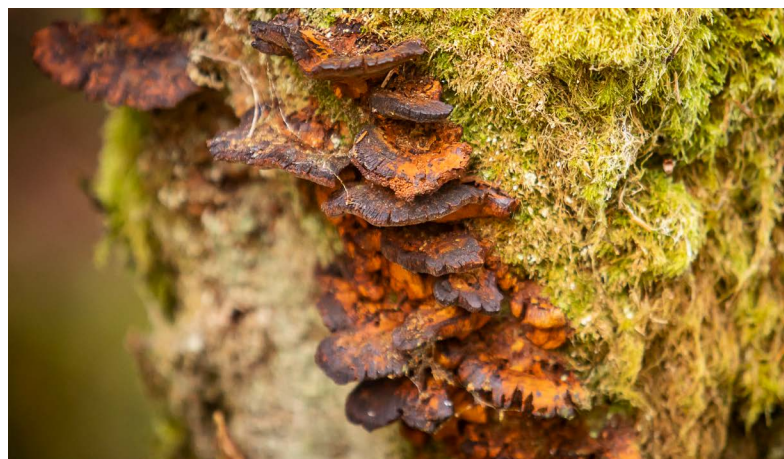


BIODIVERSITY DUTY REPORT HIGHLANDS AND ISLANDS ENTERPRISE

2021-2023



Highlands and Islands Enterprise
Iomairt na Gàidhealtachd 's nan Eilean



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Section one: introductory information about Highlands and Islands Enterprise

Highlands and Islands Enterprise is the economic and community development agency for the Highlands and Islands of Scotland. We've been working with organisations and communities for over 50 years to ensure the region remains successful and competitive. Our purpose is to build and sustain a greener, fairer and more resilient region that benefits everyone. Our 2023-2028 strategy sets out a clear vision and direction for the next five years and illustrates how we will contribute to the delivery of the [National Strategy for Economic Transformation](#).

We work with communities, enterprises, and stakeholders to unlock our region's potential for growth and progress, while driving fair work and net zero practices. We will deliver through focusing on our four pillars: People, Place, Planet and Prosperity.

We offer support and investment to a wide range of projects that will help us secure key outcomes for the Highlands and Islands:

- a more balanced population and growing skilled workforce;
- an increase in average wages;
- an increase in economic and community benefit from our transition to net zero; and
- enhanced productivity and innovation throughout the region.

As the economic and community development agency for the Highlands and Islands, we continue to be ambitious for every part of our region.

HIE owns two estates and nearly 100 commercial or industrial property sites to enhance business growth throughout the region. The estates are Orbest in northwest Skye and Cairngorm in Badenoch and Strathspey. HIE's most significant impact for biodiversity is the intrinsic part it plays in how we manage our property portfolio. Examples from our landscaping work are contained in the relevant sections of this report. Where land and property is under lease, the responsibility for their biodiversity lies with our tenants.

This report sets out the key things HIE has been involved with and supported through our expertise, policy, influencing, collaborative working and investment. This includes examples of some clients we have supported who are undertaking their own activities in relation to biodiversity.

The structure of the report reflects the Level One Template all public bodies have a duty to complete.



Section two: action to protect biodiversity and connect people with nature

HIE has broad powers and a great deal of flexibility about how it acts on its core duties to develop the regional economy and strengthen local communities. HIE has, over the past three years, continued to focus on client support for businesses, social enterprises and community-led development. This section provides examples of how our client support is used to protect and enhance biodiversity.

Supporting business growth

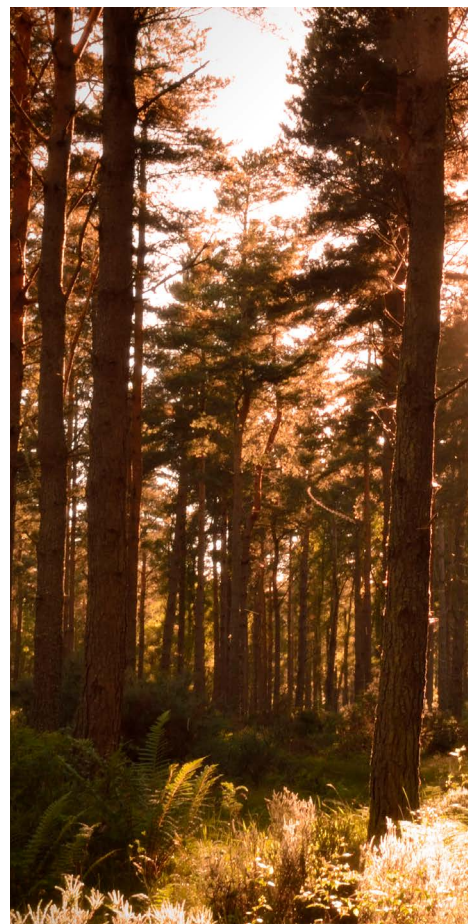
CHRISTIES (FOCHABERS) LIMITED

Christies is a forest nursery producing millions of trees annually. Based in East Moray, the nursery supplies finished trees and plants to wholesale clients, forest agents, landowners, nurseries, and private estates. Smaller end users, such as retail buyers, are also supplied from its online facility and retail garden centre. Our Moray area team awarded Grant in Aid (GIA) funding for the company to lead a significant programme of investment in efficiency and productivity, leading to an increase in capacity and a reduced time to market.

Christies plans to invest in an automated tree grading system to further its long-term business goals and objectives, through a significant capital investment in physical assets for the business, that will help the company run more efficiently and grow faster.

The Scottish Government's strategy, which aims to increase tree planting nationally in Scotland, equating to around 60 million new trees, is driving demand for Christies' products. Demand has also been driven by companies looking to offset their environmental impact by planting trees for carbon capture offsetting.

