Scottish Government
Riaghaltas na h-Alba
gov.scot

# THE BIODIVERSITY DUTY REPORTING TEMPLATE: LEVEL ONE ORGANISATIONS

## Report Outline

Bodies are encouraged to use the following structure for their report. This is set out in the template below, which you can either type directly into, or copy into a separate document.

- 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

## Completion Notes

These completion notes offer guidance to support your public body to complete your Biodiversity Duty Report. Taken together with the associated hyperlinks, they provide suggestions on the breadth of actions that could be included in your report. They may also assist with forward planning on how biodiversity can be taken into account in future.

While they incorporate the key elements on which you may wish to report, they are not an exhaustive list and it is likely that there will be a range of additional work that your organisation carried out in support of biodiversity on which you may also wish to report. To find out more on the Biodiversity Duty see the NatureScot website.

Scottish Government
Riaghaltas na h-Alba
gov.scot

# SECTION 1: INTRODUCTORY INFORMATION ABOUT YOUR PUBLIC BODY

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

| | |
|---|---|
| **Guidance on completing this section** | Summarise your organisation's role and purpose, including a brief outline of governance and management structures.<br><br>Summarise any relevance and impacts of biodiversity to your organisation, including your role in:<br>• Land and estate management;<br>• Regulation of land use and development;<br>• Providing public information, community learning and education around nature and the environment;<br>• Any key environmental impacts from your operations. |
| **Text Field** | Highlands and Islands Airports Limited (HIAL) is a public corporation wholly owned by the Scottish Ministers. The company operates and manages 11 airports at Barra, Benbecula, Campbeltown, Dundee, Islay, Inverness, Kirkwall, Stornoway, Sumburgh, Tiree and Wick (see Figure 1). HIAL's airports are vital to the social and economic welfare of the areas they serve and are supported by subsidies from the Scottish Government in accordance with Section 34 of the Civil Aviation Act 1982.<br><br>The company is headed by a Managing Director who is accountable to the HIAL Board. The Managing Director oversees the Senior Management Team and individual departments report to the Senior Management Team. Each airport has an Airport Manager who maintains responsibility for their individual site.<br><br>HIAL is responsible for a large estate that contains a significant amount of important flora and fauna. Much of this estate comprises large areas of grassland habitats with many sites adjacent to the freshwater and marine environments. In addition, many of HIAL's sites are situated adjacent to, or within close proximity to, areas designated for their nature conservation. These include Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Ramsar sites and Marine Protected Areas (MPAs). These habitats support a wide range of wildlife including otters and bird assemblages. HIAL maintains close liaison with NatureScot, RSPB and other environmental bodies to ensure a balance is maintained between conservation and aircraft safety. |

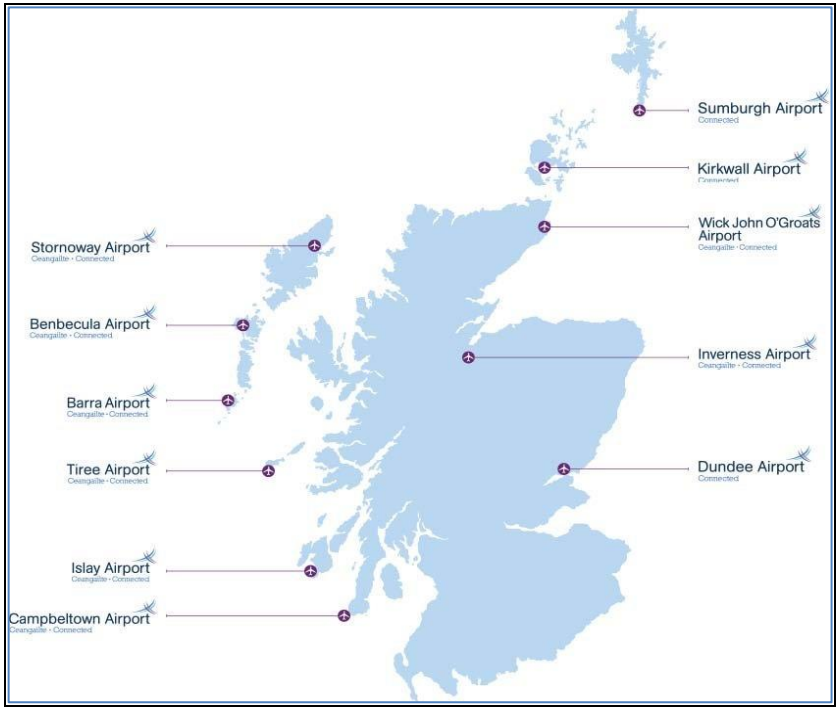


**Figure 1: Location of HIAL Airports. Source: HIAL**

The key aviation-related environmental impacts are on water quality (due to winter de-icing operations) and carbon emissions because of energy used during our operations and emissions arising from air travel. HIAL work closely with SEPA in monitoring our trade effluent discharges and implementing measures across our airports to reduce the biological oxygen demand on receiving waters. In addition, HIAL have committed to creating the world's first Net Zero Aviation Zone by 2040 and have recently taken the first steps in progressing to carbon neutrality by calculating our carbon footprint.

