



# Biodiversity Report 2018-2020

Version 1: December 2020

## Context

Biodiversity is fundamental to the living networks (the ecosystems) that provide us all with a healthy environment and a regulated climate. In 2019 the UN reported that nature was declining at an unprecedented rate with around 1 million animal and plant species facing extinction. The Nature Conservation (Scotland) Act 2004 places a statutory duty on all public bodies in Scotland to further the conservation of biodiversity. Section 1 of the Act states:

“It is the duty of every public body and office holder, in exercising any functions, to further the conservation of biodiversity so far as it is consistent with the proper exercise of those functions.”

The Wildlife and Natural Environment (Scotland) Act 2011 introduced a requirement for all public bodies in Scotland to make a report publicly available on their compliance with the biodiversity duty. Biodiversity duty reports are required every three years.

The Biodiversity duty aims to:

- Protect biodiversity through management of specific sites, habitats, and species
- Increase the level of understanding and connection between people and the living environment
- Promote consideration of all our impacts on the natural world through our actions and decisions, including through procurement and use of resources
- Encourage staff, partners, and customers to engage with and understand and consider biodiversity

This report has been created with the help of the NatureScot [Guidance Notes](#).

## Section 1 - The NGS role, purpose, and environmental responsibilities

The National Galleries of Scotland cares for, develops, researches, and displays the national collection of Scottish and international art. With a lively and innovative programme of activities, exhibitions, education, and publications, it aims to engage, inform, and inspire the broadest possible public. The estate is primarily historic buildings based in Edinburgh comprising of the Scottish National Gallery, the Scottish Portrait Gallery, and the Scottish National Gallery of Modern Art.



*Scottish National Gallery of Modern Art One*

There are also storage facilities in Granton, Newbridge and Loanhead. The two buildings of the Gallery of Modern Art are situated in the 75,690m<sup>2</sup> of grounds which acts as the focal point of influencing biodiversity improvements. NGS has approximately 386 staff and 2.5 million local to international visitors through its doors each year. In this respect we have a role to play informing and engaging with communities, young people, and the public in relation to biodiversity through the national art collection as well as through green spaces that we occupy and maintain.

## Section 2: Actions to protect biodiversity and connect people with nature

*Any actions your organisation has undertaken alone or as part of a partnership to benefit biodiversity directly or achieve wider outcomes for nature and people.*

### Grounds maintenance

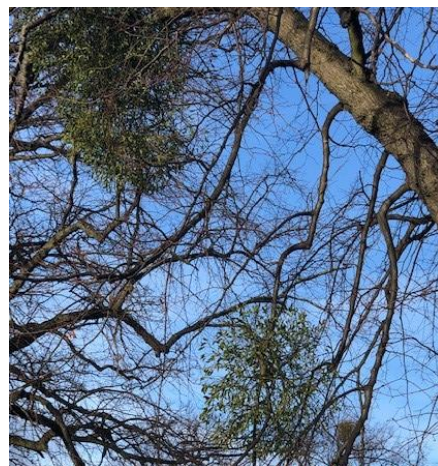
The grounds at the Gallery of Modern Art are the primary green space for National Galleries of Scotland to implement projects to support and improve biodiversity. The grounds include a variety of habitats such as grasses including long wild grasses, trees, ponds, river, woodland as well as spaces such as the allotments, and the Kitchen Garden. A team of three gardeners maintain the grounds which involves grass cutting, hedge pruning, weeding, snow clearance, litter picking and maintaining the roads and paths. Grass around the margins of the park and under the trees is left to grow longer to encourage different plant species and provide animal habitats. During the lockdown period during 2020, further areas of long grass were introduced across the site. The woodland down to the Water of Leith is lightly managed, and fallen timber is retained on site as habitats for insects and fungi. Leaves are collected on site and composted, the compost then being used on the flower beds.

A well-established allotment space is situated on the grounds of Modern Two that is managed by The Dean Gallery Allotment Association. A large array of flowers, soft fruits and vegetables are grown all year round with the grounds surrounded by apple, plum and pear trees. The space is managed to a high standard of cultivation and all produce is organic. Green waste from the surrounding Gallery parkland is composted and used in the allotments to provide organic fertilizer.