Issues surrounding changes to immigration laws, have meant that the business has significant issues with recruitment of staff to manually grade the trees. The current method of manual grading will become prohibitive, and profit margins will be difficult to maintain, due to the cost of labour. This capital investment will ultimately increase efficiencies and enable this home-grown business to operate and reduce the need to import plant stock - significantly reducing risks of importing pests and diseases that could significantly damage our biodiversity.





ACC staff member inspecting the clear-fell activities undertaken to replace a mature Sitka Spruce plantation with native broadleaf and scots pine trees, October 2021

Supporting communities

APPLECROSS COMMUNITY COMPANY

HIE's core funding of a development officer for Applecross Community Company (ACC) has allowed ACC to secure funding to deliver the first phase of development of Coille Coimhearsnachd Na Comraich/Applecross Community Woodland. This has included establishing a community tree nursery and a volunteer programme to construct a timber-frame shelter, as well as holding several community events.

ACC has recently received funding from the National Lottery Heritage Fund to continue the project for a further four years. The project will enable the community to restore Coille a' Thorra Ghairbh/Torgarve Woods to a thriving Atlantic rainforest, improving its biodiversity while promoting and showcasing its archaeological features. ACC will work in partnership with the Applecross Historical Society to design Gaelic-led interpretation to enhance the experience of the site to both the local community and visitors and demonstrate the interdependence of the cultural and natural heritage of the area.

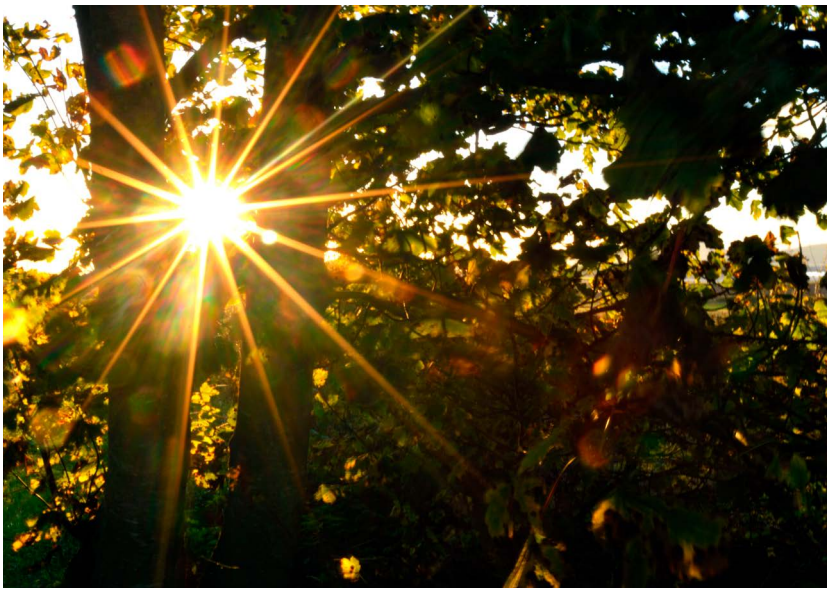
The funding supports the continuation of the woodland development officer role, capacity-building for staff and volunteers, development of amenities, educational spaces, a digital platform for the project, and long-term income generating opportunities. ACC will continue to work with the local primary school and nursery, Appleaseed Community Garden and Allotments, and the Archaeological Society to achieve these aims.

URRAS OIGHREACHD CHÀRLABHAIGH (CARLOWAY ESTATE TRUST)

Urras Oighreachd Chàrlabhaigh has had a Peatland ACTION Project Officer in-post for several years. The postholder has developed substantial expertise in advising on peatland restoration across the Outer Hebrides. In partnership with Scottish Water, Soval Estate and the Ranish Common Grazings Committee, a site was identified for peatland restoration, situated on the northern shore of Loch Orasaigh, covering an area of approximately 11 hectares (ha) of degraded and eroding peatland. HIE's role is in supporting a development officer to make this project possible.

Today, the loch is an important resource, not only for the Common Grazing Committee or the local wildlife, but also as it provides drinking water to a around 3,500 people on the island. It is surrounded by rough grazing and had been previously used for peat cutting. Although many of the peat banks were old, the ditches associated with the banks were still functional and the Hebridean rain and wind has sped up the erosion taking place in the ditches and on the peat bank faces, which has resulted in peat being washed into the loch or being moved away from its original location. In some cases there was a sufficient vegetated buffer between the ditches and the loch edge to remove most of the particulate peat, but the majority of the displaced peat was still finding its way into the loch. Therefore, on an individual basis this erosion may not have added up to much but the cumulative effect of the many areas of exposed and eroding peatland was impacting the peatland habitat and the loch water quality.

At the site, the contractor used a low ground pressure excavator to re-profile and compress the abandoned and eroding peat banks to reduce the amount of bare peat surfaces, and simultaneously blocked all footer ditches to spread flows across the vegetated surfaces. This restoration will allow the peatland water table and the vegetation layer to stabilise and start growing again to form peat, and more importantly capture greenhouse gases from the atmosphere instead of releasing these gases.



LAGGAN FOREST TRUST

Established in 1998, Laggan Forest Trust (LFT) supports recreational activities as well as the preservation, protection and management of the forest environment. LFT's development plan is to cater for and be supportive of Forest Land Scotland's forestry management and visitor recreational objectives as well as the Cairngorms National Park Authority's (CNPA) visitor and recreational objectives, and to support their nearest "heritage neighbour" with NatureScot at Creag Meagaidh national nature reserve.

Working in partnership with CNPA, HIE has supported LFT to develop and open a new blue-graded trail, as well as to regrade the existing mountain biking trails at Laggan Wolftrax. Not only does this support the sustainability of LFT as an organisation, but the family-friendly blue trail provides the opportunity for more people to spend time in the outdoors amidst the natural heritage of the Highlands.

POLYCRUB

Nortenergy developed Polycrub, a polytunnel/greenhouse hybrid made from recycled materials. Including waste pipes reclaimed from the salmon farm industry, it is built to withstand the harshest of climates. This allows more fresh produce to be grown locally, reducing food miles and engaging people in closer contact with nature. Grant aid from the Climate Challenge Fund meant that they could build 12 community polycrubs in Northmavine. Each building was split into shared plots and almost 50 people in the community were able to grow undercover.



