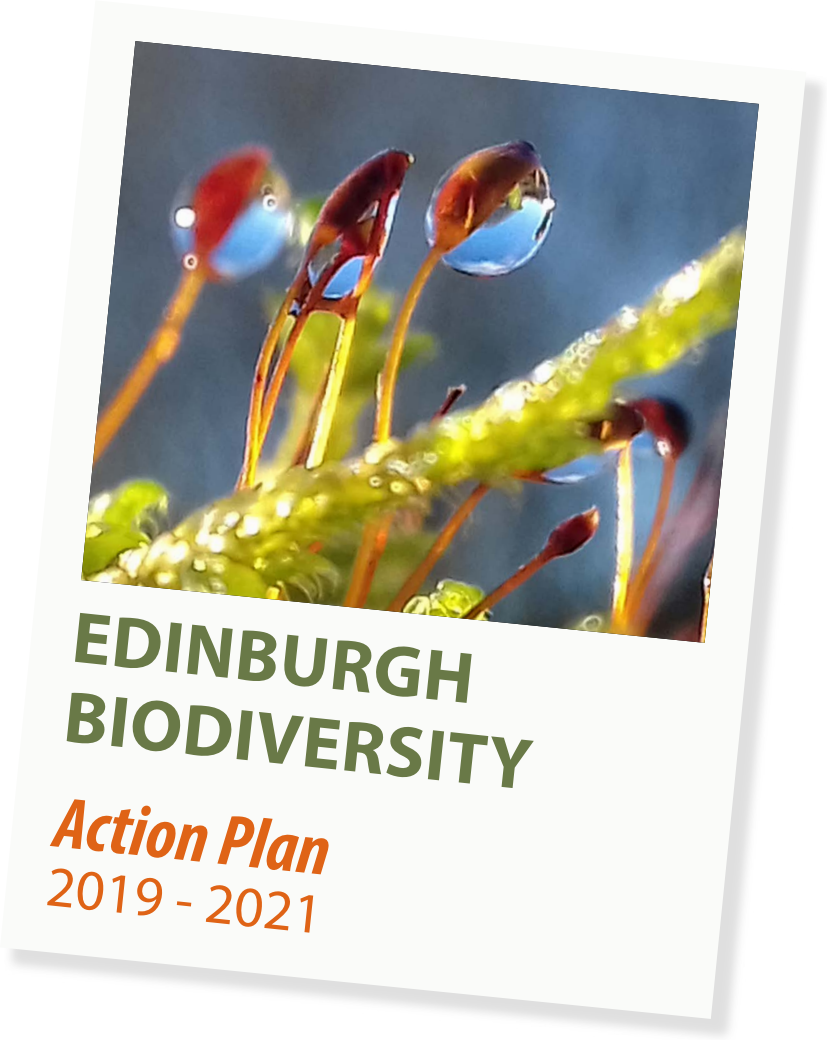
EDINBURGH BIODIVERSITY

Action Plan 2019 - 2021

contents



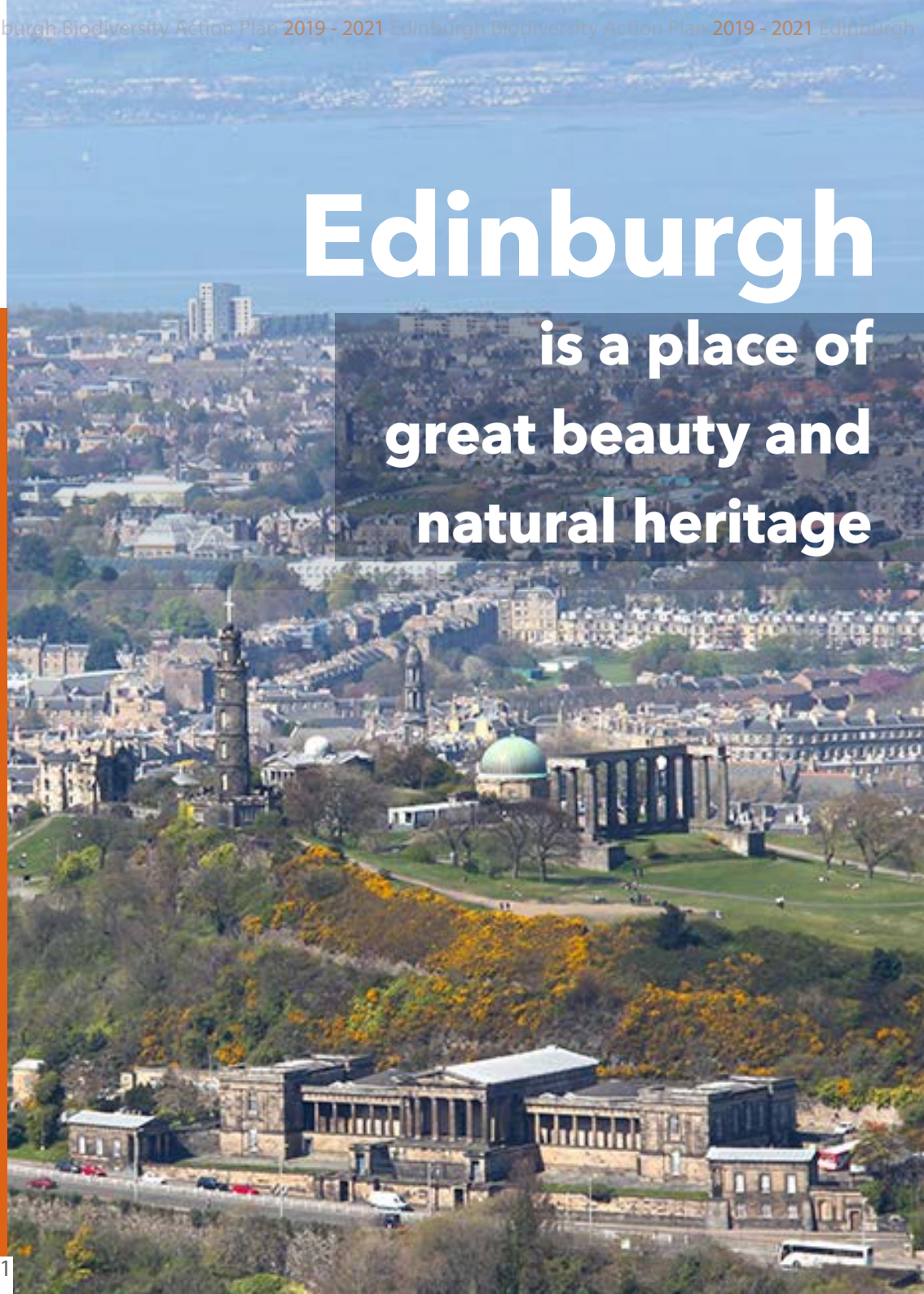
Introduction

Edinburgh is a place of great beauty and natural heritage. From the Pentland Hills to the Firth of Forth, there is a wide diversity of habitats and natural places. The dramatic geology of Arthur's Seat and Holyrood Park and river corridors such as the Water of Leith bring nature right into the heart of the city. Some of these places are home to rare and protected plants and animals. The Firth of Forth is of global and national importance for some species of birds. Add to this recent work to create pollinator meadow areas within Edinburgh's parks, and we have a picture of a capital city which is great for wildlife and people.

The management of these important places for wildlife continues to be central to the Edinburgh Biodiversity Action Plan. The Plan also reflects the continued importance of engaging communities and citizens in action for biodiversity. There is also a need to take the opportunity to create new spaces for people and wildlife as the City expands.

There is a new emphasis in this plan on the importance of private gardens, allotments and community growing areas as places for wildlife. Across urban parts of Edinburgh, private gardens make up 26% of land area. The importance of gardens as a habitat network will be celebrated through initiatives and promotions by partners during the life of this plan.

Emerging themes from the Edinburgh City Vision 2050 show that citizens and visitors place great value on Edinburgh as a green city and the work of the Edinburgh Biodiversity Partnership supports this.



Edinburgh Biodiversity Action Plan 2019-2021

The Edinburgh Biodiversity Action Plan 2019-2021 continues the successful partnership approach to biodiversity conservation across the city and surrounding countryside.

This fifth edition builds upon the trend of an action plan that is ambitious yet deliverable, pragmatic and focussed. The strong elements of partnership working and community involvement remain key components with new organisations and individuals joining us. The breadth of groups represented include Council departments, government agencies, national and local environmental charities, volunteer conservation bodies and community groups.

Bells Mill meadow management


Balgreen Garden

A Vision for 2050:

To make Edinburgh a greener city with more opportunities for wildlife, enabling people to engage with nature.

Edinburgh
The Natural Capital of Scotland

In 2050 Edinburgh will have a species-rich network of habitats from the uplands of the Pentland Hills to the coastal waters of the Firth of Forth. It will be an environment abundant in wildlife that is enjoyed and respected by people, making Edinburgh a beautiful place to live, work and visit. Other benefits will be diverse: from ensuring climate change resilience; resistance to invasive species; forming a foundation for ecosystem services; supporting healthy lifestyles and a vibrant, sustainable economy. People will be able to easily access, learn about and engage with their local biodiversity directly contributing through conservation action to protect and enhance it.

The city wide Edinburgh 2050 visioning exercise, underway at the time of writing, has emerging aims of creating a city which is Inspired, Connected, Fair and Thriving. Below are a few quotes from some of the citizens taking part in the consultation. They would like Edinburgh to:

Be clean and green
Have more parks
Be beautiful – full of trees and bicycles
Be green, diverse, accessible

This vision will be achieved through the following aims within the

Edinburgh Biodiversity Action Plan

- **Raise awareness of the rich biodiversity in Edinburgh.**
- **Encourage Partners and others take positive action to protect and enhance our natural environment.**
- **Promote co-ordination and communication between Partners and others to further conservation action within Edinburgh.**
- **Influence other plans, policies and strategies relating to Edinburgh.**

A current snapshot of selected wildlife in Edinburgh

We are very fortunate in Edinburgh to have a biological records centre, The Wildlife Information Centre (TWIC). We asked the Centre to carry out a 'snapshot' analysis of different species and groups to assess their current status. Taking inspiration from State of Nature reports that aim to provide clear and simple information about how our wildlife is faring, why and what we can do about it. Further analysis is needed and this will be developed over the life of the Plan. Utilising existing data, these will form the basis of ongoing monitoring. The population trends for selected different species or groups of species have been reviewed and are included here.

