

Glasgow Biodiversity Duty Report

(2017/18, 2018/19 and 2019/20)



1. Introduction



- 1.1** The Nature Conservation (Scotland) Act (2004) created a duty on public bodies, including Glasgow City Council, to “further the conservation of biodiversity as far as is consistent with the proper exercise of those functions.” In so doing, public bodies must take regard of the Scottish Biodiversity Strategy.
- 1.2** The Wildlife and Natural Environment (Scotland) Act 2011 (WANE Act) amends the Nature Conservation (Scotland) Act (2004) and places an additional obligation on public bodies to report on compliance with the Biodiversity Duty every three years. The first report was submitted in January 2015. This is the third report.
- 1.3** The Biodiversity Duty is not only about protecting biodiversity through managing specific sites, habitats and species. It also aims to 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 and encourage staff, partners and customers to engage with and understand and consider biodiversity.
- 1.4** The designated Scottish Biodiversity Strategy is ‘Scotland’s Biodiversity: It’s in Your Hands (2004) which sets out a vision for 2030 for the health of Scotland’s biodiversity. This has now been supplemented by the ‘2020 Challenge for Scotland’s Biodiversity’ which focuses on desired outcomes for 2020.
- 1.5** The two documents together are now designated by the Scottish Government as comprising the Scottish Biodiversity Strategy.
- 1.6** Glasgow City Council (GCC) carries out its Biodiversity Duty primarily through the implementation of the ‘Glasgow’s Local Biodiversity Action Plan’ and by helping achieve the national objectives and outcomes of the Scottish Biodiversity Strategy through local action.

- 1.7** There are 7 Core Council Services: Chief Executive's Office, Corporate Services, Development and Regeneration Services, Land and Environmental Services, Education Services, Financial Services and Social Work Services as well as 10 Arm's Length External Organisations (ALEOs). These are ACCESS, City Building, City Parking, City Property, Clyde Gateway, Cordia, Glasgow City Marketing Bureau, Glasgow Community and Safety Services, Glasgow Life and Jobs and Business Glasgow. Relevant services and ALEOs were consulted for this current report.
- 1.8** As required by the legislation, this report covers the three years April 2017- March 2018, April 2018- March 2019 and April 2019- March 2020 (see Appendices).
- 1.9** Glasgow City Council delivers its key biodiversity responsibilities and project implementation through its Natural Environment officers within Neighbourhoods & Sustainability (NS). These are Biodiversity/Ecology Officers, Countryside Rangers, Arboriculture and Woodland Officers and a Horticulture Officer.
- 1.10** The Council is the lead organisation, and chair of, the Glasgow Local Biodiversity Action Plan which involves 15 partner organisations in carrying out projects and actions to conserve and enhance the City's biodiversity.
<https://www.glasgow.gov.uk/index.aspx?articleid=18407>
- 1.11** Glasgow City Council has signed a concordat with the Central Scotland Green Network. The Council is a signatory to the Climate Change Declaration and the 2012 Scotland Geodiversity Charter.









2. Actions to protect biodiversity and connect people with nature

- 2.1** Glasgow currently has 12 LNRs and aims to designate additional LNRs to reach a target of 1 Ha per 1000 population.
- 2.2** 30 key grassland sites are managed for wildflowers, wildlife and people's enjoyment across the city.
- 2.3** There are over 70 Friends of Parks and Greenspaces looking after their local site and undertaking environmental projects and activities, including biodiversity.

3. Mainstreaming

- 3.1 The quality standard 'Green Flag' award-winning parks (Keep Scotland Beautiful and other partners) in Glasgow all include some biodiversity elements.
- 3.2 Biodiversity is considered carefully in the management of all Glasgow Parks and where appropriate, habitats and species are protected and enhanced as part of overall park management.
- 3.3 Biodiversity benefits are integrated into the Metropolitan Glasgow Strategic Drainage Plan through the delivery of Sustainable Drainage Systems (SUDS), green infrastructure and blue-green networks.
<http://www.mgsdp.org/>
- 3.4 Protecting biodiversity is a key consideration within Glasgow's Energy and Carbon Masterplan. The risks and opportunities of a changing climate for local biodiversity were assessed and appropriate action prioritised and considered in preparation for the City's Climate Resilient Strategy and Action Plan.
<https://www.glasgow.gov.uk/CHttpHandler.ashx?id=32441&p=0>
- 3.5 Climate Ready Clyde, a City Region partnership programme includes biodiversity as a key part of its vision for a climate ready future.
- 3.6 Biodiversity projects and actions continue to link to, support and benefit from a range of other workstreams including