Section three: mainstreaming biodiversity

Adopting sustainable procurement and purchasing policies

HIE's Joint Procurement Strategy includes a policy statement related to Net Zero Nation. HIE has used the Climate Change Assessment Tool to identify opportunities and actions to help consider how we can minimise the carbon cost of the goods, services and works we procure.

HIE uses the [Scottish Government's sustainability toolkit](#) (flexible framework and prioritisation tools) to identify our priority areas for sustainable procurement related risks and opportunities. This identified that construction-related procurements remain a priority area to focus on and we developed an action plan to help progress these.

We encourage our supply chain to implement sustainable procurement action plans. We use the Scottish Government Sustainability Tool on relevant procurements which have helped to identify areas for inclusion in our specification and/or evaluation criteria. The toolkit includes a sustainability test which includes a question relating to Biodiversity protection and one for Biodiversity enhancement.

The questions enable us to consider for a specific procurement if there are any materials within the products being purchased or used within service delivery derived from potentially vulnerable ecosystems, where biodiversity is at risk or, in the delivery of a service, there is a risk that ecosystems will be damaged. Also, it can highlight opportunities to enhance biodiversity in relation to services to be delivered. We consider the relevance to the procurement and if so, do we need to include anything within our specification, evaluation criteria or contract management to manage the risk/opportunity. An example of the type of procurement that this has been relevant for is Landscaping Services – where the use of chemicals and/or herbicides and the consideration of wildflower meadows to be left or created in some of the office locations, has helped inform the specification.

A couple of examples of conditions we have used in procurement are:

- incorporation of relevant legislation and requirements to help protect the environment including biodiversity – landscaping services – weed control, herbicide usage controls, restrictions on when cutting of wildflower grassland is undertaken to encourage growth and wildlife, mulching on site, grass cuttings to be left in situ for a period of time to allow seeds and fauna to return to the sward, no strimming of tree bases to help protect tree stems, watering of newly planted/replaced trees, inspection and adjustment of tree stakes and ties, removable of debris and litter from watercourses, ditches etc, pond maintenance, compliance with the Horticultural Code of Practice, use of EU Ecolabel products for growing media;
- the inclusion of an evaluated question in a cleaning services contract about chemicals and cleaning products helping to minimise their environmental impact with reference to Government Buying Standards.

Where relevant and proportionate we have required suppliers to deliver community benefits as part of their contract, through our contract management process, our contractors have reported a variety of environmentally themed aspects our supply chain has delivered, examples include:

- Environmental/sustainable policies in place
- Tree planting

HIE's Head of Procurement chairs the Highland Cluster Forum (procurement-related group of Scottish Government central sector bodies in the Highland area). Agenda topics and presentations have included use of the Scottish Government Sustainability Tool from both policy and practical usage aspects.



INVERNESS CAMPUS

The Campus, managed by HIE, was featured in our previous report. To update on that we anticipate the same approach to biodiversity will be taken forward to the anticipated development on phase 2.

Some of the plots on the campus are now owned by other organisations and others are leased. Although some of the plot purchasers at the Campus have taken different approaches from HIE to landscaping of their grounds, most have given high consideration to biodiversity. For example, the approach that HIE and the University of the Highlands and Islands (UHI) took in the landscaping of the Life Sciences Innovation Centre – planting out some of the bunds with wildflower meadows. This approach has now been proposed by Scotland's Rural College (SRUC) for the grounds of their new base at the Rural and Veterinary Innovation Centre.

CAIRNGORM ESTATE

Cairngorm Estate is owned and managed by Highlands and Islands Enterprise (HIE). The Estate covers 1418 hectares, of which 598 are leased for sports and leisure activities. Cairngorm Estate is one of the most important upland estates in Scotland in conservation and recreation terms. It is the home of rare and internationally protected species and habitats. It lies at the core of the Cairngorms National Park and is an important visitor attraction. The Estate is a key driver of the economy of the surrounding area and a focal point for rural development and recreational activities. The environmental value of the Estate is recognised in national and international designations for habitats, species and geomorphology. It forms part of the most extensive upland plateau in the UK and is likely to play an increasingly important role as a refuge for species that are vulnerable to climate change. HIE uses various approaches to protect and enhance biodiversity and access to the mountain as described in the following sections.

Cairngorm Mountain (Scotland) Limited's (CMSL) role in funicular strengthening works

HIE engaged consultant environmental engineers during the design of the funicular strengthening programme which began in November 2020 and they worked closely with the construction team throughout the re-instatement works. An independent Environmental Clerk of Works (ECOW) was commissioned to conduct regular site visits and advise on best practice. CMSL attended site reinstatement meetings, trained and advised Balfour Beatty contractor in seeding and reinstatement techniques on the mountain.

Tree planting strategies (working with the Speyside Fisheries Board) and zoning discussions with NatureScot

Discussions are ongoing with Spey Catchment Initiative to increase mountain woodlands across the Cairngorm Estate. Such woodlands are beneficial in shading headwaters leading to cooler summer water temperatures beneficial to aquatic life downstream. A three to five years planting scheme was grant-assisted to plant hundreds of thousands of plugs of local provenance. Staff continue to work with Dundee University, monitoring stream flows and temperatures within Coire Cas. There is potential for some peatland restoration at the Ciste part of the estate as part of this scheme. Cairngorm Mountain (Scotland) Limited is looking at signing a formal agreement during winter 2023/24 and awaiting a new officer to start post in December 2023 with the Spey Catchment Initiative.

Work continues to manage the biodiversity of the estate through the following actions:

- Increase diversity and coverage of mountain woodlands on Cairngorm Estate.
- Continued investment and maintenance in robust footpaths and tracks to minimise impacts on mountain habitats.
- Continued projects to increase habitats for wildlife.
- Continued removal of non-native species.
- Further work to improve water within catchments with projects like SUDS schemes below the main car parks.
- Snow white project removing human waste from snow hole sites.