Otters Prior to 1984 there is just a single Otter record for all of Edinburgh. Since then, the number of otter sightings has steadily increased, with all the major waterways now occupied. Breeding females with young have been observed along the Water of Leith in the heart of the city, reflecting improvements in the water quality of our waterways in recent decades.


Otter *David Palmar www.photoscot.co.uk*


otter on Figgate pond


Otter *David Palmar www.photoscot.co.uk*

Pollinators Pollination is a key element of our natural environment and crucial for many healthy ecosystems and landscapes. Pollinators such as bumble bees, solitary bees, hoverflies and honey bees are good indicators of the state of the environment as they reflect habitat fragmentation and loss, climate change, pesticide use and diseases.


Honeybee *Susan Falconer*


Nomada Solitary bee *Susan Falconer*


Tiger hoverfly *Suzanne Burgess*

A current snapshot of selected wildlife in Edinburgh


Tree bumblebee

Bumblebees Corstorphine Hill and Calder Gate are sites rich in bumblebees with 11 and 10 species recorded respectively. 17 Beewalk transects in the Council area are a valuable baseline for measuring changes to bee numbers and distribution.


Hoverfly *Susan Falconer*


Bumblebees *Susan Falconer*


Early bumblebee *Susan Falconer*

Butterflies Butterflies are the best-studied of the insect groups in the UK with long-term data available. Edinburgh's butterfly fauna has had some additions in recent years – Orange Tip, Holly Blue, Comma, Speckled Wood and Small Skipper – as a result of species moving in response to climate change.


Comma *Graham Checkley*


Small White *Susan Falconer*


Peacock butterfly *Susan Falconer*

A current snapshot of selected wildlife in Edinburgh


Sparrowhawk *Barry Farquharson*

Sparrowhawks Raptors, as top predators feeding on a range of species, are good indicators of a healthy, functioning ecosystem. The Sparrowhawk is now widely distributed in the Lothians and is thought to have colonised urban Edinburgh after 1980. In 2013, the number of chicks fledged by each breeding pair was at its highest level since monitoring began.

Amphibians Nationally, there is concern that even widespread amphibians are in decline. Common Toads migrate each spring to traditional breeding ponds. Toad patrols, undertaken to rescue amphibians from roads, are an indication of how toads are faring. Historic Environment Scotland and Lothian Amphibian and Reptile Group undertake toad patrols in Holyrood Park. Numbers fluctuate, probably due to weather conditions, but have peaked at 1244 individuals counted.


Natalie Todman


Graham Hinshelwood


David Palmar www.photoscot.co.uk

Plants Edinburgh's underlying geology and soils have contributed to a great diversity of higher plants. Plant surveys in Edinburgh city centre, have recorded 478 plant species, making it the richest survey site in Scotland. New species are continually being added to the list, thanks in part to the network of people who take the time to look for and record plants.


Willow bud *Susan Falconer*


Pennywort *Susan Falconer*


Maiden pink *HES*

Key Issues and Pressures

In the last century human impacts have led to large scale loss of biodiversity. In recent decades some habitats have improved, for example water quality in rivers. However, intensive land use, habitat loss and other factors continue to cause declines in some species groups.

There are a number of issues that are acknowledged as key drivers of biodiversity loss. Scottish Government have identified seven as being most critical for Scotland see (Scotland's Biodiversity a Route map to 2020) These are:

- Pollution
- Land Use intensification and modification
- Disconnection with nature
- Spread of invasive species and wildlife disease
- Lack of recognition of the value of nature
- Climate change
- Marine exploitation

The solution to some of these are beyond the scope of this Plan. However, what the EBAP can do is to work to conserve and enhance habitats within Edinburgh to establish resilient ecosystems that enable species to cope with the pressures placed upon them. A resilient natural environment can also help address some of these pressures, for example by absorbing air and water pollution, or helping to cope with some of the predicted future climate change impacts, such as increased flooding and overheating in urban areas.

Partnership working for our biodiversity

Woodland volunteers

This fifth action plan builds upon previous successes and continues with long term conservation projects such as meadow creation and management and the installation of swift nesting bricks. However, it is becoming increasingly clear that actions on a landscape-scale are required to achieve a city with:

- A natural environment valued for the diverse benefits it provides, including social and economic;
- Improved connectivity of natural places;
- Enhanced biodiversity which underpins ecosystem services; and
- A natural environment resilient to the threats of climate change, invasive species, habitat fragmentation, pests and diseases.

Conservation and keepers *RZSS*

To support this approach, the EBAP continues to include actions for green and blue networks. Green networks are defined here as land-based habitats such as gardens, woodland, farmland, upland, open mosaics etc. Blue networks are water-based habitats such as ponds, rivers and coastal waters that combine with green networks to form all natural, semi-natural and man-made habitats. There is an emphasis on the importance of collaborative work across different habitat types and increasing connectivity between habitats. The principles laid out in The Lawton Review apply here to improve ecological networks; there needs to be more and they have to be bigger, better and more joined up.

As an Action Plan for an urban area, the importance of the built environment in supporting some of our rarer/more threatened species such as swifts and bats, is recognised. Challenges such as climate change, water management, flooding and pollution impact on the built environment and there are opportunities for creating green infrastructure and other mitigation measures.

We include the importance of private gardens and their valuable contribution to biodiversity through creating habitat for pollinating insects including bumblebees and butterflies, mammals such as hedgehogs, as well as ponds for amphibians. Food growing areas, such as allotments and community gardens, were found to be the most valuable habitat type for pollinators by the University of Edinburgh Urban Pollinators project, and are promoted by partners in this plan.

Tree bumblebee on bee hotel *Susan Falconer*

Action for species conservation continues to focus on some of Edinburgh's rarest species. Valuable ongoing species survey and monitoring work is supported by expert naturalist volunteer groups and The Wildlife Information Centre. Citizen Science (the collection and analysis of data relating to the natural world by members of the general public, typically as part of a collaborative project with professional scientists) and easily-accessible mobile apps and surveys such as BeeWalks, Big Garden Birdwatch and the Big Butterfly Count have resulted in important additional records. Social media can also play an important part by informing people about events, what to look out for and sharing information.

The Small Pearl Bordered Fritillary Butterfly has declined across the UK. Locally it is only found at one location in the Pentland Hills. This is surveyed each year by volunteers as part of the long-running Council citizen science programme for species monitoring in the Pentland Hills Regional Park. The good summer of 2018 led to the highest numbers ever recorded for this very pretty butterfly.

The Northern Brown Argus was first identified as a species on Arthur's Seat in 1793. It became locally extinct in 1869 due to collecting and habitat loss. It was rediscovered on Arthur's Seat in 2005 and was recently recorded in the Pentland Hills. The Square Meter for Butterflies project encourages butterfly habitat creation on green roofs in Edinburgh to help this butterfly spread across the city.

Square-metre-for-Butterflies launch

The EBAP is open to all, involving a range of people who can all make a difference. This includes statutory bodies, local authorities, businesses and non-governmental organisations. They also include local community groups, some of them directly named. As ever, it is often down to individuals working in partnership with others to kick-start projects and in the years to come we will meet new community groups and people keen to take responsibility for their local area. The Action Plan has to remain flexible because of this to respond to changes in local policy and priorities, the environment and the local communities themselves. The strength of Local Biodiversity Partnerships is that they bring together organisations who are already undertaking tasks, but working together we can widen them or make them more inclusive. Duplication of effort can be avoided and new ideas shared with an interested audience who can and do make a difference. Collaboration is now becoming ever more important with the need to plan on a landscape-scale. It would be easy to step back and let the larger organisations take this task on, but in fact there are many more opportunities to bring people together at a local level and achieve even more.

Priorities for the Edinburgh Biodiversity Action Plan 2019-21

Green Networks

Green networks provide many ecological benefits such as helping wildlife move between habitats and protecting sites that are important for nature by designating them. Through the 20th century, habitat fragmentation was a significant cause of biodiversity loss, so reconnecting green networks helps to address this. Green networks also include existing parks and greenspaces, golf courses, churchyards, private gardens and brownfield sites as well as active travel routes such as cycleways. Trees form an important and highly visible part of this network. an important and highly visible part of this network. Trees and woodlands require management which includes removal of diseased, dangerous and storm-damaged specimens as well as replacements and additions. Since the formation of the Capital Coalition over 7000 trees have been added to Edinburgh's woodland landscape. The green network may improve the economic status of an area by making it a more attractive place to live and work. Networks form part of an important approach to tackling climate change where species need to move to new areas to find the right climatic conditions; therefore integrated habitat networks form a key component of Edinburgh's green networks.

Green Networks

A good example of delivery across green networks is the action to naturalise 15% of public parks and greenspace using appropriate measures such as reduced grass cutting, planting to create habitats such as nectar borders and berry hedges to benefit bees and other species, as part of Edinburgh Living Landscapes.

Green networks can also be a route for invasive species to spread. Invasive species can be non-native or native, although attention is mainly focussed on non-native species. Species introduced outwith their natural distribution can have a devastating effect by out-competing native species, disrupting ecosystem services and changing our landscape. The significance of this threat has been recognised in law and under the Wildlife and Natural Environment (Scotland) Act 2011 it is an offence to plant or cause to grow in the wild any non-native plant species.

In Edinburgh, control of invasive non-native species has been focussed on plants such as Giant Hogweed, Himalayan Balsam and Japanese Knotweed. Treatment has mainly been on land owned by City of Edinburgh Council or as part of flood prevention works along the Water of Leith. Volunteers have undertaken work to prevent the spread of Himalayan Balsam by hand-pulling plants.

