

BIODIVERSITY DUTY REPORT 2018-2020

Report Outline

This report is set out in line with Scottish Government's biodiversity reporting template for Level One organisations as follows:

- Section 1: Introductory information about your public body
- Section 2: Actions to protect biodiversity and connect people with nature
- Section 3: Mainstreaming biodiversity
- Section 4: Nature-based solutions, climate change and biodiversity
- Section 5: Public engagement and workforce development
- Section 6: Research and monitoring
- Section 7: Biodiversity highlights and challenges

SECTION 1: INTRODUCTORY INFORMATION ABOUT YOUR PUBLIC BODY

Please describe your organisation's role and purpose, including any particular environmental responsibilities

Crown Estate Scotland is a public corporation established in 2017 and governed by the Scottish Crown Estate Act 2019.

Our purpose is investing in property, natural resources and people to generate lasting value for Scotland. We have a statutory duty to maintain and enhance income from the value of the Scottish Crown Estate assets in a way that furthers sustainable development in Scotland, specifically economic development, regeneration; social well being; and environmental wellbeing.

The organisation is responsible for managing the Scottish Crown Estate which comprises a range of rural, coastal and marine assets as well as some commercial property. These assets include:

- 37,000 hectares of rural land with agricultural tenancies, residential and commercial properties and forestry on four rural estates (Glenlivet, Fochabers, Applegirth and Whitehill)
- Rights to fish wild salmon and sea trout in river and coastal areas
- Rights to naturally occurring gold and silver across much of Scotland
- Just under half the foreshore around Scotland including 5,800 moorings and some ports and harbours
- Leasing of virtually all seabed out to 12 nautical miles including fish farming sites and agreements with cables & pipeline operators
- The rights to offshore renewable energy and gas and carbon dioxide storage out to 200 nautical miles
- Retail and office units at 39-41 George Street, Edinburgh
- The Zero-Four development land near Montrose

We lease land and seabed for a variety of uses including farming, residential, commercial, sporting, mineral operations, infrastructure and energy generation. Forestry assets on the estate are directly managed.

Sustainability of the assets under our management is key to our business. This is reflected by the strategic objectives set out in our 2020-23 Corporate Plan:

- Support the sustainable expansion of Scotland's blue economy, focussing on marine and coastal development
- Develop built environment that strengthens communities and benefits businesses
- Invest in innovation and work with tenants to enable sustainable natural resource use
- Build partnerships for people and the planet
- Develop and deploy our people's expertise to deliver value and success

SECTION 2: ACTIONS TO PROTECT BIODIVERSITY AND CONNECT PEOPLE WITH NATURE

Please describe and explain any actions that your organisation has undertaken alone or as part of a partnership to benefit biodiversity directly, to tackle the main drivers of biodiversity loss, or to achieve wider outcomes for nature and people

East Cairngorms Moorland Partnership

- Crown Estate Scotland's Glenlivet Estate is a core part of the East Cairngorms Moorland Partnership, helping to contribute to the four aims of the Cairngorms National Park, the National Park Partnership Plan and Cairngorms Nature Action Plan through moorland management activities.
- In collaboration with PeatlandACTION, work has been undertaken to restore Fèith Musach peatland, which is a former peat cutting site. The Partnership is also developing a plan to seek funding for Phase 2 of the Glenmulliach Peatland restoration project at Glenlivet.
- Through the Partnership, Crown Estate Scotland has also supported the implementation of a best practice approach to assessing mountain hare populations. Monitoring work for mountain hare at Glenlivet Estate commenced in 2019. It has continued in 2020 and will be maintained in subsequent years along with other landowners to identify any change in populations or species distribution.

Tomintoul and Glenlivet Landscape Partnership Project

- The Tomintoul & Glenlivet Landscape Partnership covers an area of approximately 200 km² within the Cairngorms National Park, much of which is part of the Glenlivet Estate. The Partnership has several objectives which focus on celebrating and valuing the area's distinctive landscape heritage. Examples of projects include:
 - an innovative flood prevention project on the River Avon which has involved planting willow spilling to help reduce erosion, slow the flows and improve conditions for migratory fish;
 - installation of two fish ladders at the River Avon to benefit migratory fish; and
 - installation of owl nesting boxes at Blairfindy Castle.

- The Tomintoul & Glenlivet Wildlife group has been set up with support from Crown Estate Scotland's Glenlivet ranger service to distribute grants via the Partnership. The Wildlife Group aims to deliver activities that protect and encourage wildlife and promote public participation. Work has also been undertaken on Glenlivet Estate create new wetland scrapes which will benefit waders and pollinators.