### Trees

The trees at the Gallery of Modern Art are protected by a Tree Preservation Orders as well as being within the Dean Conservation Area. We have over 400 trees ranging in age from newly planted saplings to trees in excess of 150 years old. Most trees are native British species including Ash, Beech, Cherry, Oak, Lime and Elm. There are some excellent trees, notably two Spanish Chestnuts one of which has Edinburgh Heritage Tree status. Many trees have been lost over the years though Dutch Elm disease and we are monitoring for Ash dieback. Trees are regularly inspected, and recommendations actioned in consultation with the Tree Officer at the City of Edinburgh Council. Planting campaigns have increased the diversity and number of shrubs and trees.

A number of our Lime trees have mistletoe which is rarely seen in Scotland and more common in the south of England or Wales. It is currently being sampled by Royal Botanical Garden Edinburgh as part of The Darwin Tree of Life Project. The Darwin Tree of Life Project is an ambitious programme to sequence, assemble and openly publish the genomes of over 60,000 species of animals, plants, fungi and protists in Britain and Ireland. Mistletoe is of particular interest at the early stages of this project due to its due to its large genome.



*Mistletoe on GMA Lime trees  
Photo: Robert Cameron*

As part of the Scottish National Gallery project to create a new space for the nation's renowned collection of Scottish art, 19 trees were planted in East Princes Street Gardens beside a new accessible path. Standing between 4.5 to 6m tall and carefully selected to complement existing species in the wider gardens area, they replaced 52 trees that were removed to enable the reshaping of an embankment that was necessary for the new accessible path. The result is an investment not only in providing greater access for visitors to the Gardens and to the Galleries, but also in the longer-term sustainability of several of Edinburgh's much-loved green space. Three more trees will be planted within this area upon completion of the construction project. NGS has also worked closely with Edinburgh and Lothians Greenspace Trust and the City of Edinburgh Council on the planting of a further 30 trees in other areas of East Princes Street Gardens, West Princes Street Gardens, Lauriston Castle and Saughton Walled Garden to support biodiversity in the surrounding areas.

### Wildlife

There is a large range of wildlife that has been observed by staff and visitors at the Gallery of Modern Art including birds, mammals, insects and reptiles. Common birds including blackbirds, thrushes, robins and tits as well as woodland birds including woodpeckers and pigeons are regularly sighted and heard. With the gallery being situated close to the Water of Leith water birds are often attracted to the area; swans and ducks can often be seen in the ponds of the Jencks Landform feature on site. These ponds are full of life during the summer with frogs and various beetles, larva and nymphs. Migratory birds such as swallows and swifts in the summer and Redwings and Fieldfares in the winter have been spotted. There are a number of mammals including foxes, squirrels, field mice including a badger sett which is located in the woodland area at the back of the gallery site. Otters have also been seen nearby in the Water of Leith which curves round the outer perimeter of the grounds.

In 2008 bird boxes were installed at the Gallery of Modern Art. In 2017 more bird boxes were added on site to create safe nesting spots for local wildlife. 16 bird boxes and 6 bat boxes were installed at strategic spots around the grounds to help support the biodiversity in the area. There are plans to install more houses in 2021.



*Heritage Kitchen Garden orchard*

### Heritage Kitchen Garden

The Heritage café has developed a kitchen garden cultivated over the past few years by Gardener Wendy Mount. The garden provides fruit and veg throughout the year, producing apples, plums, pears, berries, rhubarb, asparagus, salad leaves, herbs and edible flowers that are used on the café menu. This garden consists of an orchard, raised beds, fruit patches, composting area, and an insect hotel. The garden area has never had herbicides or pesticides used on it to protect the biodiversity. Visitors to the Modern art Gallery and Café can wander around the garden, engaging people on the food journey from plot to plate.