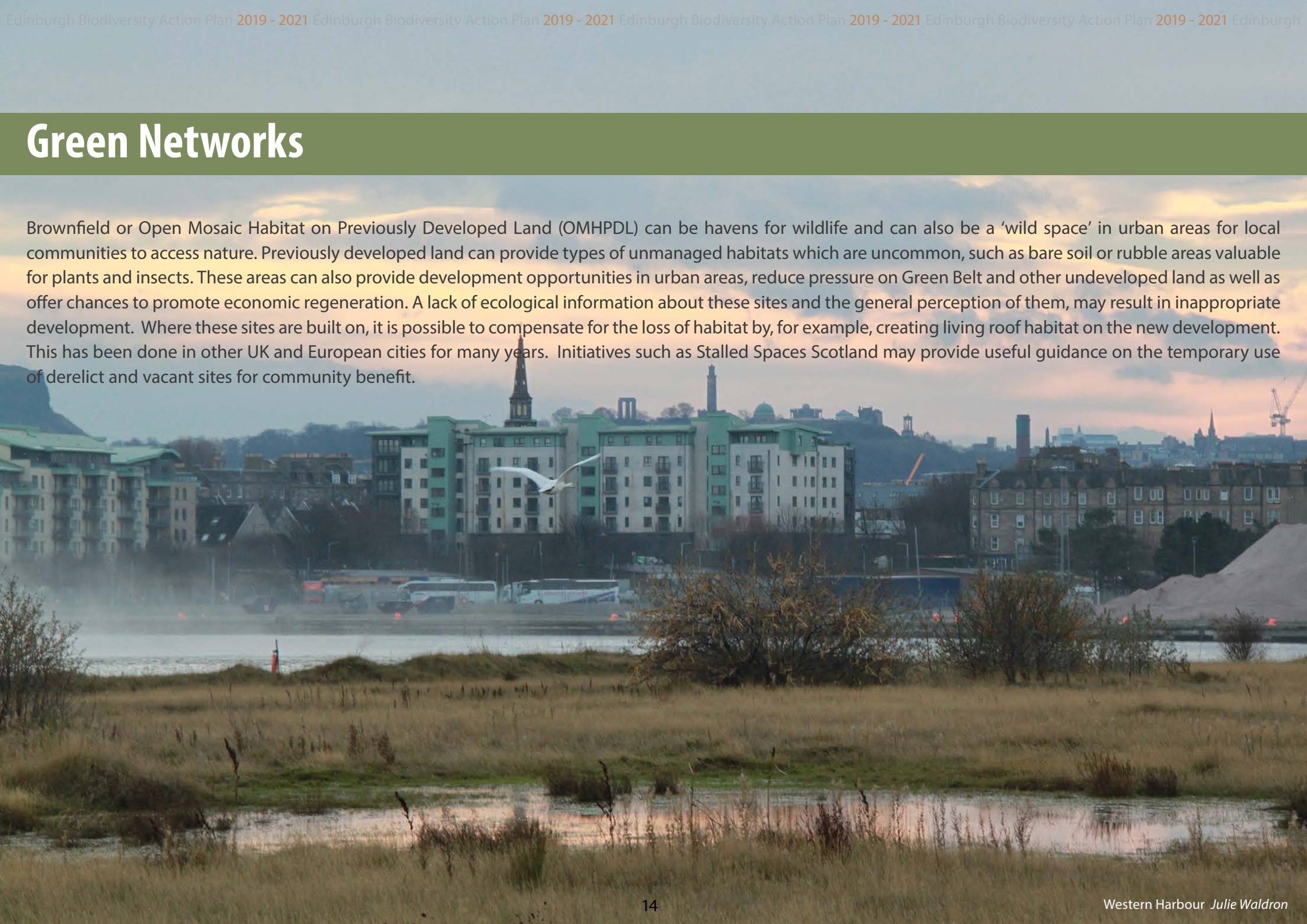
Himalayan Balsam

Giant Hogweed

Japanese Knotweed

Green Networks

Brownfield or Open Mosaic Habitat on Previously Developed Land (OMHPDL) can be havens for wildlife and can also be a 'wild space' in urban areas for local communities to access nature. Previously developed land can provide types of unmanaged habitats which are uncommon, such as bare soil or rubble areas valuable for plants and insects. These areas can also provide development opportunities in urban areas, reduce pressure on Green Belt and other undeveloped land as well as offer chances to promote economic regeneration. A lack of ecological information about these sites and the general perception of them, may result in inappropriate development. Where these sites are built on, it is possible to compensate for the loss of habitat by, for example, creating living roof habitat on the new development. This has been done in other UK and European cities for many years. Initiatives such as Stalled Spaces Scotland may provide useful guidance on the temporary use of derelict and vacant sites for community benefit.



Western Harbour *Julie Waldron*

Blue Networks

For our water environment, adopting a network approach recognises the importance of using an integrated, landscape-scale methodology e.g. river basin management on a catchment scale. The Scottish Environmental Protection Agency (SEPA) has started consultation on the third plans for river basin management and we will continue to work with SEPA and others to ensure alignment with this. Previous legislation such as the Water Framework Directive (2000) and The Water Environment and Water Services (Scotland) Act 2003 have advocated a network approach.

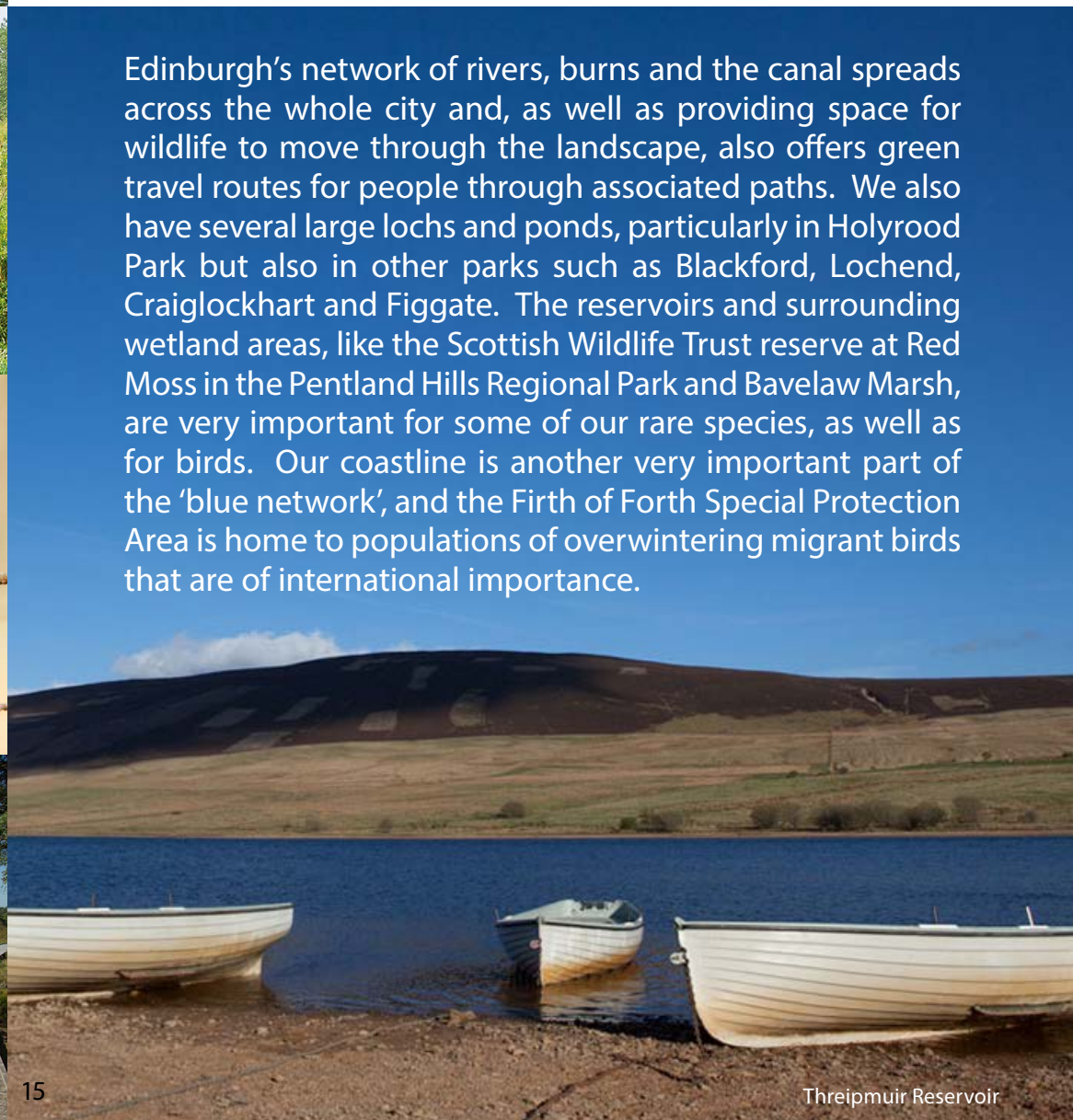
Heron *James Hopkins*

Figgate Park

Kingfisher *James Hopkins*

Red Moss SWT reserve

Edinburgh's network of rivers, burns and the canal spreads across the whole city and, as well as providing space for wildlife to move through the landscape, also offers green travel routes for people through associated paths. We also have several large lochs and ponds, particularly in Holyrood Park but also in other parks such as Blackford, Lochend, Craiglockhart and Figgate. The reservoirs and surrounding wetland areas, like the Scottish Wildlife Trust reserve at Red Moss in the Pentland Hills Regional Park and Bavelaw Marsh, are very important for some of our rare species, as well as for birds. Our coastline is another very important part of the 'blue network', and the Firth of Forth Special Protection Area is home to populations of overwintering migrant birds that are of international importance.