Protection and promotion of natural heritage and biodiversity is encompassed within the 'Ecology and Landscape' pillar of HIAL's Environment Strategy 2020-2030. Under this pillar, species of conservation interest are safeguarded where possible and where required by law. Although there are examples across the HIAL

| | |
|---|---|
| | estate where good practice is helping to deliver biodiversity benefits, it must be recognised that there are sound operational and safety reasons why HIAL cannot encourage all types of biodiversity at its locations.<br><br>The presence of wildlife (birds and other animals) on and near an airport poses a serious threat to aircraft safety. Operators of European Aviation Safety Agency (EASA) certified and UK Civil Aviation Authority (CAA) licensed airports are required to take the necessary actions to identify, manage and mitigate the risk to aircraft operations posed by wildlife. They are also required to adopt measures likely to minimise the risk of collisions to as low as reasonably practicable. HIAL is required to ensure that the airspace surrounding its airports is safe for aircraft use, at all times, and in particular to consider the potential for 'wildlife strikes' within 13 km of each airport. HIAL also comments on new developments that may lead to increased wildlife populations through the Local Planning system. The airports also work with local landowners to ensure that the risk presented by wildlife strikes does not increase significantly. It is important for HIAL to explore ways of delivering its biodiversity duty indirectly and off site, as well as on-site where appropriate. |

Scottish Government
Riaghaltas na h-Alba
gov.scot

# 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**

| | |
|---|---|
| **Guidance on completing this section** | As a Level One reporting organisation, you may wish to report on activities across your organisation, including any actions that you have undertaken on the ground on land that you manage alone or with others.<br><br>Please explain how these actions have benefited biodiversity, noting successes and challenges, and any plans for future or follow-up work. These might include:<br><br>The creation, enhancement and protection of wildlife and natural habitat. Please include quantitative measures where possible (e.g. ha of raised bog restored, ha of new woodland planted, areas managed to enhance biodiversity).<br><br>Involvement in key partnerships such as the Local Biodiversity Action Plan Partnership, relevant Community Planning groups, running a Local Records Centre.<br><br>Addressing the key drivers of biodiversity loss, which might include work or projects to tackle:<br>• Land use change;<br>• Exploitation;<br>• Invasive Non Native Species;<br>• Pollution.<br><br>Enhancing biodiversity at your premises through actions in and around offices such as:<br>• providing bird boxes / feeders;<br>• creating a habitat for wildlife, such as wildflower areas;<br>• installing green roofs;<br>• organising staff volunteering days. |
| **Links to related resources** | • Guidance on the Key pressures on biodiversity.<br>• Guidance for Planners and developers on legally Protected Areas and Protected Species.<br>• Guidance for all bodies on highest priority species and habitats for targeted conservation action |

| | |
|---|---|
| | • Guidance on biodiversity and the Planning system including creating, enhancing and protecting wildlife and natural habitats through Habitat management and Habitat networks.<br>• Guidance on Buildings and biodiversity - how to make space for nature in the built environment.<br>• Information on Local Biodiversity Action Plan Partnerships (LBAPs).<br>• Collecting and managing biodiversity data, including from Local Records Centres Biodiversity - where to find data.<br>• Information on Placemaking, open space and green infrastructure.<br>• **Case studies:**<br>  ○ Greening parks and creating urban meadows in Edinburgh.<br>  ○ Scottish Water Volunteering Programme<br>• Guidance on Managing freshwater, including pollution and on Coastal development and marine pollution.<br>• Examples of smaller actions that can be enacted in the office or staff homes - Biodiversity - what can you do? |
| **Text Field** | HIAL's estate encompasses a broad and diverse range of habitats that support plants, invertebrates, fungi and small to large wildlife across all the airports. Protecting the environment around their airports remains one of the most important challenges facing HIAL, which requires balancing the significant socio-economic benefits of air travel with its environmental impacts. This has led to the development of an ecology and landscaping strategy that, within the constraints imposed by the normal operation of the airports, seeks to promote the development of rich and varied habitats.<br><br>The following are examples of actions carried out across the HIAL estate in the period 2018-2020 (inclusive) to protect and enhance biodiversity at our sites.<br><br>**All Airports**<br>1. Extended Phase 1 Habitat Surveys were carried out in summer 2019 for all airports to establish an ecological baseline for future habitat management. The information has also been shared with NatureScot to help with the Species Rich Grassland project. |

2. Clearance of shrubs and trees for small projects at all airports is carried out in adherence with legislation covering roosting bats and timings taken account to avoid disturbing breeding/nesting birds.
3. Vegetation clearance on riparian areas is carried out in consultation with relevant fishery trusts and District Salmon Fishery Boards to avoid works in-stream when fish are spawning or juveniles are emerging from the substrate.
4. Asset management (i.e. runway re-surfacing) and construction projects have the potential for causing adverse impacts on protected species. Preliminary ecological appraisals and pre-construction surveys for protected species (otter, badger) and Habitat Regulations Appraisals (where required) are carried out for all HIAL construction projects.

**Barra Airport**

1. HIAL started some partnership working with the Bumblebee Conservation Trust in 2019 for conservation of the UK BAP species, the great yellow bumblebee (*Bombus distinguendus*) at Barra. There has been no progression since COVID-19, however, we have had recent contact with the Trust on exploring opportunities for future projects.

**Benbecula Airport**

1. Benbecula Airport has a long-grass policy to protect the scarce pyramidal orchids (*Anacamptis pyramidalis*) that grow on the airfield. These orchids are a pioneering species that usually favour old, semi-natural chalk and limestone grasslands, however, they are thought to be associated with the calcium-rich shell sand of the machair in the Outer Hebrides. Airport staff also work with the Outer Hebrides Biological Records Centre (OHBRC) to allow access to carry out surveys of the airfield. The orchids attract several native pollinating moths and butterflies, including the six spot burnet moth (*Zygaena filipendulae*) (see **Error! Reference source not found.**).
2. The dunes at Benbecula Airport have suffered from coastal erosion particularly during recent Atlantic storms. They have been stabilised by coastal protection barriers and planting salt-tolerant grasses, including marram (*Ammophila arenaria*), that are slowly colonising other parts of the area to provide new habitat.