The ranger service remains in place, funded by HIE, and undertakes the following actions:

- Design and management of footpath repair works to the c30km network at Cairngorm Mountain.
- Constant litter removal.
- Visitor management and controls.
- Education and interpretation.
- Volunteer opportunities, sharing knowledge of mountain habitats and Cairngorm as a recreational resource.



Section four: nature-based solutions, climate change and biodiversity

In this section we describe our activities with clients through our innovation support, support for innovative sectors, such as space and our progressive work relating to climate change.

MAKE INNOVATION HAPPEN

Make Innovation Happen (MIH) was developed as an exemplar single gateway service to encourage businesses involved in the food and drink (F&D) industry Scotland-wide to embark on an innovation journey. The key aim was to increase innovation investment and Research & Development in the F&D Sector in Scotland. One of the elements within MIH was a £1.1m Collaboration Fund led by HIE. There were a number of projects approved which had a biodiversity element.

SCOTTISH HONEYBERRIES LTD

Scottish Honeyberries Ltd (SHL) is a cooperative of 10 members (all farm businesses, one based in the HIE region) which work together to grow and market honeyberries throughout Scotland. They aim to be the leading experts in growing and sourcing high quality honeyberries, producing and selling premium honeyberry products. SHL as a newly established farming co-op, has been formed to grow and market a new crop in Scotland, the honeyberry – which has commercial potential as a premium, healthy food. Honeyberries are fruit of the honeysuckle plant and originate from harsh cold climates such as Japan and Siberia. They are very hardy, and as such are suited to growth in Scotland's northern climate: the co-operative has successfully planted Scotland's first honeyberry orchard. This project supported creating a value-added proposition to the cooperative.

BPLASTICFREE LTD

The lead partner is Bplasticfree, a small innovation focused business that has developed a specialist food wrap product using beeswax. As lead partner, Bplasticfree has brought together two other participants, Halley Stevensons and Cullisse (based in the HIE region). Funding allowed the company to test the manufacture of environmentally sustainable Scottish wax coatings for use on food wrap and other materials.

SOILESENTIALS LTD

Lead partner SoilEssentials Ltd exists to combine precision agronomy, cutting-edge technology and innovative engineering to increase agricultural efficiency. Their aim is to deliver a practical, innovative tool set to companies, farmers and agronomists to assist them in productive, sustainable and environmentally friendly crop and livestock production. The funding allowed the company to undertake a precision, high volume soil sampling feasibility study together with participative training of land managers in sustainable Potato Cyst Nematode (PCN) management, which will support integrated pest management for Scottish potatoes.

Small Innovation Grants

HIE's small innovation grant was used to support the following businesses in the period:

CELNOR ECO PACKAGING

Biodolomer® is one of the few bio-based and compostable materials in film blowing that is food grade and will contain very low pH. There are only a few materials on the market that are bio-based, compostable and food contact approved. Biodolomer® film allows vapour to go through in its current state and is good for letting moisture out. The film has a very low melting point, this allows it to seal to itself very easily, but too much heat will melt the film. Sealing jaws on most high-speed filling machines will run temperatures to a plus or minus 10°C, this extra 10°C could melt the film and would stick to the jaws. This project was to supply one part of the film to a potential client Parkside Flexibles who will print the paper then laminate to Celnor's film.

OCEANIUM LTD

This European Marine Science Park based business undertook a technoeconomic feasibility study for a method of separating seaweed components. They intend to make use of the whole seaweed if possible (zero waste) but the main value streams will be sale of fucoidan as a high value bulk ingredient for nutraceuticals and the use of the alginate fractions to produce bio-based packaging.

ANGUS DAVIDSON LTD

HIE's funding enabled the company to develop specialised technology for use in peatland restoration and carbon sequestration projects. Peatbogs are a rich source for carbon sequestration but many require physical restoration work to ensure they can lock in carbon. The project brought together a combination of hardware equipment such as drones and mobile scanning and combined them with a cloud-based software solution which digitally transformed the company's monitoring capabilities.

GROWTH IN THE SPACE SECTOR

Space is a promising new economic sector with the potential for regional transformation through creation of high value jobs, growth in supply chain and spin-off activities and attracting new working age people to the region.

Satellite launch site Sutherland Spaceport aims to be the world's greenest spaceport, and there is substantial evidence to support that claim.

At present, large areas of the site are heavily scarred from peat extraction that has taken place over centuries – these areas will be restored. The site's peat management plan, developed by HIE, will ensure that all the peat dug out during construction is retained onsite, with much of it being used to restore valuable peatland around the launch area.

A relatively small-scale operation, the launch site, including the control centre and launch pad, extends to just under 10 acres and the developer and operator, Orbex, is working towards a maximum of 12 launches a year at full capacity. The rockets themselves are comparatively small – Orbex Prime is just 19m in height. Manufactured in Moray, the Prime vehicle is lightweight and fuelled by biopropane – reducing carbon dioxide emissions during launch by around 95% when compared with fossil fuels. Jettisoned sections of the Prime vehicle are recoverable.

The land is community-owned by Melness Crofters Estate (MCE) who see themselves as the long-term stewards of the land. HIE has worked with them to develop plans to restore peatland which has been damaged over many generations. In 2021, MCE Chairperson Dorothy Pritchard, presented the community's vision for how economic and environmental benefits can be pursued simultaneously at the COP26 summit in Glasgow, and this was very well received. HIE is also supporting a local bid for UN World Heritage Site status for the Flow Country.

We expect satellites launched from Sutherland will play a vital role in Earth observation, contributing to our understanding of climate change and ways to address the climate emergency worldwide.



CLIMATE CHANGE

Looking ahead, what do you think will be the main climate change related challenges for biodiversity over the next three years?