Threipmuir Reservoir

Blue Networks

A network approach recognises that species depend on each other in complex relationships. Movement across or through the environment requires proximity or connectivity of habitats and that some species require different habitats for different aspects or life stages. There is also recognition that energy and information are carried through natural systems, and that water, nutrients and elements such as carbon are cycled, stored and recycled in complex and inter-dependent ways. This is perhaps most obvious in the concept of blue networks, freshwater rivers and burns, ponds, lochs and wetlands connecting to estuarine, coastal and marine.

The key pressures on biodiversity such as pollution, spread of invasive species and wildlife disease, climate change and marine exploitation all require to be addressed using an integrated, adaptive approach on a much broader scale.

The section on Blue Networks incorporates the previous Habitat Action Plans for Freshwater and Wetlands, and Marine and Coastal. Some actions relating to climate change resilience are also included here.

The Pond Mud Snail is only found in 7 sites in Scotland. The loss of temporary ponds has put these marvellous molluscs under threat. A partnership programme by Buglife, RZSS, landowners, schools and Councils is taking place. Populations in the Pentland Hills are being supported by captive breeding and release to increase local snail numbers.

Geodiversity

Biodiversity is fundamentally linked to underlying geological features. The term 'geodiversity', or geological diversity, encompasses rocks, minerals, fossils, soils, sediments, landforms and processes; all of which are the foundation for habitats, niches, landscapes and ultimately biodiversity. Great advances have been made in recognising how geodiversity supports biodiversity and underpins ecosystem services. In order to make progress with biodiversity, our understanding of geodiversity must increase in order to improve the management and care of nature.

We are especially reliant upon the interactions of soil biodiversity such as fauna, fungi and bacteria with soil characteristics e.g. pH and nitrogen and physical properties such as pore structure to maintain the functioning of our ecosystems, whether they be agricultural or natural habitats. For example, Holyrood Park is sited on and around Arthur's Seat volcano and is composed of a range of different bedrocks and sedimentary rocks. As a result, acid, neutral and calcareous grasslands have all developed on the site depending on the underlying rock types.

Snab Point LGS

Geodiversity is internationally recognised by the Recommendation of the Committee of Ministers of the Council of Europe (2004) that: "geological heritage constitutes a natural heritage of scientific, cultural, aesthetic, landscape economic and intrinsic values, which needs to be preserved and handed down to future generations". There are key gaps in our knowledge of geodiversity, including the functional links between geodiversity and biodiversity and research is required to improve our understanding of the role geodiversity plays in providing benefits to ecosystems.

Geodiversity

Soils are a key component here; soils are essentially a non-renewable resource and a vital asset to Edinburgh. We are dependent upon healthy soils to support the range of benefits that provide us with clean water, food growing, building materials and a healthy environment. Soils also play a role in climate change mitigation by reducing flood risk and storing carbon. The importance of soils has been recognised by Scottish Government. 'The Scottish Soil Framework' was published in 2009 and provides a setting for outcomes related to the function, value, diversity and policies for soils. Covering soil with a waterproof material or structure e.g. tarmac (known as soil sealing) means that it is effectively lost to the ecosystem. The extent of our built landscape can be used as an indicator for estimating the extent of soil sealing.

Scotland's Geodiversity Charter addresses the benefits of recognising the value of geodiversity, outlining its wide relevance and the benefits it delivers to biodiversity through support of habitats and ecosystems. The Charter aims to promote integration of geodiversity within the ecosystem approach, and for the importance of geodiversity to be acknowledged through policy and guidance documents at a national and local level, including Local Plans and guidance for biodiversity.

The Charter also recognises the value of partnership formations between local authorities and local geodiversity groups, to audit sites, develop geodiversity action plans and involve local communities in collating information about sites of geological interest. City of Edinburgh Council is responding to the Charter in collaboration with Lothian and Borders GeoConservation Group by identifying and designating Local Geodiversity sites.

While Holyrood Park and Arthur's Seat are exceptional examples of geodiversity, many other important geodiversity sites in Edinburgh are recognised as nationally or locally important, including: Castle Rock, Calton Hill, parts of the Firth of Forth, Agassiz Rock, Corstorphine Hill, Torphin Quarry and many more. Although there is no action relating specifically to soils, there are a number of actions within the blue networks section; e.g. flood mitigation and peatland management for carbon storage, green networks such as meadow creation, allotments that rely on healthy soils.

Built Environment

The built environment has an important part to play in supporting and enhancing biodiversity. Some species rely on buildings for nesting or roosting sites; such as swifts, house sparrows, starlings and bats. There is also a strong relationship between the built and natural environment in relation to water and air quality. Surface water run-off from sealed surfaces such as roofs and roads can cause flooding and increase pollution in our rivers and burns. Having more unsealed areas such as green roofs, Sustainable Urban Drainage Schemes (SUDS), gardens and soft landscaping helps to slow water run-off and absorb pollutants before the water reaches our rivers. These features are one example of green infrastructure which could help our urban areas cope with the predicted increase in the amount and frequency of rainfall due to climate change.

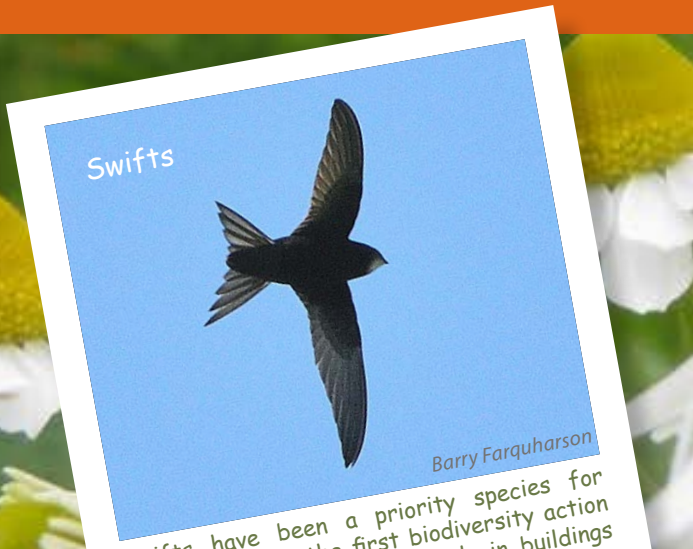
Adapting the built environment through the use of green infrastructure such as living roofs, Sustainable Urban Drainage, raingardens and other innovations helps to alleviate these and other effects. Greening of buildings can also help with insulation against heat and cold, therefore reducing energy needs, as well as offering new habitats to wildlife. Street trees and other vegetation can absorb air pollution and help with shading and cooling in the built environment, as our climate warms.

All types of green infrastructure also offer improved amenity in our public places, with associated health, wellbeing and economic benefits.

New and existing developments should make the most of the opportunities to promote biodiversity through green infrastructure, and to maximise its contribution to establishing a sense of place and enhancing the quality of people's lives. New developments of any size can have significant effect on wildlife and the ability for people to interact with and experience nature. Local planning policy requires new developments to demonstrate protection and enhancement of biodiversity. Even when there are no significant habitats or protected species present on site, biodiversity is still an important consideration. All new development should contribute to the enhancement of biodiversity and create habitats wherever possible.

Built Environment

Some examples include retaining and enhancing existing features of value to nature; choosing plant species for landscaping based on their wildlife value; provision of nest sites for wildlife. For example the use of the Edinburgh Meadow Mix has been incorporated into landscape schemes for developments in Greendykes; this has made a contribution to the Edinburgh Living Landscape Project. Older properties such as those in the World Heritage Site, undergoing maintenance and renovation also provide opportunities to make provision for biodiversity e.g. Swift Bricks.



Swifts have been a priority species for Edinburgh since the first biodiversity action plan in 2000. Nesting entirely in buildings and returning to the same nest year after year, these birds have declined hugely as buildings are renovated. Volunteers have collected information on nesting sites for the last 20 years. The Council Planning department request artificial swift nests in new developments to help replace lost nests.

Swift bricks on new build house

Species

Several organisations within the Edinburgh Biodiversity Partnership have a focus on a particular species, or group of species, for their conservation activities. For example:

- Lothian Bat Group
- Lothian and Borders Badger Group
- Lothian Amphibian and Reptile Group
- Botanical Society of Britain and Ireland
- Edinburgh Natural History Society
- Butterfly Conservation Scotland

David Palmar www.photoscot.co.uk

Sparrowhawks are a great example of a species which indicate environmental quality. As a top predator, if sparrowhawks are doing well this can indicate a good quality natural environment, with habitat to support an abundance of prey species. The Raptor Study Group carry out urban sparrowhawk monitoring across Edinburgh which shows a really good breeding population.

Other partners, such as Historic Environment Scotland Ranger Service, the Council's Natural Heritage Service, Scottish Wildlife Trust, The Wildlife Information Centre and Water of Leith Conservation Trust, carry out long-standing and ongoing monitoring of species as part of their activities. Some of these, for example in Holyrood Park, monitor some of our rarest species as part of collaborations such as the Rare Plants project. Much of the species monitoring and conservation work in Edinburgh relies entirely on volunteer effort.

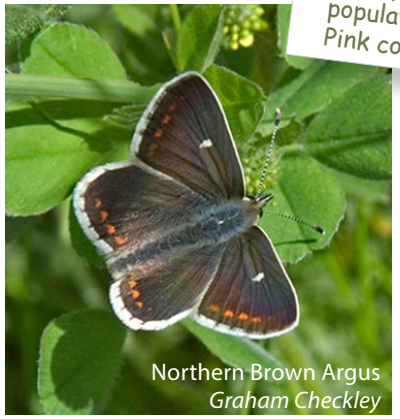
Edinburgh is fortunate to have The Wildlife Information Centre, which holds records on wildlife for part of central Scotland and for much of south east Scotland. These records have been generated over many decades, from a variety of sources. The majority of the information comes from many dedicated volunteer expert recorders, as well as structured recording schemes which our partners contribute to. These records allow us to produce a 'notable species' list of our rarest species in Edinburgh. This list is very useful to inform site management, conservation action and wider decision making on land use. However the list contains several hundred species, and it is beyond the resources available to the Partnership to carry out conservation work for all of these.