**Figure 2: Six-spot burnet moth (*Zygaena filipendulae*) on *Anacamptis pyramidalis* at Benbecula Airport. Reproduced with kind permission of Simon Davies, OHBRC.**

## Campbeltown Airport

1. Staff at Campbeltown Airport continue to work with NatureScot to identify and map the geese feeding areas around the airfield to inform the 13km wildlife plan. This helps to prevent bird strikes, ensuring public safety and prevention of injury to geese. Updated maps have been recently requested from NatureScot.

**Dundee Airport**

1. The Extended Phase 1 Habitat surveys of 2019 highlighted the presence of Japanese knotweed (*Fallopia japonica*) and giant hogweed (*Heracleum mantegazzianum*) at discrete sites on the airfield. They are subject to a control programme and are sprayed and monitored annually to prevent spread to other areas of the airfield.
2. For part of the 3-year period prior to COVID-19, the Airport Fire Service continued to work with 'Friends of Invergowrie Bay' to remove large items of litter from the Tay Estuary mud flats. The flats are part of the Firth of Tay and Eden Estuary SAC, SPA and Ramsar Site. Items removed range from old shopping trollies to traffic cones and plastic barrels, helping to protect sea birds, fish and marine mammals from injury.

**Head Office**

1. HIAL are actively involved in the River Basin Management Planning (RBMP) process as a member of the Scottish Environment Protection Agency's (SEPA) Western Isles and North Highlands Area Advisory Groups. Actions focus on improving receiving fresh waters' quality to protect and enhance freshwater ecology at Inverness and Wick Airports.

**Inverness Airport**

1. At Inverness, the Airfield Operations Manager, Airport Fire Service, Wildlife Management and HIAL's Environmental Advisor are working with the Scottish Invasive Species Initiative Project (SISI) to improve data on mink distribution and help with the control programme. A mink raft was deployed on a small watercourse at Inverness Airport in March 2019. No footprints have been noted to date but mink scat has been found on the banks of the watercourse. The trap was deployed in December 2019 but no mink were trapped. Involvement with this project helps to control the spread of mink, an invasive non-native species that outcompetes some of our native species for habitat and resources. We plan to continue to support this important project.
2. We are currently carrying out a biodiversity net gain (BNG) exercise at Inverness Airport as part of the surface water drainage construction project. We are working with our consultant and NatureScot to determine an appropriate grass seed mix for ground reinstatement, ensuring that it results in a good pollinator mix and does not attract high numbers of birds. Our consultant will use Natural England's metric

to determine the biodiversity net gain of these actions. If successful, this may be a good opportunity for a case study in partnership with NatureScot.

3. The Airport Wildlife Control Unit reports for September and October 2020 record that merlin (*Falco columbarius*) red kite (*Milvus milvus*), barn owl (*Tyto alba*) and short-eared owls (*Asio flammeus*) visited the airfield during these months. There has also been two pairs of buzzards (*Buteo buteo*) and two pairs of kestrel (*Falco tinnunculus*) successfully nesting at the airfield this summer.
4. HIAL have changed the group's runway de-icer to one that results in a much lower biological oxygen demand, benefiting freshwater ecology including macroinvertebrates, fish and macrophytes. We continue to monitor macroinvertebrates three times a year, following the Whalley, Hawkes, Paisley and Trigg (WHPT) methodology. There has been some initial signs of improvement in the macroinvertebrate communities since the change in de-icer and otter signs (footprints, spraint) have been observed along one of the watercourses. HIAL shares these results with SEPA.
5. Creation and maintenance of 'hare runs' at Inverness Airport to prevent injury to hares by directing them away from runways and taxiways.

**Islay Airport**

1. Islay Airport has adopted a long grass policy as advocated by the UK CAA that means that the grass is kept at 100mm – 150mm. The primary purpose of this is to provide a passive deterrent to feeding flocks of plovers and small gulls. This policy has been successful in reducing bird strikes with these species.
2. In common with most habitat changes, the policy has shifted the balance of the bird population. Whilst the above species have lost winter feeding habitat, other species have benefited. These are: raptors (both diurnal and nocturnal), increased populations of insects, small mammals and small passerines. It provides ideal hunting habitat, and is the preferred summer feeding habitat for kestrel (*Falco tinnunculus*), barn owl (*Tyto alba*) and overwintering habitat for merlin (*Falco columbarius*) and short-eared owl (*Asio flammeus*).
3. Small passerines – the airport now holds higher population densities of skylark (*Alauda arvensis*), meadow pipit (*Anthus pratensis*) and other ground-nesting passerines than the adjacent farmland.
4. The policy has also led to a minimal requirement for insecticide over the years and to higher grassland invertebrate populations. This has direct benefits for natural capital and the regulating ecosystem service of pollination.

| | |
|---|---|
| | **Stornoway Airport**<br>1. Stornoway Airport has a modified long-grass policy to allow low-risk areas of grassland adjacent to runways, taxiways and navigation aids to grow naturally. This attracts native insects and small birds.<br><br>**Tiree Airport**<br>1. Staff at Tiree Airport are working with the RSPB on their important corncrake (*Crex crex*) breeding programme. A modified long-grass policy has been agreed with the UK CAA so that so that grass topping avoids the critical corncrake breeding season and is delayed until after 1st August each year. Monitoring of bird strike numbers will continue and the mitigation measures are evaluated annually to ensure public safety is not at risk. In June 2020, ten calling male corncrakes were observed on the grass strips of Tiree Aerodrome in June 2020 with a further 16 calling males scattered around the Reef. Some of the latter called from very close to the Aerodrome. These are likely to have also used the grass strips there from time to time (including their females for nesting).<br>2. Tiree Airport staff are also working with the Bumblebee Conservation Trust on an appropriate mix of native plant species to promote great yellow bumblebee (*Bombus distinguendus*) habitats on the airfield. This was not possible during 2020 within an operational airfield; there will be opportunity to progress this in 2021 in the remote, out-lying potions of the disused runway grasslands. |