Over the next three years, several climate related challenges are anticipated. Adaptation to a changing climate could have a significant effect on businesses and communities across the region but very few, if any, have plans or can afford to undertake mitigation measures.

To address these challenges, proactive conservation and adaptation measures will be crucial. These may include habitat restoration, the establishment of protected areas, community engagement in conservation efforts, and the development of climate-resilient strategies for biodiversity management. HIE is considering how these risks affect our client base and regional infrastructure that we own or lease. HIE remains a funding partner and Board member of Highland Adapts and is engaged with the Adaptation Scotland Board. These two roles are informing HIE's approach to climate adaptation.



Section five: public engagement and workforce development

Public engagement

AWARDING GOOD PRACTICE

HIE actively promotes and rewards good practice, the VIBES Scottish Environment Business Awards recognise businesses in Scotland that are taking significant steps to improve or reduce their impacts on the environment. HIE is a VIBES partner, with the head of net zero, Keith Masson, acting as a judge for the awards in 2022 and 2023.

Furthermore, HIE's wider Energy Transition and Net Zero team has been involved in judging the Powering Futures Highlands and Islands Challenge presentations. This programme allows businesses to put forward their young workforce to tackle a key sustainability challenge by committing two hours a week for 16 weeks to research the problem, collaborating with experts and finally developing an implementable business case for presentation. Conservation of local landmarks and acknowledgement of the challenges facing biodiversity were a central theme for one team in the most recent round. It developed an app for visitors to use to understand and promote positive environmental behaviour, incentivise visiting certain quieter areas, and flagging opportunities to take part in short-term volunteering programmes such as rewilding projects.

HIE has supported clients who are undertaking public engagement relating to biodiversity. The following are a few examples of these client activities.

TREES FOR LIFE

For over 25 years, Trees For Life has been working to rewild the Scottish Highlands. The charity is restoring the Caledonian Forest in Glen Affric and at its 10,000-acre Dundreggan estate in Glenmoriston. It grows thousands of native trees from seed each year. Working with landowners and local communities, Trees for Life is scaling up this work with its new Affric Highlands initiative.

In 2023 Trees for Life opened the world's first Rewilding Centre at Dundreggan. Built with support from HIE, the multi-million-pound natural heritage centre is designed to be a gateway to the estate's wild landscape, allowing visitors to experience rewilding in action, explore accessible trails and hikes and learn more about local wildlife, culture, and heritage. The centre also offers a café, classrooms, and accommodation for a wide range of immersive events, activities, and experiences.

Displays and interpretation at the centre are in English and Gaelic, taking inspiration from the rich Gaelic heritage of the locality and of the wider region.





HIGHLAND WILDLIFE PARK

HIE is supporting the planned expansion and development of the Highland Wildlife Park near Kingussie. The development aims to deliver an authentic and unique encounter with native and international species year-round. It will provide learning, education, research and community engagement opportunities which will enhance understanding and appreciation of the importance of nature conservation on a local, national and international level. It will attract new audiences with broader environmental interests, who may not be traditional zoo visitors, through the parallel development of the National Wildlife Reintroduction Centre.

This unique facility will be the only one of its kind in the UK and is based on a successful European model. It will build the case for zoos as conservation centres through high-profile work to restore endangered species. The Discovery Learning Centre will become a natural gateway to the Cairngorms National Park's landscapes and wildlife. It has the potential to become a visitor attraction in its own right by providing facilities to deliver authentic experiences relating to nature and heritage and showcasing the richness and diversity of native wildlife and its place in the world.

The Hebridean Community Garden. Photo courtesy of Urras Oighreachd Ghabhsain (UOG) and Clan MacQuarrie Community Centre (CMCC)



CHRISTOPHER SMALL:

“The Hebridean Community Garden is a sustainable green project that promotes a low carbon lifestyle, through the principles of organic gardening. We grow a wide range of healthy produce – without the aid of pesticides or chemicals. Through the educational classes and workshops that we run in partnership with UOG’s Duthchas and Ploigh initiatives, we are able to instil the importance of growing native plants, creating biodiversity networks and planting trees to a wide range of individuals and families. UOG – as a community landowner – is engaged in many wonderful environmental projects. These include formulating an inclusive land management plan and overseeing the Loch Stiapabhat nature reserve.

It is vital that we all play our part in addressing climate change and the ecological crisis and there are so many ways that gardeners help with this – utilising more tree planting in our designs; creating ‘messy’ areas in our gardens (piles of rotten wood and leaving seed heads throughout the winter) to support local wildlife; resisting the lure of a perfect lawn by letting the grass grow wild and of course by growing our own fruit and vegetables at home.”

NET ZERO HEROES

HIE has a spotlight on Net Zero Heroes on our website. This includes short case studies about people who have made a difference to inspire others to follow their approach. One is Christopher Small, who was highlighted for his work on organic gardening. Christopher is now living and working in the Galson Estate - 56,000 acres of community-owned land which is home to 22 villages and 2,000 people in NW Lewis. The project he manages is a horticultural collaboration between [Urras Oighreachd Ghabhsain](#) (UOG) and the [Clan MacQuarrie Community Centre](#) (CMCC). Since starting the post in January 2021 they have created two polycrubs, a sensory garden, a dry stone wall and raised beds. The community is now using the polycrubs to grow their own vegetables and there are gardening events for various groups within the community.

A BRIDGE TO COMMUNITY EMPOWERMENT



HIE has recently published a document to showcase and inspire examples of community-led development funded by natural capital. Developed in collaboration with [Crown Estate Scotland](#), [Foundation Scotland](#), and [Community Woodlands Association](#) these examples can be considered as a collection of approaches to community benefits which each have long lasting and productive outcomes for the communities involved. The work

supports the [Scottish Government's](#) action around establishing a values-led, high integrity market for responsible investment in natural capital, an ambition in the [National Strategy for Economic Transformation](#). It is intended to inspire communities and investors alike to explore the art of the possible and to recognise the positive gains for both groups when they work together.