Photo 1: New owl nesting boxes at Blairfindy Castle



Photo 2: Willow spilling on the River Avon (left: immediately after, right: 2 years after installation)

Marine litter - Upstream Battle

Crown Estate Scotland provided funding to Keep Scotland Beautiful Upstream Battle campaign in 2018 and 2020. The objective of this scheme is to prevent marine litter at source along the River Clyde as 80% of all marine litter comes from land. The first phase of the campaign focussed on changing littering behaviour across the Clyde catchment area through Citizen Science and awareness raising initiatives. There was also work with primary schools to investigate the pathway of litter from their playground to the River Clyde and young people were recruited to become ambassadors for the Clyde.

SECTION 3: MAINSTREAMING BIODIVERSITY

Please outline any steps your organisation has taken to incorporate biodiversity measures into its wider policies, plans or strategies. This should include decision-making structures and staff and organisational roles and responsibilities.

Value Project

The Scottish Crown Estate Act 2019 requires Crown Estate Scotland to further sustainable development in Scotland. Our 2020-23 Corporate Plan set out how we will do this. To achieve this we established the Value Project, which aims to embed criteria for our five value categories (social, economic, environmental, regeneration and climate change) in strategic decision making, alongside financial consideration.

As part of this work, we have developed 16 indicators to support our assessment of wider value across the five value categories.

Strategic and investment decisions will be assessed using the 16 indicators.

For environment, the indicators are:

- Natural resources – resources used/maintained in a sustainable way
- Biodiversity – visible driver and is protected/strengthened
- Pollution prevention – pollution has decreased/not increased

This approach will ensure that environmental considerations, including biodiversity, are embedded in our decision making.

Forestry certification

All our productive woodlands have been certified and audited to ensure woodlands are managed according to the requirements of the UK Woodland Assurance Standard (UKWAS).

SECTION 4: NATURE-BASED SOLUTIONS, CLIMATE CHANGE AND BIODIVERSITY

How has your organisation integrated biodiversity into nature based solutions to the climate emergency and other socio-economic outcomes?

Climate Change Action Plan

In our 2020-23 Corporate Plan, we committed to preparing our first Climate Change Action Plan and we expect to publish the Plan in early 2021. The Action Plan includes the following key targets and actions:

- Achieve zero direct emissions by 2040
- Establish our emissions baseline in 2021-22 and submit our first climate change report to Scottish Government in November 2022
- Develop green office plans for Edinburgh and Glenlivet offices
- Develop a green travel plan
- Promote home working options and the use of digital communication platforms
- Implement the sustainable procurement duty
- Consider options for introducing more climate friendly vehicles and machinery at Glenlivet and Fochabers
- Consider measures to reduce emissions at Crown Estate Scotland property on George Street, Edinburgh

Other relevant actions in the plan include:

- Complete a carbon audit of the Glenlivet Estate.
- Identify potential woodland creation sites, with outputs incorporated into a woodland creation masterplan.
- Complete phase 2 of the Glenmulliach Peatland restoration project at Glenlivet to implement peatland restoration work such as removal of regenerating trees, blocking of drains to limit peat drying out, maximising the heath of the peatland and its sequestration qualities.
- Establish Glenlivet Estate future land use master planning project – working in partnership with Cairngorms National Park, Highlands and Islands Enterprise, Moray Council and community partners to

ensure climate change mitigation and adaptation is integrated in planning long-term change across the Estate.

The plan also refers to climate adaptation work that has been undertaken across the rural estates. This has included working with tenant farmers on riverbank stabilisation to prevent erosion and mitigate further loss of grazing land; restoration of the Faemussach peat works; and planting over 210,000 trees, including increasing species diversity and selection as an important consideration in terms of making our forests more resilient to trees.

Sustainable Communities Fund

In July 2020, we launched our Sustainable Communities Fund. The fund has been created to support local regeneration and sustainable development. This is a three-year fund with £250k of grant funding available each year for three years. The fund is split into two grant streams: Environment Grants and Community Capacity grants.

Environment Grants

- £100k is available per year with grants of between £5000 and £20,000. These grants will provide funding to Crown Estate Scotland tenants for projects on the Scottish Crown Estate which deliver lasting and demonstrable environmental benefits.
- Potential projects could include planting to improve biodiversity, measures to support recycling or waste reduction, enabling green travel, or activities to reduce pollution or carbon emissions.
- Projects which can demonstrate wider community benefits as well as environmental benefits are encouraged.
- The first environmental grants will be awarded in early 2021.