Scottish Government
Riaghaltas na h-Alba
gov.scot

# 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.**

| | |
|---|---|
| **Guidance on completing this section** | Describe and explain any of your own body's policies, plans and strategies that refer to biodiversity or may affect biodiversity positively or negatively, and how these are reflected in the structure of your organisation.<br><br>These may include policies on managing green spaces, Open Space Strategies, Supplementary Planning Guidance, consideration of biodiversity in estate management, procurement policies and purchasing decisions, use of an Environmental Management System, Sustainability and Climate Change commitments or actions such as installing a Sustainable Urban Drainage System (SuDS).<br><br>Detail any areas in which your organisation has most successfully implemented mainstreaming of biodiversity, or has demonstrated leadership in a local or national context, including through working with others, raising awareness, or delivering landmark projects or activities. |
| **Links to related resources** | • Information on Green Infrastructure, placemaking, and open space strategies.<br>• Guidance on Buildings and biodiversity and SuDs - how to make space for nature in the built environment.<br>• Guidance on Buildings, Highways and Infrastructure - Maintenance & biodiversity,<br>• Research on Maximising the benefits of green infrastructure in social housing.<br>• The Place Standard tool and associated Strategic Plan 2020-2023 provides a simple framework to structure conversations about place.<br>• Guidance on managing Local Nature Conservation Sites systems.<br>• Case study - Procurement by the Scottish Courts and Tribunal (SCTS) Services.<br>• The Forest Stewardship Council global forest certification system.<br>• Guidance on Scotland's Pollinator Strategy, projects, resources<br>• **Case studies:**<br>  ○ Local Nature Conservation Sites systems in North Lanarkshire and Aberdeenshire.<br>  ○ A Pollinator Action Plan in Aberdeenshire |

| | |
|---|---|
| **Text Field** | HIAL developed and produced their Environmental Policy in 2017, with the commitment and backing of the company's Managing Director. Under the Policy, HIAL committed to producing an Environment Strategy as a high-level roadmap to ensure we meet and exceed our environmental targets where possible. A high-level document setting out the Environment Strategy's targets and intentions has been published with a full 10-year strategy currently out for tender. One of the Strategy's environmental pillars is 'Ecology and Landscape', which aims to protect natural capital and promote and enhance biodiversity where possible and safe to do so.<br><br>Inverness Airport's Wildlife Control Unit issue monthly reports, detailing biodiversity recorded on the airfield. Although primarily for aircraft safety purposes, the reports give a valuable picture of what is present on the airfield, with whooper swans (*Cygnus cygnus*), red kite (*Milvus milvus*) and a female hen harrier (*Circus cyaneus*) being observed around the airfield in early 2020. This provides ideal opportunities to submit records to the NBN and sharing of data will be explored in future.<br><br>Many of HIAL's sites are situated adjacent to, or within close proximity to, areas designated for their nature conservation. These include Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Ramsar sites and Marine Protected Areas (MPAs). All construction projects at our airports are assessed for impacts on biodiversity and other environmental constraints. Advice is given on the suite of pre-construction ecology surveys required and requirement for Habitats Regulations Appraisals (HRA) before the works commence.<br><br>We are working with our consultants on a project at Inverness Airport where, with advice from NatureScot, we will be reinstating ground works with a native, local provenance grass-seed mix to attract native pollinators. With the help of our consultant, we will be using the Natural England metric for calculating biodiversity net gain (BNG). This will be the first time the Natural England metric will have been used in Scotland. NatureScot are very keen to be kept informed of the outcome since it has potential to be used as a case study in preparation for mainstreaming BNG within planning. |

Scottish Government
Riaghaltas na h-Alba
gov.scot

# 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?**

| | |
|---|---|
| **Guidance on completing this section** | Climate change is a direct driver of biodiversity loss. Some species are dying out while others are being displaced due to warmer air temperatures, extreme weather patterns, and higher sea levels. As well as being a direct driver of biodiversity loss, climate change also worsens the other drivers. For example it enables quicker spread of non-native invasive species. Combined action for biodiversity loss and climate change can be achieved through nature-based solutions.<br><br>This reporting section provides the opportunity for your organisation to provide details on how you are supporting the positive contribution biodiversity can make to building resilience, and helping nature to mitigate and adapt to climate change.<br><br>Nature-based solutions can play a vital role in helping us to protect and enhance biodiversity, achieve net zero targets, and improve quality of life.<br><br>You may wish to report on a range of specific processes or activities that your organisation has undertaken, including on land you own or manage, within your buildings and workforce, and projects that you have delivered.<br><br>Integration might include incorporating biodiversity into nature-based solutions to:<br>• The climate emergency, for example by developing climate change strategies that include nature, investing in green infrastructure, and taking action for pollinators.<br>• Inclusive economic growth, for example by growing nature based industries, or investing in key natural visitor attractions.<br>• Health and wellbeing, for example by improving access to nature for all. |
| **Links to related resources** | • Information on how urban nature-based solutions can help Scotland's towns and cities mitigate and adapt to climate change providing guidance and examples. |

| | |
|---|---|
| | • The Helping nature to adapt webpage contains useful information on making use of nature's capacity to adapt to change as one of our best tools for managing climate change impacts, including through managing native woodlands and restoring peatlands.<br>• The publication People, Place and the Climate Emergency includes examples and information on local nature-based solutions to deliver a range of socio-economic outcomes. |
| **Text Field** | Nature-based solutions (NbS) are those inspired by, supported or copied from nature to provide cost-effective, energy and resource-efficient solutions to environmental and socio-economic challenges. Working with the features and processes of nature, such as carbon storage and regulation of water flow, can help contribute to mitigating the challenges of climate change and biodiversity loss.<br><br>At Benbecula Airport, the dunes have suffered from coastal erosion particularly during recent Atlantic storms. They have been stabilised by coastal protection barriers and salt-tolerant grasses, including marram, that are slowly colonising other parts of the area. This will eventually help to stabilise the dunes and provide some protection from eroding forces of wind and waves.<br><br>One of our Environment Strategy's intentions and targets for 2020 – 2030 is to work with advisors at NatureScot to improve our grassland diversity through modifying grass-cutting regimes where possible. Simple management techniques such as removing grass cuttings after topping can help convert species-poor |