Species

The conservation needs of many of these notable species can be met by providing sufficient areas of connected, high quality habitats of different types, which this plan seeks to do. For a small number of very rare, declining, localised, vulnerable or legally protected species, the Edinburgh Biodiversity Partnership carries out targeted conservation work and planned activity is outlined in the actions list for the next three years.

Maiden Pink is one of a small number of rare native plants which are part of an active partnership conservation project supported by HES, CEC, RBGE and volunteers. Seeds are collected from wild sources in Edinburgh, these are grown on in partner nurseries then planted out in the wild to increase local populations. The number of sites with Maiden Pink continues to increase successfully.


Adder's Tongue *HES*


Northern Brown Argus
Graham Checkley


Otter *Barry Farquharson*


Green Hairstreak *David Palmar www.photoscot.co.uk*


EK


Purple Milk Vetch *HES*


Bordered brown lacewing *Susan Burgess*

Species

In addition to the planned activity, the programme of species conservation will be kept under review by the Partnership, and if new priorities or opportunities for action arise, these will be considered on an ongoing basis.

The table below includes those species for which targeted conservation work is currently being undertaken. This is in addition to more general actions such as habitat management that benefits a range of species e.g. wildflower meadow creation for pollinators.

Mammals	Otter, Bats
Birds	Swift, Common Tern
Vascular plants	Juniper, Arran Whitebeam, Rock Whitebeam, Maiden Pink, Sticky Catchfly, Field Gentian, Spring Sandwort, Purple Milkvetch
Ferns	Adder's Tongue, Pillwort
Mosses and liverworts	Sieve-toothed Moss, Toothless Grimmia, Flett's Dry Rock Moss, Sun Grimmia, Hoary Grimmia, Compact Grimmia, Mealy Grimmia, Round-leaved Bryum, Channelled Crystalwort
Invertebrates	Green Hairstreak, Small Skipper, Northern Brown Argus, Speckled Wood, Grayling, Small Pearl Bordered Fritillary, Wood Sage Plume Moth, Stonecrop Fanner, Bordered Brown Lacewing

List of species where action is being undertaken by one or more of the Partners.

monitoring

Progress reporting

Annual progress reports will be produced over the life of this action plan. These will report on delivery of the EBAP by the Edinburgh Biodiversity Partnership. In addition, all public bodies are legally required to report on how they meet their statutory duty to further the conservation of biodiversity every three years. This requirement is included in the Wildlife and Natural Environment (Scotland) Act 2011. The next report is due in January 2021. City of Edinburgh Council and other public bodies in the Edinburgh Biodiversity Partnership will therefore also produce reports at this time.

Monitoring and indicators

There is a programme of national and local monitoring schemes, and local survey schemes, which generate information for Edinburgh about species and habitats. Most of these data are held by The Wildlife Information Centre, who work with local expert naturalists to generate records for sites, collate existing datasets for their area, and make this information available to users, including uploading specific datasets to the National Biodiversity Network (NBN) Atlas Scotland. Much of this survey effort is carried out by dedicated volunteers and this Plan seeks to increase the involvement of local people in surveys and knowledge creation. In particular, opportunities to learn about and survey plants, insects and birds will be developed to help generate new data about the state of biodiversity in Edinburgh. While it is neither feasible nor meaningful to report on all local changes to biodiversity, it is useful to use a suite of indicators to provide guidance on the main biodiversity trends for Edinburgh. Indicators for Edinburgh which link to the Scottish Government's Ecosystem health Indicators will be developed and reported during the life of this Plan.

Aims & Actions

1 Raise awareness of the rich biodiversity in Edinburgh

1.1 Green Networks

No.	ACTION	PARTNERS	TIMESCALE
1.1.1	Undertake at least one joint campaign per year to raise awareness and increase engagement with biodiversity conservation across Edinburgh, using social media, events, projects and other means. Focus particularly on private gardens, parks and greenspace and other priority areas of Edinburgh's green network.	Edinburgh Biodiversity Partnership	Annually
1.1.2	Raise awareness of the importance of biological recording and wildlife conservation in the Edinburgh area through attendance at public events' bioblitzes, running excursions and public events and workshops.	TWIC	Ongoing
1.1.3	TWIC play a key role in the collation and dissemination of biological records for the Edinburgh area, including monitoring data. In addition public surveys will continue to encourage recording of specific under-recorded taxa. TWIC provides training in species ID and biological recording for new and existing recorders.	TWIC	Ongoing
1.1.4	Develop a suite of ecosystem health measures and indicators based on the new Scottish Biodiversity Indicators and available data sets relevant to Edinburgh.	ELL, TWIC, CEC, EBP, SNH	2020
1.1.5	Produce awareness raising materials and online information for parks using e.g. noticeboard posters and QR codes.	CEC Place	Ongoing
1.1.6	Increase the number of Friends of Parks groups across the city. Continue to support existing groups to deliver practical conservation and awareness raising activities.	CEC Place	2021
1.1.7	Include biodiversity awareness material in any Schools and Group education packs produced for Saughton Park. Provide biodiversity information in the Park interpretative materials and signage.	CEC Place	2021

Aims & Actions

1 Raise awareness of the rich biodiversity in Edinburgh

No.	ACTION	PARTNERS	TIMESCALE
1.1.8	Edinburgh Natural History Society will lead a programme of field visits, talks and workshops for people to learn about the natural history of Edinburgh and the surrounding area. There will be 50 events each year and ten within the Edinburgh city boundary. Field trips cover all types of sites from designated sites to wilder urban corners.	Edinburgh Natural History Society	Annually
1.1.9	Support schools with Learning for Sustainability through the Eco-Schools programme, and other award programmes such as John Muir Award, to include learning about local biodiversity.	CEC Children and Families	Ongoing
1.1.10	Continue to provide school funding for outdoor education work as part of Scotland's Route Map to 2020.	Scottish Natural Heritage	2020
1.1.11	Continue to involve communities in SSSI management where opportunities arise, for example at Wester Craiglockhart Hill SSSI.	Scottish Natural Heritage	Ongoing
1.1.12	Review the Local Biodiversity Sites network across Edinburgh and identify where positive management, projects or management plans should be implemented. Engage with local communities and landowners about the ecological importance of these sites, with an initial focus on Council owned land.	CEC Place, SNH, TWIC, SWT	2021
1.1.13	Work with Scottish Land and Estates members to raise awareness of the importance of appropriate management of Local Biodiversity Sites in private ownership.	Scottish Land and Estates, EBP	2020
1.1.14	Deliver the 'Giving Nature a Home' initiative in Edinburgh with school outreach work during 2019, and secure funding to continue projects including Ambassador Schools and other community engagement work beyond this.	RSPB	2019

Aims & Actions

1 Raise awareness of the rich biodiversity in Edinburgh

No.	ACTION	PARTNERS	TIMESCALE
1.2	**Blue Networks**		
1.2.1	Deliver a programme of clean up events along the Water of Leith, focusing on local community engagement and highlighting links between riparian and coastal litter.	Water of Leith Conservation Trust	Ongoing
1.2.2	Continue a programme of volunteer, training, patrols and surveys for the Water of Leith to enable the monitoring of wildlife sightings, meadow surveys and river bank habitats and pass all sightings and records to TWIC.	Water of Leith Conservation Trust	Ongoing
1.2.3	Undertake promotional and awareness raising activities relating to the Firth of Forth SPA. Identify opportunities for interpretation.	FEF, SNH, RSPB, CEC Place	Ongoing
1.2.4	Continue to support the Shoreline project and associated community engagement through the Green Infrastructure fund.	Scottish Natural Heritage, RBGE	2019
1.3	**Geodiversity**		
1.3.1	Collaborate with partners such as Landowners, CEC Natural Heritage Service, Education Institutes, SRUC, SNH, Edinburgh World Heritage, nature conservation and geology groups, and local communities to encourage use of Local Geodiversity Sites for formal and informal education.	Lothian and Borders GeoConservation Committee Lothian and Borders GeoConservation Volunteer Group	Ongoing
1.3.2	Promote Local Geodiversity Sites to partners – e.g. within CEC, nature conservation groups, local groups with an interest in geology, local communities following adoption of Edinburgh Local Development Plan	Lothian and Borders GeoConservation Committee	Ongoing
1.3.3	Maintain range of leaflets and posters for the general public, supply to distribution network. Develop further leaflets and web resources etc.	Lothian and Borders GeoConservation Committee, Lothian and Borders GeoConservation Volunteer Group	Ongoing

Aims & Actions

1 Raise awareness of the rich biodiversity in Edinburgh

1.4 Built Environment

No.	ACTION	PARTNERS	TIMESCALE
1.4.1	Raise awareness about swifts and importance of built environment for nest sites with planners, architects and developers. Engage volunteers and others in swift conservation and monitoring of swift bricks and nesting sites.	CEC Place, RSPB	Ongoing
1.4.2	Run a series of events promoting and training on different types of green infrastructure and the relationship between built and natural environment.	CEC Place, Edinburgh Adapts Steering Group, EBP	By 2020
1.4.3	Create and promote demonstration sites with Royal Botanic Garden Edinburgh for green roof, green wall, raingardens and square metre for butterfly exemplars.	Royal Botanic Garden Edinburgh	By 2021
1.4.4	Work with a housing developer to showcase high quality, wildlife rich developments including meadows, ponds, native trees etc.	SWT, ELL, CEC Place	As opportunities arise
1.4.5	Promote and trial a Natural Capital Standard for green infrastructure.	SWT, ELL, University of Edinburgh	2020
1.4.6	Raise awareness of the value of 'brownfield' sites for biodiversity through training, events and inclusion in assessments, guidance and policy relating to new development and the City Plan 2030.	CEC Place, Buglife	Ongoing
1.4.7	Promote the creation of 'Living Roofs' as mitigation for the loss of ecologically valuable brownfield sites to development, especially sites which contain the UKBAP 'Open Mosaic Habitat on Previously Developed Land'.	CEC Place, Buglife	Ongoing