### Contini Beehives

Two beehives have been installed in the grounds by Victor Contini who owns The Scottish Cafe based at the National Gallery site. The hives, situated near the Kitchen Garden, are maintained by Margaret Forrest who is part of the Scottish Beekeeping Society. A wild garden has been planted around them to encourage honey production from the bees, in particular lavender and angelica have been planted in the surrounding area



*Lavender and bees at GMA site*

### The Art Works project – Granton

The Art Works (TAW) project is currently in the planning stages designing a new building centred around the care and research of the national art collection. The 4.5-hectare site, located in North Edinburgh Granton area, is underpinned by placemaking principles and inspires to be an area for the community including green spaces to support biodiversity. The land where the site will be situated is owned by Scottish Government and is currently home to the Mobile Orchard comprising of 90 Scottish heritage apple trees, installed by [Soilutions](#). Our Community Development Officer has been working with the site by identifying projects for engagement with local communities. The development, which is still in early stages of planning, will have biodiversity embedded through the holistic approach of the sustainability framework (please refer to more information in Section 3). As part of this work our Community Development Officer attended a Biodiversity Net Gain Conference in November which focused on the new Environment Bill set to become law in 2023 which aims to increase biodiversity in any new building development by at least 10%.

More information on the fantastic engagement sessions with local communities can be found in Section 5.

## **Section 3: Mainstreaming**

*Any steps your organisation has taken to incorporate biodiversity measures into its wider policies.*

Within the NGS Corporate Strategy 2019-23 the organisation commits to reducing our impact on the environment. This includes protecting and increasing current levels of biodiversity on our estate which is outlined in the NGS Environmental Plan. The protection and improvement of biodiversity is one of the key priorities with the NGS Environmental Policy.

This policy is used by staff as a way of identifying the key areas of work in relation to environmental sustainability. It is also used as part of the Terms & Conditions sent to contractors and suppliers during the Procurement process. We ask all organisations that we work with through procurement services to take the environment into consideration with their work.

Our annual reporting on Environmental Sustainability includes a section on Biodiversity to communicate and mainstream what work is being done across NGS. These annual reports can be found on our website.



NGS achieved Gold standard for the Green Tourism Award in 2018 across all three sites. The award system has multiple criteria for monitoring, improving, and supporting visitors to connect with nature.

Looking to the future with The Art Works project in Granton, a Sustainability Framework has been created for the build to capture all elements under consideration. This framework outlines the importance of ecology and biodiversity to ensure sustainable land use, habitat protection and creation and improvement of long-term biodiversity for the buildings site and surrounding land. A habitat survey will be conducted with the overall aim to achieve a net-gain in natural capital. Within the Health & Wellbeing considerations the need for access to nature within the built environment has been stipulated as it can provide opportunities to relieve stress and mental fatigue, support focus and encourage overall mental well-being.

#### **Section 4: Nature-Based Solutions, Climate Change and Biodiversity**

*Any steps to support the contribution biodiversity can make to build resilience and mitigate and adapt to climate change.*

Currently the trees, woodlands, and maintenance of the grounds around the Gallery of Modern Art site are the focus of nature-based mitigation and adaptation of Climate Change. Providing carbon sequestration, though on a small scale, as well as flood management for the surrounding area. Large flocks of seagulls have threatened to damage the ecology of the Jencks Landform ponds and surrounding areas and so are discouraged by the use of a hawk.

In 2019, NGS engaged with Adaptation Scotland with the launch of their new Scotland Adapts Capability Framework; to help scope the current adaptation work happening throughout the organisation. As part of this work NSG have joined the Adaptation Working Group to collaborate and knowledge share with other Scottish Public Bodies. Through this working group it is hoped that a more robust adaptation plan will be formed by collaborating with all NGS departments and that nature-based solutions will be included within the range of projects by bringing more nature into the City of Edinburgh.