Community Capacity Grants

- £150k is available per year with grants of between £10,000 and £50,000. These grants are available for projects within 5 miles of Scotland's coastline or within 5 miles of one of Crown Estate Scotland's rural estates.
- The purpose of the community capacity grants is to provide early stage financial support for community enterprise projects that contribute to local regeneration and sustainable development, ultimately helping to create great places to live, work and visit.

Innovating with Natural Resources challenge fund

We are currently developing an Innovation with Natural Resources fund which we expect to launch in early 2021. The objective of the fund is to invest in projects involving elements of novelty, improvement or originality that focus on long-term business development and diversification in ways that positively improve the sustainable use of natural resources.

Potential projects could include activities that support business to adopt more sustainable and efficient use of natural resources, activities that address climate change and reduce carbon footprint or activities that reduce dependency on fossil fuels.

Around £3m will be made available through the fund.

Natural Capital Protocol Trials

The Natural Capital Protocol, produced by the Natural Capital Coalition, is a standardised international framework for businesses to identify, measure and value their impacts and dependencies on natural capital. Crown Estate Scotland led a trial of the Protocol as part of a project joint funded by Scottish Environment Protection Agency and Nature Scot.

The trial was undertaken on three different land-based businesses on the Scottish Crown Estate:

- the entire Glenlivet Estate (23,000 hectares with a range of farming and leisure activities e.g. mountain bike trails);
- an upland tenant farm on the Glenlivet Estate; and
- a lowland arable business on the Fochabers Estate.

A further trial of the protocol was subsequently undertaken for the dairy sector, focusing on a dairy farm business in South West Scotland.

The Protocol was found to be useful for improving understanding of natural capital and ecosystem services, business dependencies and impacts, inter-dependencies between enterprises, risks and opportunities, and wider societal benefits. The Protocol has potential to help land-based businesses across Scotland and the UK by informing decisions on significant projects or land use change and helping land managers to improve economic and environmental performance and resilience.

Improving Access to Nature

Considerable investment has been put into improving the walking and biking trails at Glenlivet Estate:

- A maintenance audit was undertaken, and all significant repairs have now been completed. This includes the upgrading and refurbishment of walking trails including an all abilities route and re-building several pedestrian bridges.
- New stepping-stone crossings for small burns and an additional mountain biking trail have been developed.
- New interpretation boards and new leaflets which include information on biodiversity issues.
- Installation of a new bird hide.

Scottish Marine Environmental Enhancement Fund (SMEEF)

SMEEF is a new initiative founded by a partnership between public bodies (Crown Estate Scotland, Marine Scotland and NatureScot), NGOs (RSPB Scotland and the Scottish Wildlife Trust) and the offshore wind industry.

Scotland's seas are an incredibly rich resource of natural capital but also a shared space supporting a wide range of industries and coastal communities. By supporting marine and coastal environmental enhancement activities in Scottish waters through grant-aided projects, the fund will enable users benefiting from the rich natural marine resource to voluntarily re-invest in the health and biodiversity of our seas, thereby safeguarding and enhancing that natural resource.

In the long-term, we expect that the SMEEF will be funded voluntarily by sectors, companies and private individuals with an inherent interest in the wellbeing of the marine environment.

During early discussions about the possibility of setting up such a fund, it was clear that seed funding was required to enable the recruitment of a project manager to set up the fund. In 2020, Crown Estate Scotland provided a significant share of the seed funding to ensure that the initiative was able to proceed.

What steps has your organisation taken to incorporate biodiversity outcomes into partnership initiatives, wider strategies or initiatives of relevance to climate change?

We have developed a detailed Local Biodiversity Action Plan (LBAP) for the Glenlivet Estate which is monitored and updated annually. The LBAP includes targeted actions for several species of conservation concern, including wildcat, waders, freshwater pearl mussels, as well as twinflower, blanket bog and riparian woodland habitats. Work undertaken to support the LBAP includes:

- Creation of additional wader scrapes bordering Conglass Water (see Picture 4 below).
- Creation of a new bird hide which provides a great viewing area for waders and wader chicks in spring/summer.
- Fencing and riparian tree planting undertaken where cattle previously entered the River Avon.
- Restoration of the commercial peat-cutting site at the Feith Mussach peatland.
- Installation of deer fencing with bird strike protection (see Picture 3 below).
- A wildflower meadow has been planted on ground next to bird hide to provide benefits for pollinators.
- Monitoring for twinflower has been set up with the Tomintoul & Glenlivet Wildlife group.
- Work to remove Skunk Cabbage (invasive non-native species) from birch woodland at West Avonside woodland.