WORKFORCE DEVELOPMENT

HIE is strongly committed to addressing its obligations under net zero policies. As part of this HIE is developing climate literacy which by its nature, also supports increased understanding of biodiversity.

ENGAGING STAFF IN IDENTIFYING SOLUTIONS TO NET ZERO

Each year, HIE has a full staff conference, bringing employees together from across different teams within the organisation. In November 2023, all staff were involved in facilitated breakout sessions titled: "Leading on Net Zero", empowering them to consider and recommend how HIE can reach its objectives in this area.



TRAINING FOR STAFF IN CLIMATE LITERACY

HIE's Leadership Team (LT) undertook climate solutions training in August 2022 as well as a half-day workshop in September 2022, with the aim of providing awareness of HIE's legislative responsibilities and the various solutions available to address the climate and ecological emergency within the region.

Following on from this, it was agreed by LT that training should be delivered to all HIE staff to upskill and raise awareness of HIE's role going forward. Over the first half of 2023, a bespoke carbon literacy training course with specific area focus has been developed, which has now been reviewed and fully accredited by the Carbon Literacy Project (CLP). This course will be rolled out in-person to all HIE's client-facing staff before the end of the 2023/24 financial year, with the first training course having been delivered to colleagues in Caithness & Sutherland on 20 September 2023. The training aims to increase the level of understanding and connection between the participants and their local environment, and the impacts and opportunities present through their individual and group actions.

SUPPORTING PROCUREMENT STAFF TO BECOME CLIMATE LITERATE

HIE staff regularly involved in procurements have attended two procurement training sessions in the past year, these include an overview of sustainable procurement – objectives of the Sustainable Procurement Duty, sustainable environment, signposting to circular economy and Net Zero Scotland. HIE's procurement and net zero teams have completed the Scottish Government Climate Literacy e-learning modules and this is being rolled out to relevant property team members. HIE's procurement team support colleagues on the use of the Scottish Government Sustainability Tool.



SUPPORT FOR GRADUATE PLACEMENTS

HIE funds graduates to work in our client organisations. One such example is supporting graduate employment in the Shetland Amenity Trust (SAT). With six woodlands and the rising importance of the net zero carbon agenda, SAT was delighted to be able to recruit Solene Giraudeau-Potel, a MA graduate from the Scottish Association for Marine Science (SAMS) in Oban.

The Trust saw the opportunity not only to catch up on the delays to planting caused by lockdown, but to expand its woodland operations. In addition to meeting increasing demand from the mainland for hardy tree stock, the Trust wants to increase the services it offers. This could include supporting biodiversity schemes to help tree conservation and native woodland creation. Tree planting projects in strategic areas such as upland burns could also be undertaken to offer local benefits such as reduced flooding and run-off. The Trust is already working with the [Woodland Trust](#) and [Scottish Forestry](#) on woodland crofts.

The appointment has been hugely successful with Solene bringing valuable knowledge and strong skills in working with people. She says: "I started out in a research role that was applied to the aquaculture industry, but always wanted to move into a more conservation focused role. When I saw this job come up, it seemed like the perfect way to make a start in conservation.

"When I was little I always wanted to be a forest ranger, so it's nice to finally do something similar! I'm learning things I could apply to a marine-based role if I ever wanted to go back, and it's been a great experience overall so far."

Section six: research and monitoring

MARINE ECONOMY

In February 2023, HIE published a report on the [Blue Economy in the Highlands and Islands](#), recognising its importance to the fabric and sustainability of local communities, and its significant contribution to Scotland and the UK's economy. The study aimed to build strategic understanding of the blue economy and its constituent sub-sectors, identifying opportunities for growth and development that have the potential to be transformative for the Highlands and Islands and for Scotland. The report went on to identify priorities within this, and the role that HIE might play in catalysing and supporting this growth. The study highlighted the degree of inconsistency in the availability and detail of data for some sub-sectors, an issue that needs to be addressed to ensure impacts can be appropriately measured and monitored.

The research findings provide a framework to inform the development of a Blue Economy regional delivery plan that targets resources where they can have the greatest impact. It also identified a range of principles to underpin actions and ensure sustainable development of the Blue Economy. This included taking an ecosystem approach to developing the sector and ensuring that economic and social development around the Blue Economy is based on the premise of safeguarding physical and natural assets and minimising negative environmental impacts.

CARBON BASELINING WORK

Reducing carbon emissions and achieving net zero targets is core to the Scottish Government's National Strategy for Economic Transformation and is reflected in subsequent Programmes for Government. The Highlands and Islands has the potential to contribute disproportionately to national ambition around net zero. Achieving this aspiration necessitates a profound understanding of the region's current environmental landscape and the requisite measures to align with national targets.

To that end, earlier this year, HIE commissioned a piece of research which aims to draw together the relevant intelligence to inform discussion and decision-making related to the development of mitigation and adaptation policies, as well as support the development of regional and more localised implementation plans.

The anticipated outcomes of this research can be summarised as follows, with a specific focus on biodiversity:

1. Establishing a baseline for greenhouse gas (GHG) emissions for the Highlands and Islands region overall, as well as its constituent local authority areas, while concurrently exploring carbon sequestration potential across the region.
2. Conducting an assessment of GHG emissions by sector, identifying the major contributors and prioritising those sectors that urgently require support for effective decarbonisation, taking into account the impact on biodiversity.
3. Evaluating gaps and limitations in national datasets for the measurement of GHG emissions at regional, sub-regional, and sectoral levels.
4. Assessing and quantifying HIE's internal corporate GHG footprint and associated costs, pinpointing limitations in current data capture, and making recommendations on improvements that consider biodiversity impacts.
5. A review of the current and potential contribution of the Highlands and Islands region overall to national renewable energy generation in respect of all renewable energy sources, to quantify the importance of the renewable energy sector to the region.