Aims & Actions

1 Raise awareness of the rich biodiversity in Edinburgh

No.	ACTION	PARTNERS	TIMESCALE
1.5	**Species**		
1.5.1	Engage the public with wildlife conservation and awareness raising through attendance at public events, bioblitzes, running excursions and running public events and workshops.	The Wildlife Information Centre	Ongoing
1.5.2	Raise awareness of native biodiversity through interpretation of habitat management to visitors at Edinburgh Zoo.	Royal Zoological Society Scotland	Ongoing
1.5.3	Create an online Scottish Plant Hub as a source of general information and advice.	Royal Botanic Garden Edinburgh	2021
1.5.4	Butterfly Conservation staff and volunteers carry out survey and monitoring work across Edinburgh including transects across key sites and habitat management projects to benefit butterflies and moths. Monitor spread of Small Skipper and Speckled Wood. Increase the recording effort for moths especially in the uplands, grasslands (including day-flying moths) and valley woodlands.	Butterfly Conservation Scotland	2021
1.5.5	Support bioblitz and other events such as Wild Days Out in Holyrood Park.	RSPB	2019
1.5.6	Butterfly Conservation staff and volunteers to promote targeted monitoring of Grayling and Northern Brown Argus butterflies wherever they occur in Edinburgh.	Butterfly Conservation Scotland, Holyrood Park, CEC Place	Ongoing
1.5.7	Use the Urban Flora Project to promote and raise awareness and understanding of recording plants in urban areas.	Botanical Society of Scotland	Ongoing
1.5.8	Promote the annual New Year Plant Hunt across Edinburgh, encouraging citizens to take part.	BSBI, Edinburgh Biodiversity Partnership.	Ongoing

Aims & Actions

2 Encourage participation from Partners and others to take positive action to protect and enhance the natural environment.

No.	ACTION	PARTNERS	TIMESCALE
2.1	**Green Networks**		
2.1.1	Increase the number of people growing their own food in Saughton Park between 2019-21 through working with RCHS and SRUC who will provide learning and teaching resources and courses.	CEC Place	2021
2.1.2	Undertake and record the treatment of Japanese Knotweed and Giant Hogweed on Council owned land across Edinburgh.	CEC Place	Ongoing
2.1.3	Provide information about INNS identification and removal as part of Edinburgh Living Landscapes training for Council grounds maintenance staff.	CEC Place	Ongoing
2.1.4	The Birds and Bees Group in Saughton Park will continue to monitor and evaluate the range of species present in Saughton Park based on baseline data recorded for the HLF funding application.	CEC Place	Ongoing
2.1.5	Delivery habitat creation projects in parks as opportunities arise, e.g. in Hailes Quarry Park.	Edinburgh Lothian Greenspace Trust	As opportunities arise, funding dependent
2.1.6	Increase the number of people growing their own food and the number of food growing areas, targeting areas of deprivation.	CEC Place, Edinburgh Lothian Greenspace Trust	Ongoing
2.1.7	Increase the number of allotment sites/plots in the city and actively encourage the lease of appropriate sites to engaged communities, e.g. Pilton Gardeners, Duddingston Field.	CEC Place	Ongoing
2.1.8	Establish and support an 'Adopt a Meadow' programme working with Friends groups and linking them with local schools to sow, monitor and help maintain up to three meadow sites across the city.	CEC Place	2021

Aims & Actions

2 Encourage participation from Partners and others to take positive action to protect and enhance the natural environment.

No.	ACTION	PARTNERS	TIMESCALE
2.1.9	Manage and maintain up to 70 urban meadow sites on Council land incorporating mixed floral meadows, native wildflower meadows and grass meadow sites as part of the Edinburgh Living Landscape programme.	CEC Place	Ongoing
2.1.10	Encourage and support Friends of Parks and other community groups to deliver biodiversity improvements in their local greenspace, including bird, bee and bat boxes, habitat creation or similar.	CEC Place, Edinburgh Lothian Greenspace Trust, CEC Localities	Ongoing
2.1.11	Naturalise 15% of amenity grassland on Council land as part of the Edinburgh Living Landscapes programme.	CEC Place	2021
2.1.12	Deliver greenspace projects with wildlife benefits across the city as opportunities arise - e.g. Little France Park, allotments, community gardens etc. including in areas of multiple deprivation.	CEC Place, Edinburgh Lothian Greenspace Trust	As opportunities arise, funding dependent.
2.1.13	Cyclepath management: Carry out biodiversity enhancement/conservation enhancement projects along Edinburgh's Cyclepath Network.	Edinburgh Lothian Greenspace Trust	As opportunities arise, funding dependent
2.1.14	Aim to plant up to 50,000 bulbs in naturalised grass annually across the city as part of the Edinburgh Living Landscape programme.	CEC Place	2021
2.1.15	Create new wildflower meadows and grasslands in Saughton Park by 2019.	CEC Place	2019
2.1.16	Introduce six permanent beehives and one observation hive into Saughton Gardens and run beekeeping courses and taster sessions by 2019.	CEC Place	2019
2.1.17	Introduce up to three Edinburgh Living Landscape features across the six cemetery sites assessed in 2018 Park Quality Assessments, by 2021.	CEC Place	2021
2.1.18	As part of the ParkLife project, monitor bat activity across four park sites (Meadows and Bruntsfield Links, Leith Links, Inverleith and Saughton).	CEC Parks and Greenspace & Cemeteries, University of Edinburgh	2020

Aims & Actions

2 Encourage participation from Partners and others to take positive action to protect and enhance the natural environment.

No.	ACTION	PARTNERS	TIMESCALE
2.1.19	Work with the Active Travel team to deliver up to 3 naturalised landscape projects as part of their Active Travel improvements at various sites by 2021.	CEC Parks and Greenspace & Cemeteries	2021
2.1.20	Continue to record all native and alien vascular plants in the wild and public areas of Edinburgh. Contribute to the National Plant Monitoring Scheme. Incorporate the data into the next Atlas of the British and Irish Flora and into the next edition of the Rare Plant Register for Midlothian. Communicate the data to interested parties as required.	Botanical Society of Britain and Ireland	Ongoing
2.1.21	Undertake site condition monitoring for Edinburgh SSSIs.	Scottish Natural Heritage	Ongoing
2.1.22	Restore the species rich grassland at Murder Acre using grazing.	SWT Lothians	Ongoing
2.1.23	Aim to plant up to 1000 trees by 2021 across the city as part of the Edinburgh Living Landscape programme.	CEC Place, CEC Localities, SWT, ELL.	2021
2.1.24	Continue to implement Site of Special Scientific Interest (SSSI) grassland management plan for Holyrood Park as agreed with SNH.	Historic Environment Scotland	Ongoing
2.1.25	Establish three new wildflower meadows in areas of Holyrood Park outwith the SSSI.	Historic Environment Scotland	2021
2.1.26	Through active management, continue to increase diversity within meadow habitats at the following CEC Natural Heritage sites: Meadows Yard LNR, Craigmillar Castle Park, Hermitage of Braid and Blackford Hill LNR, Easter Craiglockhart Hill LNR, Wester Craiglockhart Hill SSSI, Burdiehouse Burn LNR, Cammo Estate LNR and Bavelaw Marsh SSSI.	CEC Place	Ongoing
2.1.27	Monitor and control invasive plant species on CEC Natural Heritage managed sites.	CEC Place	Ongoing
2.1.28	Continue to enable community involvement and volunteer participation in the control of INNS on Natural Heritage sites.	CEC Place	Ongoing
2.1.29	Implement a heather management, grazing and muirburn programme in Bonaly Country Park.	CEC Place	Ongoing

Aims & Actions

2 Encourage participation from Partners and others to take positive action to protect and enhance the natural environment.

No.	ACTION	PARTNERS	TIMESCALE
2.1.30	Manage Local Nature Reserves and other natural heritage parks to benefit biodiversity.	CEC Place	Ongoing
2.1.31	Liaise with Parks Events team and event organisers to ensure that events are well managed and do not damage any valuable habitats on Natural Heritage Sites.	CEC Place	Ongoing
2.1.32	Continue to delivery woodland network expansion projects.	Edinburgh Lothian Greenspace Trust	As opportunities arise, funding dependent
2.1.33	Identify key woodland projects and sites to direct FCS WIAT funding.	Edinburgh Lothian Greenspace Trust	As opportunities arise, funding dependent
2.1.34	Deliver the 'Treetime' project, to plant new trees in Edinburgh, including park trees, street trees and woodland planting.	Edinburgh Lothian Greenspace Trust	2021
2.1.35	Identify sites or projects which require a woodland management plan and can be funded under Woodlands in and around towns (WIAT).	Edinburgh Lothian Greenspace Trust	As opportunities arise, funding dependent
2.1.36	Identify sites or projects which would benefit from woodland management as part of the WIAT scheme from FCS.	Edinburgh Lothian Greenspace Trust	As opportunities arise, funding dependent
2.1.37	Continue the woodland engagement project based at Craigmillar Castle Park.	Edinburgh Lothian Greenspace Trust	Ongoing
2.1.38	Identify sites suitable for riparian woodland creation or enhancement.	Edinburgh Lothian Greenspace Trust	Ongoing
2.1.39	Promote the Edinburgh Pollinators Species mix for meadow creation in habitat projects and new developments.	CEC Place, ELL	Ongoing
2.1.40	Create a list of project topics for undergraduate and postgraduate research programmes which support EBAP research and delivery.	EBP, Universities and Colleges	2021

Aims & Actions

2 Encourage participation from Partners and others to take positive action to protect and enhance the natural environment.