Photo 3: Deer fencing with bird strike protection



Photo 4: Conglas Water wetlands

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

The 2019 State of Nature Report highlights that climate change is a key driver of change for Scotland's habitats and species.

Climate change is likely to affect forest ecosystem health, resilience, productivity, biodiversity and carbon storage. The frequency of fires in uplands and woodlands is also predicted to increase. Sustainable forest and moorland management will be essential to reduce the negative effects of climate change and to help safeguard its social, economic and environmental value.

Scotland's coastal habitats are also seeing pressure from climate change, through the acceleration in the rise of sea levels and larger storm-surges causing erosion. This may affect sensitive saltmarsh habitats for example, which support internationally important numbers of species of conservation concern.

A further risk from climate change is the spread of invasive non-native species which may benefit from the changing climate.

As noted above, through our Value Project, we are embedding climate change criteria in our decision making. Our climate change indicators are as follows:

- Mitigation – a low/zero greenhouse gas approach is being delivered
- Adaptation – actions increase resilience/reduced risk in face of changing environment
- New opportunities – new, low greenhouse gas activities/businesses/products are pursued

This approach will ensure that climate change considerations are embedded in our decision making.

SECTION 5: PUBLIC ENGAGEMENT AND WORKFORCE DEVELOPMENT

Public Engagement

Corporate Plan 2020-23 – Children’s Rights and Wellbeing

During the preparation of the Corporate Plan, Children In Scotland carried out an online survey and a series of workshops to engage with children and young people on the draft Plan. The key message resulting from the engagement was that children and young people place significant importance on the environment and want to see positive and tangible action to protect it. The final Plan focusses on sustainable development and building a net zero emissions economy which reflect the interests of children and young people.

Clyde in the Classroom

Each year we sponsor Clyde River Foundation’s “Clyde in the Classroom” initiative. This project sees thousands of school children from across the River Clyde catchment raise and release brown trout into the river system. The annual initiative provides learning opportunities across the curriculum as pupils monitor fish development, calculate what they need to keep to them healthy and record their experiences. Having the responsibility of caring for the fish also inspires an interest in nature and the environment.

Outreach Activities

At the Glenlivet Estate, we provide a ranger service to work with the community, schools and university groups to facilitate outdoor learning opportunities. These opportunities include various open days, activities and guided walks throughout the year. In partnership with the Cairngorms National Park, the ranger service helps to deliver activities for Cairngorms Nature Big Weekend event. Residential visits are also undertaken twice a year at Glenlivet Estate. These have been undertaken in conjunction with the Wilderness Foundation and target disadvantaged and vulnerable young people.

Many activities were on hold in 2020 due to Covid-19 restrictions but we are aiming to restart these in 2021. The focus for 2021 will be around supporting young people with mental health challenges. Improving access for minority groups and welcoming a more diverse base of visitors will also be a key priority.

Workforce skills and training

As highlighted above, the ranger service at Glenlivet Estate works in partnership with other organisations, local community groups, schools and universities to promote and share best practice through volunteer days, education visits, events and through the delivery of conservation projects.

Over the next reporting period, we will seek out opportunities to promote and educate all our staff about the work that we undertake to promote biodiversity and the drivers for this work. We will also look to facilitate volunteering days of the estate which have a biodiversity focus.

Identify any opportunities that are available to your staff to take part in practical actions

Volunteering with the Green Team

Edinburgh-based charity The Green Team support children and young people to learn about and connect with nature, others and themselves. Crown Estate Scotland staff took part in a volunteer day led by The Green Team in 2018. We planted 350 trees at the Whitehill Estate. The funds we provided for the charity's support will help to resource their programmes with young people.

SECTION 6: RESEARCH AND MONITORING

Describe any research activities that your organisation has undertaken to help develop understanding and awareness of biodiversity

Crown Estate Scotland is committed to funding and delivering environmental research relating to our assets.