-  **Climate change adaptation,**
-  **Volunteering and employability opportunities,**
-  **Curriculum for Excellence,**
-  **Health and wellbeing,**
-  **The Glasgow Open Space Strategy**
-  **Parks and Greenspaces Vision**
-  **Metropolitan Glasgow Strategic Drainage Partnership (MGSDP)**

4. Nature-based solutions and climate change

- 4.1 Integrated habitat networks are referenced in Glasgow's City Development Plan (CDP) 7 Natural Environment. The Glasgow Open Space Strategy section 13 'Connecting Habitats' seeks to further the conservation of biodiversity and deliver greater connectivity between the City's habitats to help inform current and future need for open space. The Council worked with partners, GCV, to produce the Green Network Blueprint which develops a strategic habitat network.
- 4.2 Sustainable Drainage Systems (SUDS) are required for all new developments. SUDS design is referenced in Glasgow's City Development Plan, the statutory planning document (adopted 2017). CDP8 Water Environment states that 'SUDS should be designed to deliver enhancements for biodiversity and people.'
- 4.3 The Council and partners through the Metropolitan Glasgow Strategic Drainage Partnership are delivering deculverting projects such as Cardowan and Sandyhills Park.










5. Public engagement and workforce development

- 5.1** The Local Biodiversity Action Plan involves the Council working with 15 other organisations to implement the aims and objectives of the Plan. Partners include NatureScot (formerly SNH), Forestry Commission (Scotland) and the Royal Society for the Protection of Birds (RSPB) Scotland.
<https://www.glasgow.gov.uk/index.aspx?articleid=18407>
- 5.2** The Council's Biodiversity Officers attend National Biodiversity Network meetings in spring and autumn.
- 5.3** The Seven Lochs Wetland Park project is Scotland's largest urban nature park for people, nature and heritage. This ambitious project brings together over 16 square kilometres of lochs, parks, nature reserves and woodlands. It is a partnership between the Glasgow and Clyde Valley Green Network Partnership, Glasgow City Council, North Lanarkshire Council, Forestry Commission Scotland, Scottish Natural Heritage, The Conservation Volunteers and others.
<http://www.sevenlochs.org/>
- 5.4** The RSPB 'Giving Nature A Home' project continued in collaboration with the Council's Land & Environmental Services and Glasgow Life.
<https://www.rspb.org.uk/about-the-rspb/at-home-andabroad/scotland/glasgow/>
- 5.5** GCC-DRS, Glasgow Life and Scottish Badgers signed a data sharing agreement in 2012 to assist with the planning process and to ensure protected species statutory obligations are met.
- 5.6** The Council's Countryside Rangers delivered the biodiversity message to 14, 344 members of the public in 2019/20. This number includes 3,341 school children at outdoor education events/studies, 8,582 at guided walks & Local Nature Reserve days and 2,342 through volunteering on practical conservation tasks. The Countryside Rangers worked collaboratively with 22 different partner agencies and 9 community Friends groups in achieving these outputs and outcomes.
- 5.7** The Conservation Volunteers (TCV) completed a total of 164 volunteer days as part of their habitat restoration and management work at 17 Council-owned sites.
- 5.8** Fossorial water vole website and 'Water Vole Fun Facts' were created to promote the special fossorial water vole population in Glasgow. Research, monitoring, and survey training has been carried out by the University of Glasgow, supported by Scottish Natural Heritage, Glasgow Natural History Society and the Council.
<https://www.glasgow.gov.uk/index.aspx?articleid=19877>

6. Research and monitoring

6.1 Biological records are maintained and enhanced by Glasgow Life through the Glasgow Museums Biological Records Centre. Data gathered from monitoring and surveys is regularly entered into the database and records are collated and sent to the National Biodiversity Network (NBN).