| | |
|---|---|
| | grassland to species-rich grassland, which significantly increases the soil's carbon sequestration rate[1]. HIAL have a wealth of grassland assets across the estate and further opportunities for embedding NbS into construction projects and routine maintenance will continue to be explored. Green infrastructure, including green roofs, will be considered for new-builds within the HIAL estate.<br><br>HIAL have committed to creating the world's first Net Zero Aviation Zone by 2040. Once we have worked to reduce Scopes 1, 2 and 3 emissions, we will invest in gold standard offsetting schemes that focus on peatland restoration and increasing native woodland areas, where appropriate.<br><br>Although not strictly NbS, HIAL are taking actions at some of our airports to improve habitats for native pollinators such as the great yellow bumblebee (*Bombus distinguendus*). As described in Section 2, Tiree Airport has been collaborating with the Bumble Conservation Trust to identify an appropriate mix of various plant species to promote great yellow bumblebee habitats on the airfield. At Inverness, we are working with a consultant to identify a pollinator grass-seed mix for soil reinstatement that will deliver biodiversity net gain. |

[1] Yang Y., Tilman D., Furey G. and Lehman C. (2019) Soil carbon sequestration accelerated by restoration of grassland biodiversity, Nature Communications, 10, 718. (From CIEEM's Using Nature-Based Solutions to Tackle the Climate Emergency and Biodiversity Crisis.)

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

| | |
|---|---|
| **Guidance on completing this section** | Strategies or initiatives might include:<br>• a Green Infrastructure Strategy;<br>• a Pollinator Strategy;<br>• Maintaining a Local Nature Conservation Sites system;<br>• Participating in the Local Biodiversity Action Plan Partnership;<br>• Developing a soil management strategy;<br>• Co-operating in collecting, managing and using biodiversity data. |
| **Links to related resources** | • NatureScot's overview of Green Infrastructure .<br>• Information on Pollinator strategies, managing Local Nature Conservation Sites systems, and on Local Biodiversity Action Plan Partnerships (LBAPs).<br>• Guidance on Soil Management including soil carbon management.<br>• Information on biodiversity data, including obtaining and sharing data from Local Records Centres Biodiversity - where to find data.<br>• NatureScot provides various ideas and case studies on partnership approaches. |

| | |
|---|---|
| **Text Field** | Inverness Airport is working with the NatureScot-hosted Scottish Invasive Species Initiative (SISI) to gather data on mink distribution and help with the control programme. A mink raft was deployed on a small watercourse at Inverness Airport in March 2019. No footprints have been noted to date but mink scat has been found on the banks of the watercourse. The trap was deployed in December 2019 with no result. Involvement with this project helps to control the spread of mink, an invasive non-native species that outcompetes some of our native species for habitat and resources. There has been a hiatus in monitoring during the COVID-19 pandemic.<br><br>Airport staff at Benbecula Airport allow access to Outer Hebrides Biological Records Centre staff to carry out surveys of the scarce pyramidal orchids (*Anacamptis pyramidalis*) that are found on the airfield. The orchids attract several native pollinating moths and butterflies, including the six spot burnet moth (*Zygaena filipendulae*).<br><br>Staff at Tiree Airport are working with the RSPB on their important corncrake (*Crex crex*) breeding programme. A modified long-grass policy has been agreed with the CAA so that so that grass topping avoids the critical corncrake breeding season and is delayed until after 1st August each year. Monitoring of bird strike numbers will continue and evaluation of the mitigation measures evaluated annually to ensure public safety is not at risk.<br><br>Tiree Airport staff are also working with the Bumblebee Conservation Trust on an appropriate mix of various plant species to promote great yellow bumblebee habitats on the airfield. |

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

| | |
|---|---|
| **Guidance on completing this section** | You may wish to detail any arrangements that your organisation has in place to review or monitor the implications from modelling biodiversity on land that you own or manage under future climate scenarios. |
| **Text Field** | We are already seeing impacts of climate change through coastal erosion at several of our island airports: Stornoway, Benbecula, Barra and Tiree. Along with hard engineering solutions, we have planted marram grass at Benbecula to stabilise the dunes but hard-engineering solutions at Stornoway and Tiree are being explored. There is a risk that valuable habitat will be lost because of coastal erosion; HIAL need to start looking at NbS to incorporate a mixture of hard- and soft-engineering solutions. HIAL is also a member on SEPA's Flood Risk Management Groups. We are currently working together regarding flood risk management for Stornoway and adaptation measures for Benbecula; there may be potential to incorporate NbS within plans here.<br><br>The concept of using NbS and ecosystem based solutions as climate change mitigation and adaptation measures needs to become mainstream. Changing mindsets to accept these approaches will be challenging, especially as measures to deal with coastal erosion. It may be easier to start with other more simple management techniques like removing the grass cuttings from airfields. This will result in a more species-rich grassland, which is a much more effective carbon sink. HIAL will explore the resource implications for this in future.<br><br>Invasive non-native species may be more of a longer-term issue and many of our airports are located at the coast, which is an ideal pathway for arrival of non-native species. Under a changing climate, non-natives have the potential to become invasive and out-compete our native species. Contacting some of the Marine Partnerships, i.e. Clyde Marine Planning Partnership might be helpful for horizon scanning, early warning of new marine non-natives arriving and rapid response (if required and feasible). Marine invasives are notoriously difficult to control once they have arrived.<br><br>The Scottish Government has committed to ensuring at least the same level of protection to Natura 2000 sites post Brexit. However, there is the potential for degradation of these important Protected Areas because of insensitive development and weakening of environmental legislation. We have good opportunities in a post- |