Aquaculture

- In 2018-19, we commissioned and published a “Review of the contribution of cultivated bivalve shellfish to ecosystem services – a review of the scientific literature”. This paper produced conclusions and recommendations regarding the contribution of cultivated bivalve shellfish to ecosystem goods and services, in terms of both positive and negative impacts.

Offshore Wind

- Since 2019, we have worked closely with Marine Scotland to fund and deliver key projects from their ScotMer research programme, focussing on ornithology and marine mammals, particularly in terms of developing the evidence base and improving modelling tools to support robust consenting decisions. Current projects include:
 - Strategic review of migratory routes and further development of a stochastic Collision Risk Modelling tool
 - Seabird behaviour at sea
 - Feasibility study for SeabORD extension to full breeding season
 - Further development of marine mammal dynamic energy budgets models

Wild salmon

- In partnership with Marine Scotland, we are contributing to a number of research projects aimed at improving the understanding of Scotland's wild salmon population including:
 - Improved salmon genetic stock identification resolution and use on historical smolt DNA samples
 - West coast tracking project – wild Atlantic salmon will be tracked over a three-year period to better understand their migration routes and ultimately inform policy on how best to look after them.
 - National electrofishing survey 2019 – surveys undertaken to capture and count juvenile fish to inform an annual assessment of the status of Scotland's salmon stocks.

What follow-up actions or monitoring have you undertaken to assess the impacts of the actions you have taken? How have you measured this? If you do not carry out any monitoring activities, please explain why.

Glenlivet Estate LBAP

The LBAP includes a number of key actions which support the monitoring and sharing of wildlife information. These include:

- promoting use of the Tomintoul & Glenlivet Wildlife Group recording form hosted on iRecord and helping to train staff from the Wildlife Group on how to use iRecord to allow wildlife sightings to be collated and shared
- monitoring for twinflower (a plant species rare in Scotland) through the Tomintoul & Glenlivet Wildlife group
- installation of trail cameras to record wildlife across the Glenlivet Estate.
- support for wider monitoring initiatives such as mountain hare and wildcat surveys.

Actions in the LBAP are regularly reviewed and the plan is updated annually.

We also intend to develop LBAPs for our other rural estates at Fochabers, Whitehill and Applegirth.

Within our rural estates, there are international or nationally designated nature conservation sites. These are listed below. Note that some of the sites are only partially within our estate.

Estate	Designated Site
Whitehill	Roslin Glen Special of Special Scientific Interest (SSSI)
Applegirth	Perchall Loch SSSI
Fochabers	Moray and Nairn Coast Special Protection Area (SPA) and Ramsar River Spey SAC/SSSI Lower River Spey SAC/SSSI Spey Bay SSSI
Glenlivet	Ladder Hills SAC/SSSI Lower Strathavon Woodlands SSSI Bochel Wood SSSI Creag nan Gamhainn SAC/SSSI Fodderletter SSSI River Spey SAC/SSSI

The condition of designated sites within our estate ranges from favourable to unfavourable declining. Condition. Our management regime continues to focus on their ongoing improvement and through the BAP process, we will identify measures to help restore sites under our management to favourable condition.

Does your monitoring show any significant trends or highlight any areas of concern?

Have you added any data collected to the National Biodiversity Network or your Local Records Centre?

Crown Estate Scotland provides support to the Tomintoul & Glenlivet Wildlife Group to promote the use of iRecord, which allows wildlife sightings to be collected and shared with the community and experts to support decision making at local and national levels.

SECTION 7: BIODIVERSITY HIGHLIGHTS AND CHALLENGES

Describe your organisation's main achievements for biodiversity over the reporting period and what you are most proud of (this can include processes, plans, projects, partnerships, events and actions).

Key achievements in the period 2018-2020 include:

- Started 'The Value Project' to understand the economic, regeneration, social and environmental value that Crown Estate Scotland and our assets deliver.
- Launched our new Sustainable Communities Fund in 2020, with £100k available each year for environmental grants.
- Delivered five land-based trials of the Natural Capital Protocol in 2018/19 to help enable land managers to improve economic and environmental performance and resilience.
- In 2019, the ranger service at Glenlivet Estate supported 24 Junior Ranger days and visits for 167 schoolchildren.
- In 2019, 71 volunteer days were held at Glenlivet Estate to provide the public with the opportunity to undertake practical conservation work and path repair.

Looking ahead, what do you think will be the main challenges over the next three years?

Delivery of Scottish Government targets for biodiversity and climate change will be a significant challenge over the coming decades.

Brexit may have a significant impact on European funded partnership projects.