<http://www.glasgowlife.org.uk/museums/aboutglasgow-museums/projects/Wild%20About%20Glasgow/Pages/default.aspx>

-  **Water fowl monitoring (of over 30 species) is carried out annually at 15 water bodies as part of the national Wetland Birds Survey by the British Trust for Ornithology (BTO).**
-  **Blue-green Algae monitoring is carried out annually at 43 water bodies city-wide.**
-  **Monitoring of key LBAP species is carried out – Bog Rosemary, Green Hairstreak, Small Pearl-bordered Fritillary.**
-  **Butterfly Transects and surveys are carried out annually at a number of sites.**
-  **Water Vole surveys have been carried out at a variety of East End sites.**
-  **Surveys of Badgers and Otters are carried out as required.**
-  **The survey of the Council's trees continues, with over 57,000 trees now captured in the database.**



7. Contribution to targets

Targets/key steps from Chapter 1 (Healthy ecosystems) of the '2020 Challenge for Scotland's Biodiversity'	Contribution to key step	Justification
1.1 Encourage and support ecosystem restoration and management, especially in catchments that have experienced the greatest degradation	✓	Seven Lochs Wetland Park project is a landscape scale project which encourages and supports ecosystem restoration and management
1.2 Use assessments of ecosystem health at a catchment level to determine what needs to be done	✓	Seven Lochs Wetland Park project has involved peatland and hydrology studies and ecological monitoring of water courses to inform a Landscape Conservation Action Plan which is now being implemented.
1.3 Government and public bodies, including SNH, SEPA and FCS, will work together towards a shared agenda for action to restore ecosystem health at a catchment scale across Scotland	✓	The implementation of Glasgow LBAP actions contribute to action to restore ecosystem health.
1.4 Establish plans and decisions about land use based on an understanding of ecosystems. Take full account of land use impacts on the ecosystems services that underpin social, economic and environmental health	✓	The City Development Plan Supplementary Guidance 7 'Natural Environment' states that all new developments should conserve and enhance populations of LBAP priority species and that development should not result in biodiversity loss.
3.1 Provide opportunities for everyone to experience and enjoy nature regularly, with a particular focus on disadvantaged groups	✓	GCC-CRS events promote biodiversity to a diverse range of audiences. Glasgow has 12 Local Nature Reserves for biodiversity and public access and enjoyment of nature.
3.2 Support local authorities and communities to improve local environments and enhance biodiversity using greenspace and green networks, allowing nature to flourish and so enhancing the quality of life for people who live there	✓	The implementation of Glasgow LBAP actions.
3.3 Build on good practice being developed by the National Health Service (NHS) and others to help encourage greenspace, green exercise and social prescribing initiatives that will improve health and wellbeing through connecting people with nature	✓	TCV and other volunteers have carried out habitat management in Glasgow parks, local nature reserves and other open spaces.

3.4 Increase access to nature within and close to schools, and support teachers in developing the role of outdoor learning across the Curriculum for Excellence	✓	GCC-CR work with schools for outdoor learning and the Curriculum for Excellence.
3.5 Encourage public organisations and businesses to review their responsibilities and action for biodiversity, and recognise that increasing their positive contribution to nature and landscapes can help meet their corporate priorities and performance	✓	The Council carries out its Biodiversity Duty primarily through the implementation of the LBAP and via its Biodiversity Officers.
4.1 Ensure that the management of protected places for nature also provides wider public benefits	✓	Glasgow's Local Nature Reserves provide places for wildlife and for people's enjoyment and access to nature
4.3 Integrate protected areas policy with action for wider habitats to combat fragmentation and restore key habitats	✓	City Development Plan SG7 highlights the need to protect green networks through the planning process.
4.5 Involve many more people than at present in this work and improve understanding of the poorly known elements of nature	✓	TCV, Friends of Parks and other volunteers contribute to habitat management and this helps raise awareness of biodiversity in the city.
5.1 Promote an ecosystem approach to land management that fosters sustainable use of natural resources and puts biodiversity at the heart of land-use planning and decisionmaking	✓	The refreshed LBAP takes an ecosystem approach to habitats and species management.
5.3 Support 'High Nature Value' farming and forestry	✓	Woodlands in GCC ownership are managed for wildlife and recreation. Over 80 hectares of farmland at Carmunnock, Pedmyre and Windlaw is managed positively for biodiversity.
5.4 Put in place the management necessary to bring Scotland's protected areas into favourable condition and improve the ecological status of water bodies	✓	Management of Cart & Kittoch SSSI aims to bring the site into favourable condition. LNRs are managed to conserve and enhance biodiversity. Glasgow's pond naturalisation programme is improving the ecology of city park ponds.
5.6 Restore and extend natural habitats as a means of building reserves of carbon and to help mitigate climate change	✓	Restoration of Commonhead Moss raised bog by installing dams to raise the water level. City-wide pond creation and naturalisation, woodland and hedge planting, grassland management and meadow creation.
5.7 Provide clear advice to land and water managers on best practice	✓	GCC-NS Natural Environment Officers provide advice on habitat and species management to other Council staff