| | |
|---|---|
| | COVID world for a green recovery by mainstreaming biodiversity across public, private and business sectors and embedding BNG and NbS via the National Planning Framework.<br><br>The draft fourth National Planning Framework is currently being prepared, with extensive consultation planned for Autumn 2021. The challenges ahead include balancing the need for new infrastructure with minimising impacts on communities and the environment but this is an excellent opportunity for embedding biodiversity and NbS within future development, supporting the green economic recovery.[2]<br><br>The Edinburgh Declaration on the post-2020 global biodiversity framework states: 'IPBES Global Assessment Report on Biodiversity and Ecosystem Services concludes that, despite insufficient action, it is not too late for the climate or for biodiversity, but that transformative action is needed at all levels.' |

[2] Scotland's Fourth National Planning Framework Position Statement (www.gov.scot)

Scottish Government
Riaghaltas na h-Alba
gov.scot

# SECTION 5: PUBLIC ENGAGEMENT AND WORKFORCE DEVELOPMENT

**Public Engagement**

| | |
|---|---|
| **Guidance on completing this section** | Detail communications and education activities have you undertaken to inform or engage directly or indirectly with communities, young people and the public. This might include actions to raise staff, customer and public enjoyment and understanding of, and connection with, biodiversity and nature, such as:<br>• Supporting volunteering;<br>• Exhibitions and events;<br>• School outreach;<br>• Outdoor learning;<br>• Citizen Science initiatives;<br>• Provision of ranger services or public education programmes;<br>• Information hosted on your webpage;<br>• Blogs and press releases. |
| **Links to related resources** | • Ideas on volunteering outdoors.<br>• Stats, stories, activities and inspiration to help bring nature and landscapes to life for young people and learners through education, including Beyond your boundary: easy steps to learning in local greenspace, and the Outdoor Learning Directory is a useful source of information and resources.<br>• Ideas on citizen science activities that can increase public enjoyment, understanding and connection with nature.<br>• Information on how to make more use of Scotland's outdoors as 'Our Natural Health Service' |
| **Text Field** | During the COVID-19 lockdown period, we publicised World Environment Day (June 5th) on HIAL's intranet, encouraging staff to 'do something amazing for biodiversity'. We shared ideas for small projects that could be done at home with children, such as making bird feeders, hedgehog homes or planting bee-friendly plants in gardens, balconies and windowsills. The article also had links to the wildlife trusts' web pages for sharing with friends and families. This was a great opportunity to raise biodiversity awareness amongst our staff and their children, along with achievable, practical ideas for making a difference. |

**Workforce skills and training**

| | |
|---|---|
| **Guidance on completing this section** | Detail activities that have been undertaken to support the development of your workforce, particularly in relation to skills relevant to biodiversity, nature, outdoor learning and community engagement in the natural environment.<br><br>Activities might include:<br>• Staff training, education and capacity building;<br>• Hosting conferences, exhibitions and events;<br>• Ranger services;<br>• Collaborative working with other organisations and sharing best practice. |
| **Text Field** | HIAL are working with NatureScot and the Ness and Beauly District Salmon Fishery Board on mink control as part of the Scottish Invasive Species Initiative (SISI). There is a mink raft on a watercourse on the airfield and Airport Fire Service staff were trained in identification of mink footprints. When mink droppings were found near the raft, our Airport Wildlife Control Unit (AWCU) were trained in deploying and checking the trap frequently, since it is a live capture trap. HIAL's Environmental Advisor trained them in mink ID and the procedure for contacting the SISI Dispatch Team, regardless of what animal was in the trap. They were also trained in closing the trap during times when there was no AWCU cover on the airfield (Christmas Day) so that no animals could be inadvertently trapped.<br><br>We have also set up and trained a network of Environmental Champions at our 11 airports and although the training was primarily in sustainability, biodiversity was also covered. One of our Environmental Champions is an ex-ecologist, SNH licensed bat worker and GCN licence holder. She is keen to explore habitat enhancement at our Islay Airport for adders and other reptiles. |

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

| | |
|---|---|
| **Guidance on completing this section** | Activities might include:<br>• Volunteering days, for example with environmental Non-Governmental Organisations;<br>• Participation in staff networks that aim to deliver on or promote biodiversity objectives;<br>• Opportunities for secondments to other organisations working on biodiversity and conservation. |
| **Text Field** | HIAL introduced a volunteering policy in July 2019 where employees can apply for up to 2 days paid leave per year to participate in voluntary community or charitable activities. Volunteering on environmental and conservation projects is included within the policy. Several of our staff had signed up in March 2020 to help with native tree planting in the Cairngorms National Park but this was cancelled due to the COVID-19 lockdown.<br><br>There are good opportunities for staff to volunteer in local beach cleans and tree planting activities but this is currently difficult with COVID-19 restrictions in place. Where safe and possible to do so, these activities will be promoted and supported in future. |