#### **Section 5: Public Engagement and Workforce Development**

*Including education and engaging with communities, young people, and the public.*

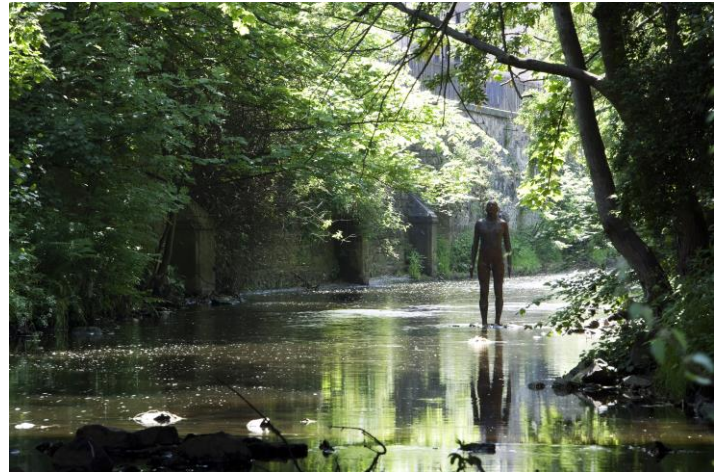
The Scottish national art collection is for everyone to enjoy and a useful tool in being able to engage and educate on elements of biodiversity. The artwork exhibited throughout all of the gallery sites reaches a wide audience of local and international visitors, in particular the permanent collections at the Scottish National Gallery which showcases the diverse and iconic Scottish landscapes. The Modern Art Gallery has also had exhibited artists whose work cover elements of the natural world through a variety of exhibitions. Below are some examples of particular artists of interest who use nature, ecology and biodiversity as inspiration as well as materials in their work.

## Antony Gormley – 6 TIMES artwork – reinstalled 2019

### [Featured Artwork](#)

“‘6 TIMES’ comprises of six life-size figures, positioned between the grounds of the Scottish National Gallery of Modern Art and the sea at Leith Docks, Edinburgh. Typical of Gormley’s oeuvre, the figures are casts of the artist’s body. Each looks in a slightly different way, which is referenced to in the subtitles: ‘Horizon’, ‘Ground’, ‘Left’, ‘Right’ and ‘Sky’. The work is quiet and contemplative, drawing attention to the natural and man-made environment of the Water of Leith, which runs through the heart of Edinburgh. Gormley encourages the viewer to consider how human beings fit into the social and natural landscapes they inhabit, how they understand identity and how they engage with one another.”

In 2019, four of the six sculptures were reinstalled along the Water of Leith after resolving complications with the original 2010 installations. The process of reinstallation included close partnership working with organisations such as Scottish Natural Heritage, Scottish Environmental Protection Agency, Local Wildlife Crime Officers, City of Edinburgh Council, The Honorary Water Bailiffs of the Water of Leith and the Water of Leith Conservation Trust. This was to ensure that the works undertaken would cause as little disruption to the environment as possible. Through ecology and hydrology surveys and consultations with these agencies, considerations were taken to avoid working during peak fish spawning and bird breeding seasons, with the work also being undertaken during normal working hours to prevent excessive noise or distress to local wildlife. As otters are known to have resting sites along the Water of Leith course, the ecology survey provided guidance on a buffer zone for the installations to avoid disturbance. The sculptures are now regularly inspected for gathering waste which is removed routinely to help protect the environment along the Water of Leith.



*6 TIMES Sky from 6 TIMES by Antony Gormley, 2010*

*One of six cast iron figures, each 191 x 50 x 36 cm*

*Commissioned by the Scottish National Gallery of Modern Art, with support from the Art Fund, funds from the Gulbenkian Museum of the Year award 2004, and further support from The Patrons of the National Galleries of Scotland, Claire Enders and The Henry Moore Foundation*

*Permanent installation, Water of Leith, Edinburgh, Scotland  
Photograph by Keith Hunter*

*© The artist*

## Katie Paterson – NOW 6 exhibition – 2019/20

### [Artists Profile](#)

“Katie Paterson studied at Edinburgh College of Art from 2000-04 and at the Slade School of Art from 2005-07. Her work has explored themes of ecology, geology and cosmology, dealing with large and distant occurrences in nature and the universe. She transforms them through the use of everyday objects or materials and reducing them to a human scale. Her work is conceptually driven, and she utilises a variety of media.”

[Anya Gallaccio – NOW 5 exhibition – 2018/19](#)  
[Artists profile](#)

“The Paisley-born artist, who was nominated for the Turner Prize in 2003 and was a prominent figure in the Young British Artists generation, is renowned for her spectacular installations and sculptures. Using all kinds of organic materials, including trees, flowers, candles, sand and ice, she creates temporary works that change over time as they are subjected to natural processes of transformation and decay. Gallaccio also makes more permanent artworks in bronze, ceramics, stainless steel and stone that attempt to capture or arrest these processes.”