Preliminary findings from this ongoing research, focused on biodiversity and emissions, indicate that in 2019, the total territorial carbon dioxide equivalent (CO₂e) emissions for the Highlands and Islands were estimated at 3,227 kt CO₂e, constituting 13% of Scotland's CO₂e emissions. These estimations are grounded in five distinct categories: transport, domestic, industry, commercial, and public sector emissions, underscoring the need for biodiversity-conscious interventions. Given that the Highlands and Islands cover 51% of Scotland's land mass and are home to 9% of its population, the importance of preserving biodiversity is pronounced.

It is anticipated that the work will be complete in late 2023, with workshops to be held with relevant stakeholders to discuss emerging findings ahead of the presentation of the full report to LT and the Regional Economic Partnership in December 2023.

ARGYLL CARBON SEQUESTRATION PROJECT

HIE led the delivery of a partnership of private, public and community representatives in Argyll and Bute to explore the economic potential of carbon sequestration. The project was funded by the UK Government through the UK Community Renewal Fund.

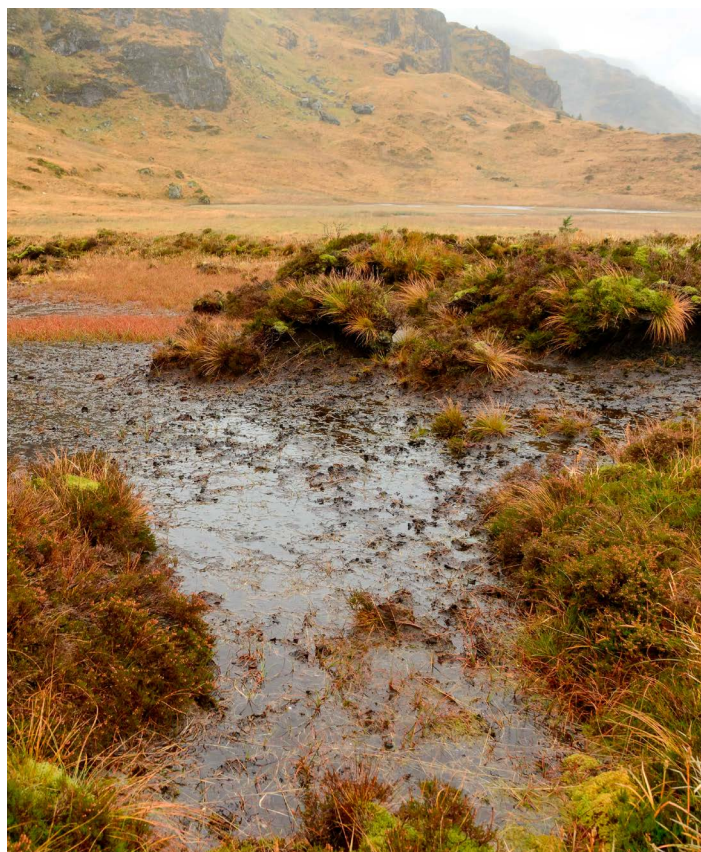
The year-long project worked to a premise that Rural Scotland has extensive natural assets which could have an important role in reducing excess carbon dioxide (CO₂) in our atmosphere. Landowners and managers are in a strong position to contribute to change and at the same time attract financial investment through carbon markets.

The objective of the project was to provide a baseline and information which:

- assesses what natural capital the area has to offer and any current sequestration activity;
- provides an expert evaluation of opportunities;
- examines the potential of carbon markets for the area, assessing costs and future value to the economy;
- develops a proof-of-concept business model with example opportunities; and
- delivers suggested implementation plans and recommendations.

The project completed with a stakeholder event in November 2022. All the documents relating to the research and its outcomes can be viewed here: [Carbon sequestration Argyll and Bute research | HIE](#). This has raised awareness within HIE of this potential opportunity for communities or other organisations to develop business propositions. However, the research findings were that the policy development remains at a very early stage and without more clarity on forthcoming policy such as agriculture reform, there was no viable route forward for economic development at this time.

Separately, we are pleased to note interest in research of Inverness Campus biodiversity – most recent being the SRUC project looking at the snails found in the Campus lochans.



HIE BUSINESS PANEL

HIE also runs a [business panel](#) in collaboration with South of Scotland Enterprise (Scottish Government participated in a series of four surveys extending coverage across all rural Scotland). As well as tracking the economic health of our regional businesses, these surveys have explored a range of topical issues, including transition to net zero and low carbon ways of working, support requirements for 'greener' working, the adoption of circular economy principles, use of more localised supply chains, and much more. This helps HIE and partner agencies to better understand and support businesses and organisations as they decarbonise operations and move to greener and more sustainable ways of working.



Section seven: biodiversity highlights and challenges

The main highlights and challenges building on our previous report have been as follows:



THE IMAGING FLOW CYTOBOT

HIE granted the University of the Highlands and Islands £185,000 to purchase a piece of equipment known as an Imaging Flow Cytobot (IFCB). The IFCB can scan water samples for phytoplankton (microalgae) using flow cytometry, lasers and cameras. It beams this data to the internet cloud for specialist analysis allowing phytoplankton detection and monitoring. The device is submersible and can work unattended in-situ at an aquaculture site or monitoring station. By working around the clock, the IFCB detects early signs of harmful algal blooms, and this rapid detection can help to inform early stock management decisions that can protect the welfare and security of aquaculture stocks. The equipment features as a case study in [Scotland's Innovation Strategy](#) (p.47)

CLIMATE ADAPTATION

The Highlands and Islands is projected to experience:

- hotter, drier summers, with greater temperature extremes;
- warmer and wetter winters with more intense rainfall events;
- a decrease in summer rainfall and an increase in winter rainfall;
- a continuing rise in sea levels, increasing flooding, coastal erosion and damage to critical infrastructure.

These changes are already impacting many of the communities and businesses HIE supports and will continue to intensify in the future. It is the case that the most vulnerable businesses and communities are likely to be the most negatively impacted by these effects. SMEs are likely to be less prepared for climate change than larger businesses – currently, 95% of HIE's 'client engaged' businesses are SMEs, with many struggling to engage proactively with net zero, let alone future climate risk. HIE is just beginning to develop our internal approach to climate adaptation and will draw on Adaptation Scotland and public sector capability framework to develop solutions. This is a significant challenge given resource constraints across the public sector.