Scottish Government
Riaghaltas na h-Alba
gov.scot

# SECTION 6: RESEARCH AND MONITORING

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

| | |
|---|---|
| **Guidance on completing this section** | Detail relevant research activities undertaken to raise awareness and understanding of nature and biodiversity both internally and externally, either alone or in partnership with others. Where relevant, summarise the key changes that this research has supported within your public body.<br><br>This might include research papers, surveys or reports undertaken by your organisation. |
| **Text Field** | HIAL does not directly carry out biodiversity monitoring across its estate. Pre-construction ecological surveys are commissioned and carried out at those sites where construction projects are scheduled. These results inform appropriate mitigation measures to be implemented on site to reduce the risk of adversely affecting species and habitats within close proximity to the construction works. This also includes carrying out Habitat Regulations Appraisals (HRA) where required.<br><br>At Inverness Airport, macroinvertebrate surveys are carried out at various locations on the watercourse that flows through the airfield to determine the impact of de-icer on freshwater ecology. Three surveys a year are completed, following the Whalley, Hawkes, Paisley and Triggs (WHPT) methodology. The results from spring and summer 2020 continue to show that the watercourse is degraded due to organic inputs. It will be interesting to see what the results for 2021 will be, based on the significant decrease in flights and use of de-icer as a result of COVID-19. |

**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.**

| | |
|---|---|
| **Guidance on completing this section** | Where appropriate, you may wish to report on monitoring of:<br>• Activities relating to recording biodiversity on land you own or manage;<br>• Your contribution in meeting national and international biodiversity targets;<br>• Biodiversity programmes or projects that you have delivered either alone or in partnership with others;<br>• Implementation of relevant strategies or policies;<br>• Relevant physical conditions, such as soil and water;<br>• Organisational capability or development in relation to biodiversity. |
| **Links to related resources** | • Information on biodiversity data, including obtaining and sharing data from Local Records Centres Biodiversity - where to find data.<br>• The State of Scotland's Nature report provides a useful overview.<br>• The National Biodiversity Network provides a single hub for biodiversity data management in the UK.<br>• Biological Recording in Scotland is a useful source of information on surveys and biodiversity data management in Scotland. |
| **Text Field** | We would expect to see an improvement in macroinvertebrate communities following a change in runway de-icer at Inverness to one with a much lower biological oxygen demand. That, coupled with a significant decrease in flights and reduced requirement to use de-icer in 2020, will lead to improvements in time. We continue to monitor macroinvertebrates at Inverness Airport 3 times a year, every year. We report our findings to SEPA annually so they can compare with their own data. |

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

| | |
|---|---|
| **Guidance on completing this section** | Trends or areas of concern might include those related to:<br>• The conservation status of habitats that you manage or deliver programmes to protect;<br>• The ecological health of land that you own or manage;<br>• Adverse recordings of water or soil quality;<br>• Increases or decreases in species present. |
| **Text Field** | Our macroinvertebrate monitoring at Inverness Airport reveals freshwater habitats that are impacted by not only winter de-icer but also the morphology of the trapezoidal channels and resulting water flow. This has led to historic breaches of our Controlled Activities Regulations (CAR) licence. HIAL are working closely with SEPA to monitor and improve the situation here, including introducing a change of de-icer product to one which has a lower biological oxygen demand. There are no significant signs of improvement in macroinvertebrate communities yet but this may change in the near future with the change in de-icer and improvement to the surface water drainage system. There will still be an impact on the ecology because of the watercourse morphology; it causes low energy flows with silty substrate deposition, leading to a low quality habitat.<br><br>The invasive non-native species mink (*Neovison vison*) is likely to be present on Inverness Airport's airfield. Signs of mink scat and footprints on the banks of the watercourse where the mink raft is located tend to suggest a lone mink passing through the territory. There has been a hiatus in monitoring the raft during COVID-19 but HIAL will continue to work with the Scottish Invasive Species Initiative to increase their knowledge about mink distribution on the Moray Coast.<br><br>Our Phase 1 Habitat survey at Dundee Airport revealed the presence of Japanese knotweed (*Fallopia japonica*) and giant hogweed (*Heracleum mantegazzianum*) on the airfield. These invasive non-native species are sprayed annually to control the spread. |

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

| | |
|---|---|
| **Text Field** | HIAL shared all their Phase 1 Habitat Surveys shapefiles and information with NatureScot for upload to the Habitat Map of Scotland. They were also made compatible with the EUNIS habitat classification for terrestrial data for sharing with NatureScot.<br><br>HIAL also allow access for surveys of pyramidal orchids at Benbecula Airport, sharing this information with the Outer Hebrides Biological Records Centre (OHBRC).<br><br>There is good opportunity for Inverness Airport to submit records of Schedule 1 birds to the NBN and this will be explored in future. |

Scottish Government
Riaghaltas na h-Alba
gov.scot

# 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).**

| | |
|---|---|
| **Guidance on completing this section** | As a Level One reporting organisation, it is likely that you will own or manage land, regulate land use, or have biodiversity as one of your main responsibilities. Examples of key achievements in this context might include:<br>• Leading or contributing to programmes or projects that directly support the key steps in the Scottish Biodiversity Strategy, or contribute to international Biodiversity targets;<br>• Demonstrating national or international leadership or expertise in relation to biodiversity;<br>• Meeting your strategic aims in relation to biodiversity;<br>• Improvement in habitat or ecological status;<br>• Notable species present or recorded;<br>• Completion of key projects;<br>• Funding achieved or delivered;<br>• Volunteering days or time invested;<br>• Provision of successful education or public engagement activities. |
| **Text Field** | Despite the challenge of not wishing to attract large numbers of birds and other biodiversity to our airfields for flight safety reasons, the corncrake (*Crex crex*) breeding project on Tiree is a great example of where HIAL are working in partnership with the RSPB and the CAA to protect this Schedule 1 bird.<br><br>The corncrake migrates to Africa in the autumn via western France and Algeria, arriving in the UK in the spring to breed. It is listed in the UK on the Red list of birds of high conservation concern due to its historic (and more recent) declines in population numbers. In the spring, a shortage of tall vegetation necessary for nesting and chick rearing combined with inappropriate timing and methods of mowing can lead to significant losses of eggs and chicks.<br><br>Tiree Airport agreed a modified long-grass policy with the CAA so that mowing avoids the critical corncrake-breeding season and is delayed until after 1st August each year. Grass cutting is done in a corncrake friendly manner starting from the tarmac strips and moving out towards the Reef, pushing the birds into uncut cover. |