No.	ACTION	PARTNERS	TIMESCALE
2.2	**Blue Networks**		
2.2.1	As part of annual water course inspections, record locations of INNS and any wildlife features observed.	CEC Place	Ongoing
2.2.2	Continue to undertake work in relation to the creation of a Marine SPA in the Forth.	Scottish Natural Heritage, Forth Estuary Forum.	Ongoing
2.2.3	Undertake site condition monitoring for Firth of Forth SSSI as required through the SNH national programme.	Scottish Natural Heritage	Ongoing
2.2.4	Undertake restoration of coastal species-rich grassland.	Royal Botanic Garden Edinburgh	2021
2.2.5	Deliver a programme of clean up events along the Water of Leith, focusing on local community engagement and highlighting links between riparian and coastal litter.	WOLCT, CEC Place	Ongoing
2.2.6	Maintain the five Biodiversity Boost habitat improvement sites along the Water of Leith. Seek funding to extend this network to more sites.	WOLCT, CEC Place	Ongoing
2.2.7	Continue to block ditches and remove encroaching trees at Red Moss lowland raised bog.	SWT Lothians	Ongoing
2.2.8	Investigate and implement recycling opportunities for litter campaigns.	CEC Place	2021
2.2.9	Act to conserve the coastal sand dunes (a UKBAP Priority Habitat) at Cramond, focusing on the control of invasive species (Japanese rose, bracken, Japanese knotweed, sycamore). Identify any other threats to this habitat such as visitor pressure, fly-tipping and erosion.	CEC Place	Ongoing
2.2.10	Carry out WeBs counts on CEC Natural Heritage sites to help monitor coastal habitat and bird populations.	CEC Place	Ongoing
2.2.11	Manage River Almond woodlands in partnership with Friends group.	CEC Place	Ongoing

Aims & Actions

2 Encourage participation from Partners and others to take positive action to protect and enhance the natural environment.

No.	ACTION	PARTNERS	TIMESCALE
2.2.12	Manage Harperrigg, Harlaw, Bonaly and Threipmuir Reservoirs within Pentlands Hill Regional Park in conjunction with Flood Prevention to improve biodiversity where appropriate.	CEC Place	Ongoing
2.2.13	Through SSSI monitoring and site management, take particular account of the habitat requirements of the nationally scarce bryophytes at Balerno Common SSSI (Bavelaw Marsh) which require periodic lowering of the water levels.	SNH, CEC Place, Bavelaw Management Group	Ongoing
2.2.14	Encourage student research projects on Otters.	CEC Place	Ongoing
2.2.15	Management of the Water of Leith corridor in partnership with Water of Leith Conservation Trust	CEC Place	Ongoing
2.2.16	Deliver the River Almond barriers project by identifying the best solution for improved fish passage on the river, either removal of obstructions or construction/repair of fish passages.	CEC Place	2021
2.2.17	Identify sites suitable for riparian woodland creation or enhancement.	CEC Place	Ongoing
2.2.18	Manage and enhance ponds and wetlands at Cammo canal, Blackford Pond, Easter Craiglockhart Hill to include the investigation of water quality	CEC Place	Ongoing
2.3	**Geodiversity**		
2.3.1	Keep under review Local Geodiversity sites including geomorphological and building stone site and maintain list of potential sites in Edinburgh. Designated further sites as appropriate.	CEC Place	2021
2.3.2	Monitor condition of Local Geodiversity Sites using GeoConservation UK site monitoring form to collate and record site visits: Record issues with access, vandalism, vegetation and notify concerns to CEC and landowners.	Lothian and Borders GeoConservation Committee, Lothian and Borders GeoConservation Volunteer Group	Annually

Aims & Actions

2 Encourage participation from Partners and others to take positive action to protect and enhance the natural environment.

No.	ACTION	PARTNERS	TIMESCALE
2.4	**Built Environment**		
2.4.1	Swifts - Monitor and record use of new artificial nest boxes and existing known nests through continued survey, volunteer engagement and data sharing.	CEC Place, RSPB, TWIC	Ongoing
2.5	**Species**		
2.5.1	Edinburgh Natural History Society will continue to monitor the Field Gentians at Hound Point.	Edinburgh Natural History Society	Ongoing
2.5.2	Continue to monitor populations of terns breeding and nesting around the Firth of Forth, including the new raft at Port Edgar. Install new interpretation at Port Edgar relating to the terns and other seabirds.	RSPB, SNH, CEC Place, Forth Seabird Group	Ongoing
2.5.3	Support an increase in the population of pond mud snails in Pentland Hills Regional Park.	Royal Zoological Society Scotland, SWT, CEC Place	2021
2.5.4	Identify opportunities to apply new eDNA techniques to species and site conservation projects.	RZSS, Edinburgh Biodiversity Partnership	2021
2.5.5	Create and enhance habitat for pollinators at sites identified along the John Muir Way in Edinburgh.	Buglife, City of Edinburgh Council	2021
2.5.6	Undertake specialist survey for Bordered Brown Lacewing in Holyrood Park, dependent on funding, to establish if this insect remains extant by end of 2024.	Historic Environment Scotland, Buglife	2024
2.5.7	Continue programme of planting endangered conifers on Council land through the Conifer Trust project.	Royal Botanic Garden Edinburgh, CEC Place	Ongoing
2.5.8	Carry out ex-situ conservation of rare Arran Whitebeam (Sorbus arranensis) species by planting on Council land.	Royal Botanic Garden Edinburgh, CEC Place	Ongoing
2.5.9	Continue to encourage members of the public to join Natural Heritage Officers on surveys - Breeding birds, green hairstreak, small pearl-bordered fritillary and wildflower meadows.	CEC Place	Ongoing

Aims & Actions

2 Encourage participation from Partners and others to take positive action to protect and enhance the natural environment.

No.	ACTION	PARTNERS	TIMESCALE
2.5.10	Continue breeding bird survey on Bonaly Moor at Bonaly Country Park as a way of monitoring heather management and contributing to national monitoring scheme.	CEC Place	Ongoing
2.5.11	Encourage student to research data collected from the Breeding Bird Survey (BBS).	CEC Place	2021
2.5.12	Continue to carry out butterfly transects to build an understanding of changing populations and monitor habitats at the following Natural Heritage sites: Burdiehouse Burn LNR, Cammo Estate LNR, Meadows Yard LNR, Craigmillar Castle Park and Hermitage of Braid and Blackford Hill LNR.	CEC Place	Ongoing
2.5.13	Continue to utilise volunteers in the surveying of butterfly species on Natural Heritage sites.	CEC Place	Ongoing
2.5.14	Continue to monitor the known populations of Green Hairstreak in the PHRP via butterfly transects.	CEC Place	Ongoing
2.5.15	Increase knowledge of bee populations by undertaking bee transect recording at Natural Heritage sites.	CEC Place	Ongoing
2.5.16	Undertake annual survey for Bordered brown lacewing to establish ecology and distribution on Blackford Hill and other suitable habitats on Natural Heritage sites.	CEC Place	Ongoing
2.5.17	Continue to monitor the known population of Small Pearl-bordered Fritillary at Balerno Common SSSI via butterfly transects.	CEC Place	Ongoing
2.5.18	Encourage research into identifying habitat improvements to help species spread of Small Pearl-Bordered Fritillary	CEC Place	As opportunities arise
2.5.19	Continue to work with the Lothian Bat Group to monitor bats on CEC Natural Heritage sites.	CEC Place	Ongoing
2.5.20	Continue to pass all wildlife sightings and records to TWIC.	CEC Place	Ongoing
2.5.21	Attempt to establish new populations of Maiden Pink at historical sites around the city.	CEC Place	Ongoing

Aims & Actions

2 Encourage participation from Partners and others to take positive action to protect and enhance the natural environment.

No.	ACTION	PARTNERS	TIMESCALE
2.5.22	Establish new populations at sites where Sticky Catchfly occurred in the past.	CEC Place	Ongoing
2.5.23	Work with Forestry Tree Nursery on growing new plants and replacement of failed plants where appropriate.	CEC Place	Ongoing
2.5.24	Investigate additional locations for new woodland plantings e.g. Bonaly, Hillend Country Parks and work with landowners for new locations within PHRP.	CEC Place	Ongoing
2.5.25	Continue to monitor Juniper in Pentland Hills Regional Park.	CEC Place	Ongoing
2.5.26	Review rare plants list and scope future monitoring and habitat conservation work. RBGE to support with interpretation and re-introductions where appropriate.	CEC Place	Ongoing
2.5.27	Establish more rare plant colonies on Wester Craiglockhart Hill and Blackford Hill.	CEC Place	Ongoing
2.5.28	Monitor and manage populations of Sticky Catchfly (Silene viscaria).	CEC Place	Ongoing
2.5.29	Initiate the establishment of baseline data for INNS on Council owned Parks and Greenspace land, i.e. Himalayan Balsam, Giant Hogweed, Japanese Knotweed. Include other areas such as cyclepaths and river corridors where possible.	CEC Place, RAFTS, SEPA, WOLCT.	Ongoing
2.5.30	Remove, monitor and prevent the spread of Invasive plant species along the Water of Leith. Continue research, in association with Napier University, looking at practical alternative control methods of Giant Hogweed to herbicides. Using research findings develop an integrated INNS management plan specific to the WOL with a focus on reducing herbicide use. Continue and extend the volunteer hand pulling Himalayan Balsam programme established in 2018 with the view to significantly reducing the riparian population.	Water of Leith Action Group, WOLCT, CEC Place, Napier University, SEPA etc	2021
2.5.31	Continue to implement the site management plan to benefit Small Pearl Bordered Fritillary at Red Moss Reserve and monitor the population.	SWT, Butterfly Conservation	Ongoing
2.5.32	Progress the reintroduction of Pillwort at SWT Bawsinch reserve and monitor. Progress reintroduction at other historical sites.	SWT Lothians	Ongoing

Aims & Actions

2 Encourage participation from Partners and others to take positive action to protect and enhance the natural environment.