THE VALUE OF NATURAL ASSETS

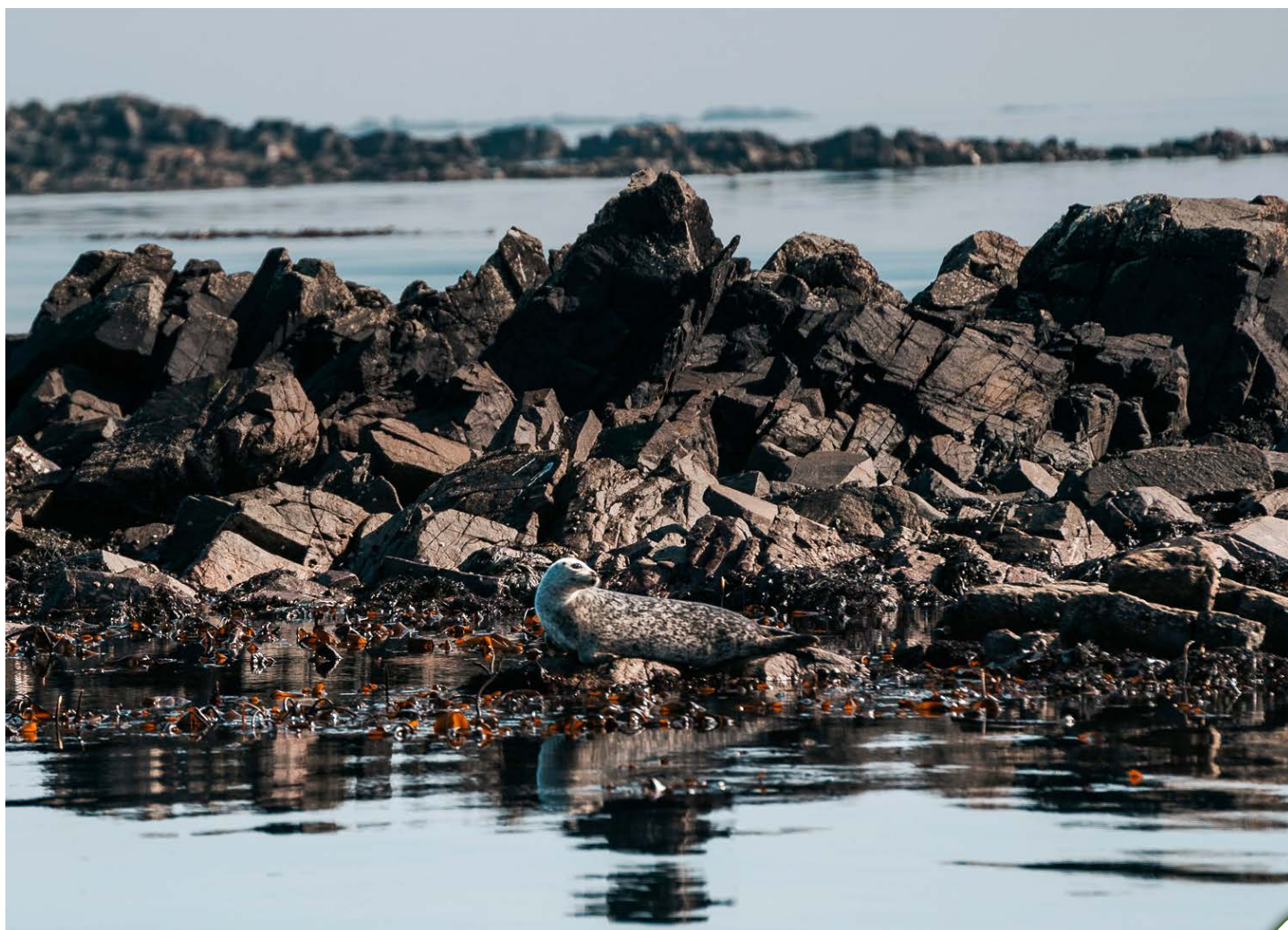
As noted previously, supporting a business, social enterprise and community to both value and gain value from our natural assets is an essential component of protecting or enhancing biodiversity. However, the perception currently is that this is costly to business, and not profitable. The challenge here is to strengthen the enablers of an economy that can include high-value nature and that respects the value in conserving that. However, we see this attitude shifting and as a highlight of HIE's work in this area, the exemplars of business support, community support and innovation demonstrate an increasing volume of good practice examples where business can and does value biodiversity and can create value from it. We value the increased attention to this work in the consultation on 'Tackling the Nature Emergency'.

DECARBONISING HIE'S PROPERTY PORTFOLIO

Decarbonising HIE's facilities and property portfolio is a significant challenge and area of work.

HIE's Facilities Management (FM) team has responsibility for the management of HIE-owned and operated office sites. This covers all aspects of site operations including; energy management, spatial planning, hot desking and building maintenance. The FM team, through policies, procedures and proactive management, contributes towards efficient building management and carbon reduction initiatives. In addition, the team is currently working on right-sizing our estate to maximise asset utilisation as well as co-locating with key public sector partners to reduce overall emissions. The team is targeting the three owned offices as a priority in respect of CO₂e. An initial tranche of EV charge points was installed in two of the owned offices during 2022/2023. The objective is to encourage staff to own EVs by providing easy access to charge points.

HIE's property portfolio team reviews and recommends improvements or new purchases in respect of our built commercial/investment estate and land. The team uses a project register which records infrastructure funded projects, including those designed to improve energy efficiency across the portfolio. Work is underway to baseline the emissions profile associated with both our operational and commercial-let portfolio.





Highlands and Islands Enterprise
Iomairt na Gàidhealtachd 's nan Eilean