| | |
|---|---|
| | As part of this policy, monitoring of bird strike numbers continues and the mitigation measures evaluated annually to ensure public safety is not at risk. In June 2020, ten calling male corncrakes were observed on the grass strips of Tiree Aerodrome in June 2020 with a further 16 calling males scattered around the Reef. Corncrake numbers at Tiree Airport represent >1% of the UK population, which is significant for this Schedule 1 species. In conservation terms, the corncrakes at Tiree Airport are likely to be HIAL's most valuable biodiversity asset.[3]<br><br>At Inverness Airport, we are at the early stages of building biodiversity net gain (BNG) into the surface water drainage project. Following advice from NatureScot, our consultant has used the Natural England metric to determine the gains from reinstating stripped ground with a grass seed mix containing native species of local provenance instead of an amenity grassland mix. Early indications are that the particular mix could bring about a 5% BNG in attracting native pollinators, but we are working with the Wildlife Control Unit at Inverness Airport to ensure it does not cause a proliferation of invertebrates that are attractive to birds. If this is acceptable, it will make an excellent partnership case study and potential professional body publication article on building in low-cost BNG measures. |

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

| | |
|---|---|
| **Guidance on completing this section** | Challenges might include:<br>• Economic and resource pressures;<br>• Delivery of cross-cutting actions;<br>• Preventing further loss of habitats and species;<br>• Effective management of invasive non-native species;<br>• Pressures for space;<br>• Need to meet targets;<br>• Encouraging enhanced partnership working. |

[3] Bowler, J. 2020. Letter of Agreement between RSPB Scotland and HIAL Re: Corncrake Management at Tiree Airport.

| | |
|---|---|
| **Text Field** | **Economic and resource pressures**<br><br>One of the biggest challenges post-COVID will be related to economic and resource pressures. Effective partnership working will be needed more than ever to pool resources to achieve shared goals. Good partnerships have the synergy to drive forward biodiversity measures that do not have to be costly, as initial findings of our BNG exercise at Inverness Airport show.<br><br>**Meeting the COP 15 targets**<br><br>The Convention on Biodiversity's (CBD) fifteenth Conference of the Parties (COP 15) will review the achievement and delivery of the CBD's Strategic Plan for Biodiversity 2011- 2020. The JNCC's sixth national report on the UK's progress towards the Aichi Targets[4] highlights that despite progress in some areas such as mainstreaming and ecosystem restoration, there is still a lot of work to do especially in relation to ongoing species decline.<br><br>The report also highlights that although biodiversity has been increasingly integrated into funding streams such as green growth, information has become difficult to assess. There is a risk that biodiversity measures will be lost in the 'noise' in this approach, resulting in unreliable data being reported against the targets in future.<br><br>The progress assessment indicates that the UK is on track to meet only 25% of the Aichi Targets by 2020 with progress on others being at an insufficient rate. COP 15 Kunming, China was delayed from October 2020 to May 2021, now leaving less than 9 years to mobilise action to meet the 20 targets by 2030. Despite this, the Edinburgh Declaration on the post-2020 global biodiversity framework states: 'IPBES Global Assessment Report on Biodiversity and Ecosystem Services concludes that, despite insufficient action, it is not too late for the climate or for biodiversity, but that transformative action is needed at all levels.'<br><br>It is this 'gearing up' to get on track for delivery of targets that will be a challenge in the coming years. |

[4] JNCC. 2019. Sixth National Report to the United Nations Convention on Biological Diversity: United Kingdom of Great Britain and Northern Ireland. Overview of the UK Assessments of Progress for the Aichi Targets. JNCC, Peterborough.

| | |
|---|---|
| | **Climate change related impacts**<br><br>We are already seeing impacts of climate change through coastal erosion at several of our island airports, Stornoway, Benbecula, Barra and Tiree. Along with hard engineering solutions, we have planted marram grass at Benbecula to stabilise the dunes but hard-engineering solutions at Stornoway and Tiree are being explored. There is a risk we will lose valuable habitat because of coastal erosion; HIAL need to start looking at NbS to incorporate a mixture of hard- and soft-engineering solutions. HIAL is a member on SEPA's Flood Risk Management Groups. We are currently working together regarding flood risk management for Stornoway and adaptation measures for Benbecula; there may be potential to incorporate NbS within plans here.<br><br>The concept of using NbS and ecosystem based solutions as climate change mitigation and adaptation measures needs to become mainstream. Changing mindsets to accept these approaches will be challenging, especially in relation to using NbS in coastal erosion situations. It may be easier to start with other more simple management techniques like removing the grass cuttings from airfields. This will result a more species-rich grassland, which is a much more effective carbon sink. HIAL will explore the resource implications for this in future. HIAL will explore the resource implications for this in future.<br><br>**Invasive Non-Native Species**<br><br>Invasive non-native species (INNS) may be more of a longer-term issue but many of our airports are located at the coast, which is an ideal pathway for introduction and arrival of non-natives species. Under a changing climate, they may have the potential to become invasive. Marine invasives are notoriously difficult to control once they have established; need to focus on horizon scanning, early warning and rapid response actions to prevent them establishing in the first place.<br><br>**Brexit – trade deals vs biodiversity compromises**<br><br>The Scottish Government has committed to ensuring at least the same level of protection to Natura 2000 sites post Brexit. Nevertheless, there is the potential for degradation of these important Protected Areas as a result of weakening of environmental legislation to drive trade deals. |