No.	ACTION	PARTNERS	TIMESCALE
2.5.33	Increase knowledge of bee populations by recording the presence of bee species at Ranger-managed sites throughout Edinburgh, using bumblebee transects and other recording methods.	Historic Environment Scotland Ranger Service, CEC Natural Heritage Service	Ongoing
2.5.34	Continue to carry out generic butterfly surveys to build an understanding of changing populations at the following managed sites: Holyrood Park, Cammo Estate LBS, Meadows Yard LNR, Craigmillar Castle Park and Hermitage of Braid and Blackford Hill LNR.	Historic Environment Scotland Ranger Service, CEC Place	Ongoing
2.5.35	Monitor scrub encroachment into areas of biting stonecrop, the larval foodplant of the stonecrop fanner (Glyphipterix equitella). Every five years, funding dependent, commission a specialist survey to establish if this nationally scarce micromoth remains extant within Holyrood.	HESRS, EBP	Ongoing
2.5.36	Survey for the presence of Northern Brown Argus (Aricia artaxerxes), a UKBAP Priority Species found at Holyrood Park and act to conserve known populations of Common Rock-rose (Helianthemum nummularium).	HESRS	Ongoing
2.5.37	Continue to monitor known populations of the Wood Sage Plume Moth (Capperia britanniodactylus).	HESRS	Ongoing
2.5.38	Act to conserve the known population of Adder's-tongue fern (Ophioglossum vulgatum) at Holyrood Park.	HESRS	Ongoing
2.5.39	Act to conserve the existing and newly established populations of Maiden Pink at Holyrood Park.	HESRS	Ongoing
2.5.40	Act to conserve known populations of Purple milk-vetch (Astragalus danicus), an Endangered and UKBAP Priority Species found in Holyrood Park, via control of encroaching scrub.	HESRS	Ongoing
2.5.41	Manage habitats around confirmed Rock Whitebeam trees to reduce threat of fire damage.	HESRS	Ongoing

Aims & Actions

2 Encourage participation from Partners and others to take positive action to protect and enhance the natural environment.

No.	ACTION	PARTNERS	TIMESCALE
2.5.42	Mosses Sieve-toothed moss (Coscinodon cribrosus), Grimmia anodon (Critically endangered), Schsitidium confertum and the Nationally Scarce mosses Grimmia laevigata, Grimmia lisae, Grimmia montana and Schistidium pruinosum in Holyrood Park.	HESRS	Ongoing
2.5.43	Act to conserve known populations of Spring Sandwort (Minuartia verna) in Holyrood Park. This species is Near Threatened and Nationally Scarce.	HESRS	Ongoing
2.5.44	Act to conserve existing populations of Sticky Catchfly (Lychnis viscaria) at Holyrood Park.	HESRS	Ongoing
2.5.45	Continue to monitor, advise and raise awareness of the badger population in Edinburgh.	Lothian Badger Group	Ongoing

3 Promote co-ordination and communication between Partners and others to further conservation action within Edinburgh.

3.1 Green Networks

3.1.1	Ensure all ecological data from the Water of Leith Flood Prevention Scheme Phase 2 is passed to TWIC and to WOLCT for dissemination to interested parties.	CEC Place	2020
3.1.2	Include the mapping output from the John Muir Pollinator Way project in habitat creation site planning.	CEC Localities, Buglife	2020
3.1.3	Produce a surveys checklist for Forestry Commission Scotland woodland grant or felling licence applicants for Edinburgh sites.	Forestry Commission Scotland, CEC Place.	2019
3.1.4	Identify opportunities for new greenspace associated with housing development. Use open space quality standards to other natural capital standards.	CEC Place, ELGE, SWT, ELL	Ongoing

Aims & Actions

3 Promote co-ordination and communication between Partners and others to further conservation action within Edinburgh.

No.	ACTION	PARTNERS	TIMESCALE
3.2	**Blue Networks**		
3.2.1	Identify opportunities to manage and restore wetlands and peatlands for species enhancement and carbon storage.	EBP	Ongoing
3.2.2	Review the feasibility of developing a water vole conservation and reintroduction project in Edinburgh.	CEC Place, SWT, RZSS, LABMAG, EBP	2021
3.3	**Geodiversity**		
3.3.1	Work with Scottish Geodiversity Forum to contribute to the vision of Scotland's Geodiversity Charter. Liaise with other GeoConservation Groups in Scotland to arrange regional meetings including training.	Scottish Geodiversity Forum, Lothian and Borders GeoConservation Committee	Annual
3.4	**Built Environment**		
3.4.1	Promote green infrastructure to help nature to adapt to climate change by strengthening habitat networks, reducing habitat fragmentation and providing opportunities for species to migrate.	CEC Place, Edinburgh Adapts Steering Group, Edinburgh Living Landscapes Initiative, SNH	Ongoing
3.4.2	Produce a biodiversity strategy for the University of Edinburgh.	University of Edinburgh	2020

Aims & Actions

3 Promote co-ordination and communication between Partners and others to further conservation action within Edinburgh.

No.	ACTION	PARTNERS	TIMESCALE
3.5	**Species**		
3.5.1	Promote the collation and dissemination of biological records for the Edinburgh area, including monitoring data. Promote public surveys to encourage recording of specific under-recorded taxa. Provide training in species ID and biological recording for new and existing recorders.	TWIC	Ongoing
3.5.2	Continue to mobilise datasets to the National Biodiversity Network Atlas Scotland for the Edinburgh area, including records from the CEC Natural Heritage Service.	TWIC, CEC Place	Ongoing
3.5.3	Share knowledge of eDNA techniques with Edinburgh Biodiversity Partnership to identify potential applications to species and site conservation work in Edinburgh.	Royal Zoological Society Scotland, Edinburgh Biodiversity Partnership	2019
3.5.4	Complete the mapping of B-Lines insect pathways across Scotland including all of Edinburgh and linking with the John Muir Pollinator Way B-Line. Share information with partners and local groups.	Buglife	2020
3.5.5	Complete Edinburgh fieldwork for the new British and Irish flora Atlas project by the end of 2019.	BSBI	2019
3.5.6	Attempt to establish new populations of Maiden Pink at historical sites around the city.	HESRS, RBGE, CEC Place	Ongoing
3.5.7	Establish new populations at sites where Sticky Catchfly occurred in the past.	HESRS, RBGE, CEC Place	Ongoing
3.5.8	Review rare plants list and scope future monitoring and habitat conservation work. RBGE to support with interpretation and re-introductions where appropriate.	CEC Place, RBGE, HESRS, BSBI	Ongoing
3.5.9	Liaise with Historic Scotland on seed collection for propagation by Inch Nursery.	CEC Place, Historic Environment Scotland RS	Ongoing

Aims & Actions

4 Influence other plans, policies, projects and strategies relating to Edinburgh.

No.	ACTION	PARTNERS	TIMESCALE
4.1	**Green Networks**		
4.1.1	Include policies, targets and actions relating to green networks, greenspace and green infrastructure in the Edinburgh Design Guidance, City Plan 2030, Edinburgh Adapts and the replacement for Sustainable Edinburgh 2020.	CEC Place, CEC Chief Executive	2021
4.1.2	Maintain the Local Nature Conservation Sites designations through the Edinburgh City Plan spatial planning system.	CEC Place	Ongoing
4.1.3	networks and green networks, into wider land use planning decisions through the use of Forestry and Woodland Strategies, regional land use strategies, Strategic/Local Development Plans and development masterplans.	CEC Place	Ongoing
4.1.4	Review Habitat Action Plans, Species Action Plans, site management plans and other conservation strategies, plans and projects to ensure that; A) All risks from adverse climate change have been identified, B) Future changes in these pressures are assessed, C) that these are being explicitly addressed wherever possible incorporating adaptation measures, and D) carbon capture within habitats is considered.	CEC Place	Ongoing
4.1.5	Respond to casework relating to all protected sites, windfarms and other relevant issues.	RSPB, SWT, SNH, CEC Place	Ongoing
4.1.6	As part of core duties, continue to 1) respond to statutory casework affecting protected sites; 2) respond to statutory windfarm casework; 3) continue to provide Green Infrastructure and biodiversity advice in master planning/major developments; 4) continue to provide management advice and consents for Edinburgh SSSIs (i. facilitate scrub/grassland management at Wester Craiglockhart Hill SSSI and advise on the new management plan; ii. advise on management for revision of Arthur's Seat Volcano SSSI Management Plan).	Scottish Natural Heritage	Ongoing
4.1.7	Prepare a biodiversity strategy for the Royal Botanic Garden Edinburgh	Royal Botanic Garden Edinburgh	2021

Aims & Actions

4 Influence other plans, policies, projects and strategies relating to Edinburgh.

No.	ACTION	PARTNERS	TIMESCALE
4.2	**Blue Networks**		
4.2.1	As part of core duties, continue to provide Natura advice on all casework and licences affecting the Firth of Forth SPA.	Scottish Natural Heritage	Ongoing
4.2.2	Evaluate the 2010-20 Water of Leith Management Plan and develop and new 5 year plan for the Water of Leith Catchment	Water of Leith Action Group, WOLCT, CEC Place, SEPA	2020
4.3	**Geodiversity**		
4.3.1	Ensure Local Geodiversity Sites are included in Local Plans and that there is specific mention of the need to protect Local Geodiversity in local plans and other policies and guidance.	LABRIGS, CEC Place	Local Development Plan cycle
4.4	**Built Environment**		
4.4.1	Ensure biodiversity best practice guidance and policy framework is included in the Edinburgh Design Guidance, City Plan 2030, Sustainable Edinburgh 2020 and its replacement, and Edinburgh Adapts.	CEC Place, Edinburgh Adapts Steering Group, Edinburgh Living Landscapes Initiative, SNH	Ongoing
4.4.2	Promote green infrastructure and green networks in new developments and raise awareness of the relationship between built and natural environments, and other issues such as air quality, water quality and climate change.	CEC Place, Edinburgh Adapts Steering Group, Edinburgh Living Landscapes Initiative, SNH	Ongoing
4.5	**Species**		
4.5.1	Ensure protected and priority species are reflected in development plans, policies, strategies, projects and other activities as appropriate.	CEC Place, Edinburgh Adapts Steering Group, Edinburgh Living Landscapes Initiative, SNH	Ongoing