*'Red on Green' by Anya Gallaccio, 1992-present'.  
Collection - The Hyman Collection, London & the artist © Anya Gallaccio.  
Photo by Neil Hanna (2)*

[Joan Eardley – Cut and Paste: 400 years of Collage exhibition - 2019](#)  
[Featured Artwork](#)

“Eardley liked to immerse herself in her subject, and in this work, it appears as if the viewer is buried in the grass and looking upwards. The direct connection with the landscape is increased by the inclusion of real grass and seed heads with the paint. These were probably picked from where the artist’s easel was standing and they give the painting a varied texture, combining real and painted imagery. Eardley used collage in many of her later works to heighten their immediacy.”

Online Resources

The on-going digitalization of the collection provides an opportunity for the artwork to be accessible to all. Within the search function visitors can look for a variety of artwork under the theme of ‘Nature’ broken down into further categories:

- Animals
- Clouds
- Flowers
- Lochs, lakes & ponds
- Mountains
- Rainbows
- Rivers
- Rocks
- Seasons
- Shadows
- Sea
- Woodland
- Waterfalls

A lot of useful resources can be found throughout the NGS website, for example:

- From our archive: Leafing through one of the oldest books in our collection [featured article](#)
- Landscape [featured article](#)
- Curator’s Top Ten: Scottish landscapes [featured article](#)
- Say it with flowers: the meaning of a rose [blog](#)
- An Unusual Spring [blog](#)



## Learning and Engagement Activities

The NGS Learning & Engagement Team's work focuses on engaging the public with the NGS Collections and displays; running a regular programme of learning activities linked to the Scottish national art collections and the annual exhibitions.

[The National Galleries of Scotland Art Competition for Schools and Families](#), which is run annually, has had different biodiversity inspired themes over the years. Encouraging young people of varying ages to use the natural world as inspiration for their artwork. The winning artwork is displayed at the Gallery of Modern Art for all visitors to enjoy.

2020 - Special Education Schools  
'Amazing Nature' Theme

2020 – Secondary 1-3  
'Climate Change' Theme

2019 – Nursery  
'Petals, Leaves and Bumble Bees' Theme

2018 – Special Education Schools  
'Hair, Fur and Feathers' Theme

2017 – Nursery  
'Feathery Friends' Theme



2020 - Special Education School 1st place - Mustafa Ezzo

Through the following projects the Learning and Engagement Team have incorporated outside learning into their work to connect our visitors with nature and art simultaneously:

[The Sensory Trail](#) is based at the Modern Art Gallery site, using the art sculptures installed around the grounds. The trail encourages people to walk, engage, and take mindful breaks to connect with the artworks and the outdoor experience. This was especially promoted throughout the lockdown period in 2020 where the Modern Art Gallery grounds were open for the public to access for daily exercise.

The [Art Stomps](#) activity for under 5-year old's uses this trail to encourage sculpture hunting, leaf-kicking and outdoor artmaking. Using the downloadable map, or pamphlets on site, families are directed round the grounds where they can read poems together, find artworks nestled in nature and create seasonal sculptures.

The [Art Around You](#) activity is designed for children of all ages to look at, talk about and make their own discoveries about art. In particular the activities in relation to *Richard Long - River Avon Mud Fingerprints Spiral* all revolve around the natural world. Tasks encourage young people of all ages to create their own art works using inspiration in nature and making art about nature; from constructing their own sculptures using natural materials to designing their own mud spirals.



*Materials for Cut it Out  
Photo: Anna Murray*

Kids; Cut it Out! 2019 was inspired by the *Cut and Paste: 400 years of collage* and Anya Gallaccio *in the NOW 5* exhibition at the Gallery of Modern Art with a programme of daily activities help out in the grounds. Families were invited to think about colourful collage, dropping into different stations, playing with paint on different scales and playing with clay collage and natural materials - incorporating outdoor activities, art creation and nature.

[Art in the Open](#) as been run throughout the summer months in 2019 and 2020. The project consisted of taking art supplies out to Edinburgh parks and greenspaces using an electric-cargo bike to create pop-up art sessions; bringing creativity into the community, inviting passers-by to have fun with drawing, to receive top tips from our artist and to try something new. Mara Barth, Project Learning Officer, who organised the session explained the inspiration: “A lot of the work in the Scottish National Gallery reflects the Scottish landscape so by making art outside, we explore the inspiration behind the art. We are connecting the past with the present, surrounded by the places and people of Scotland and being inspired to be creative in the outdoors today.”

### The Mobile Orchard engagement project

Natalie Taylor, the Community Outreach Officer organized multiple sessions for visitors and local communities to experience the mobile orchard currently situated at the site of the planned Art Works building in Granton.

Three local gardening groups and the Edinburgh Waterfront Nursery visited the mobile orchard, spoke about biodiversity, talked about potential for the space to become an outdoor learning and play space. The Art in the Open electric cargo bike was brought down by Education officer Mara Barth to promote sustainable travel to the area as well.



*Waterfront nursery exploring the Mobile Orchard  
Photo: Roberto Ricuitti*

The gardening groups who attended the site participated in a pruning workshop with Scottish Heritage Fruit Trees expert John Hancox. Discussions with the local gardeners included the importance of the rewilded self-seeded trees shrubs and plants which have grown across the site over the past 20 years, and how to preserve them.

With the nursery groups the sessions involved planting activities using herbs and spring flowering bulbs. The children were also given some trowels and forks to dig around in the loose soil deliberately left on site by a contractor who had come to tidy up the space. This soil served as a great place to investigate for bugs and earthworms.



*Pruning Workshop with local gardeners  
Photo: Roberto Ricuitti*

A final site visit was made by the National Museum of Scotland colleagues involved in the Natural History Curation Collection Team, from invertebrates, and vertebrates. Discussions are currently underway for organising ID workshops and sustainability workshops across both organisations with a local primary school. Long terms plans are being made for the site to surveyed and monitored with the help of the National Museum of Scotland team.

## **Section 6: Research and Monitoring**

*Actions to increase understanding of nature and biodiversity both internally and externally and to measure the impacts of the actions you have*

On site a staff Biodiversity Board has been installed as a way of recording and contributing to research on biodiversity. Staff are encouraged to note their siting, date, time, location, and any further details of any wildlife that they see around the grounds. The information is then recorded and submitted on the iRecord community wildlife website to help towards the monitoring and management of biodiversity through the national database. Helpful guides of local birds and wildlife provided by the Water of Leith Conservation Trust help with the identification by providing examples of the local species that may be observed. During the lockdown period of 2020 staff were also encouraged to use the Seek by iNaturalist app which is run by National Geographic and the California Academy of Science which uses image recognition technology to identify plants and animals that they come across.

As part of The Art Works project a preliminary ecological appraisal has been undertaken at the Granton site. It was found that the area is mainly comprised on successional vegetation with perennial species, grassland, dense scrub and broadleaved trees. Although currently assessed as low ecological value it is still home to a variety of species of different trees, plants, birds and invertebrates. The wide range of substrates has created a diverse habitat for wildflowers, and invertebrates including pollinators such as bees, hoverflies, butterflies and moths. As work progresses into the next RIBA stage of planning, ecological monitoring will be continued in order to support the current wildlife species onsite as well as to work towards achieving biodiversity net-gain. The work started by Natalie Taylor with local communities and gardening groups with the Mobile Orchard will also add to the research with the help of colleagues at the National Museum of Scotland.

Going forward, through the NGS Environmental Management Plan 2018-22, a Biodiversity Action Plan is being investigated in order to bring all potential monitoring and improvement projects of all NGS sites into one report, expanding on the regular tree inspections that are already currently undertaken. As 2021 will be the year COP26 is held in Scotland, NGS have set up a working group to create engagement programme for staff and visitors on issues relating to climate change and the natural environment. NGS are currently working on a response to the Climate Emergency and related environmental degradation; looking to further our work on reducing our environmental impact as well as improving biodiversity on site and in our surrounding communities in the future.