Biodiversity Monitoring Report

April 2017 - March 2018

1. Background and Context

- 1.1** This report has been compiled by Land and Environmental Services' Natural Environment Team (Biodiversity), with the support of the Council's partners in the Glasgow Biodiversity Partnership. The purpose of the partnership is to bring a broad range of expertise to the development of Glasgow's Local Biodiversity Action Plan (LBAP). The Council established a Glasgow Biodiversity Partnership consisting of representatives from 16 different environmental organisations. Key partners include Scottish Natural Heritage (SNH), Forestry Commission Scotland (FCS), Scottish Environment Protection Agency (SEPA) and the Royal Society for the Protection of Birds (Scotland) (RSPB) along with other environmental interest groups.
- 1.2** The refreshed LBAP (2018-2028) and a Glasgow Pollinator Plan (PP) (2017-2027) have been produced.
- 1.3** Monitoring is a crucial part of the process and this report summarises the outcomes of the 14th Monitoring Report of Glasgow's Local Biodiversity Action Plan and early outcomes from the Pollinator Plan.
- 1.4** Over the past year, the Natural Environment Team has been working with its partners to deliver the implementation of a number of key actions as detailed within Glasgow's LBAP and PP.
- 1.5** Projects and actions reported on are related back to the relevant actions from the new LBAP and PP to ensure that monitoring tracks the Implementation Plans for both documents. Other projects and activities help achieve the general aims and objectives of the LBAP by improving biodiversity in the city.
- 1.6** Under the Nature Conservation (Scotland) Act (2004), all public bodies in Scotland are required to further the conservation of biodiversity when carrying out their responsibilities. The Council fulfils this primarily through the implementation of the Glasgow LBAP.
- 1.7** The Wildlife and Natural Environment (Scotland) Act (2011), further requires public bodies in Scotland to provide a publicly available report, every three years, on the actions they have carried out to meet the biodiversity duty.
- 1.8** The content of this annual biodiversity report will contribute towards the statutory Biodiversity Duty Report due for publication in January 2021.

2. Monitoring Report

2.1 The year to end March 2018 saw further progress on the main Ecosystems and useful work being undertaken for several species groups, including Water Vole which have specific actions in the LBAP Implementation Plan. Many initiatives are on-going; however, each year there are new projects and activities.

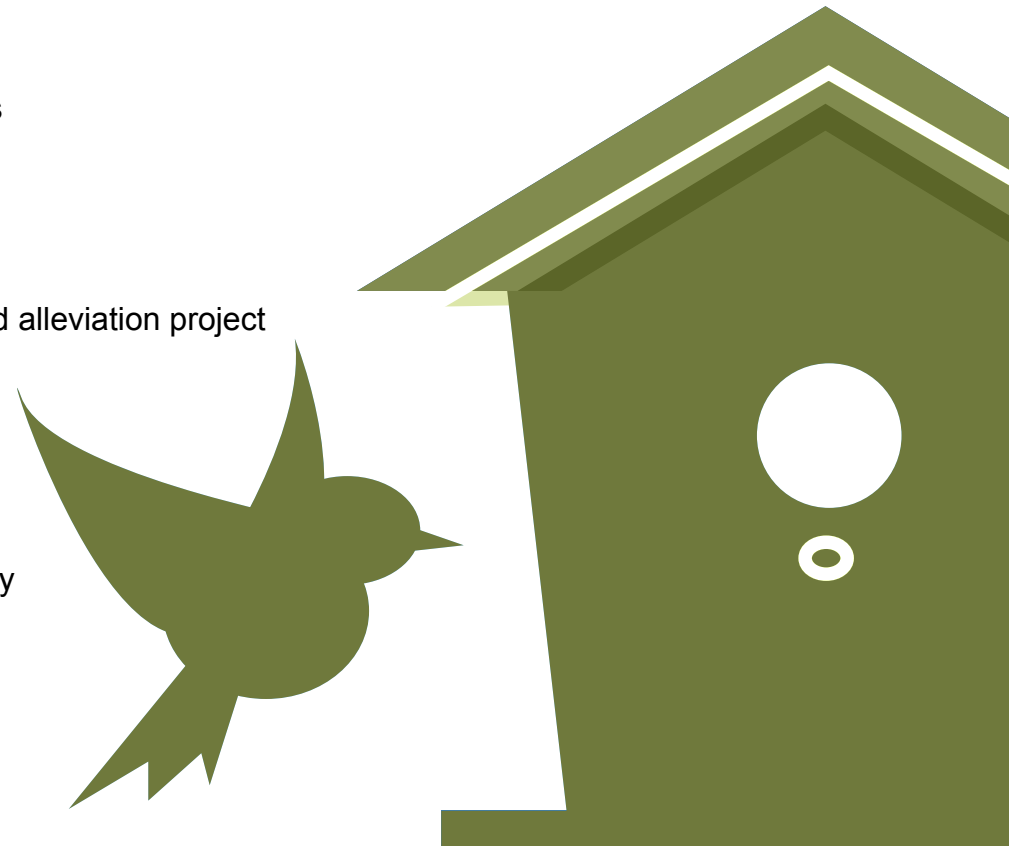
A project or activity reported on in the monitoring report may help to achieve one or more actions within the LBAP and PP, therefore each project or activity is tagged, where applicable, using the numbered actions within the LBAP and PP Implementation Plans and the following key:

UP	Urban: Parks and Open Spaces
UA	Urban: Awareness Raising
G	Grassland
WO	Woodland
W	Wetland
F	Farmland
WV	Water Vole
PP	Pollinator Plan
Other projects and activities help achieve the general aims and objectives of the LBAP by improving biodiversity in the city.	

2.1.1 Urban: Parks and Open Spaces

- ▶ Biological records sent six-monthly by GCC Natural Environment Officers (Biodiversity) to the Glasgow Biological Records Centre (UP1)
- ▶ 25,000 new biological records added to audit (UP1)
- ▶ Natural Environment Officer (Biodiversity) contributed to Botanic Gardens Bioblitz (UP1, UAR18)
- ▶ Extension to Hogganfield Park LNR declared on 12/3/18 (UP2)
- ▶ LNR vision prepared (UP2)
- ▶ Butterfly transect carried out at Glasgow Museums Resource Centre (UP3,PP17)
- ▶ Butterfly transects carried out at Hogganfield Park and Cardowan Moss by Seven Lochs volunteers (UP3,PP17)
- ▶ Natural Environment Officer (Biodiversity) contributed to the Climate Change Reporting (UP 10)
- ▶ Weekly planning lists monitored by Natural Environment Officer (Biodiversity) for potential biodiversity impacts and enhancement opportunities (UP14)
- ▶ RSPB house sparrow project delivered 12 meadow plots (UP16)
- ▶ RSPB house sparrow project delivered house sparrow boxes across the city (UP17)
- ▶ SINC Review information prepared (UP19)
- ▶ Froglife Green Pathways planted 120 bulbs (crocus, snowdrops) at 4 sites (PP10))
- ▶ Solitary bee population monitoring carried out at Victoria Park (PP16)

- ▶ Refreshed LBAP produced
- ▶ Natural Environment Officer (Biodiversity) attended Green Flag park judging at Kelvingrove Park, Linn Park and Hogganfield Park
- ▶ LES represented by Natural Environment Officer (Biodiversity) on Hamiltonhill Claypits LNR management group
- ▶ Biodiversity information provided for annual GCC climate change update report
- ▶ Bat survey carried out at Bellahouston Park
- ▶ Tree assessments for birds and bats carried out at a variety of locations
- ▶ Cart to Castlemilk Greenspace Feasibility Study carried out
- ▶ Raptor surveys carried out in Seven Lochs Wetland Park area
- ▶ Biodiversity input provided to the Green Infrastructure projects and flood alleviation project at Blairtummock, Cranhill, Croftcroighn and Early Braes
- ▶ Habitat Blueprint workshop organised by GCVGN partnership for Glasgow
- ▶ FoGLNRs monitored bird nest boxes at Bingham's Pond, Hogganfield Park and Dawsholm Park of 20 out of 27 nest boxes were being used by blue tits and great tits



2.1.2 Grassland

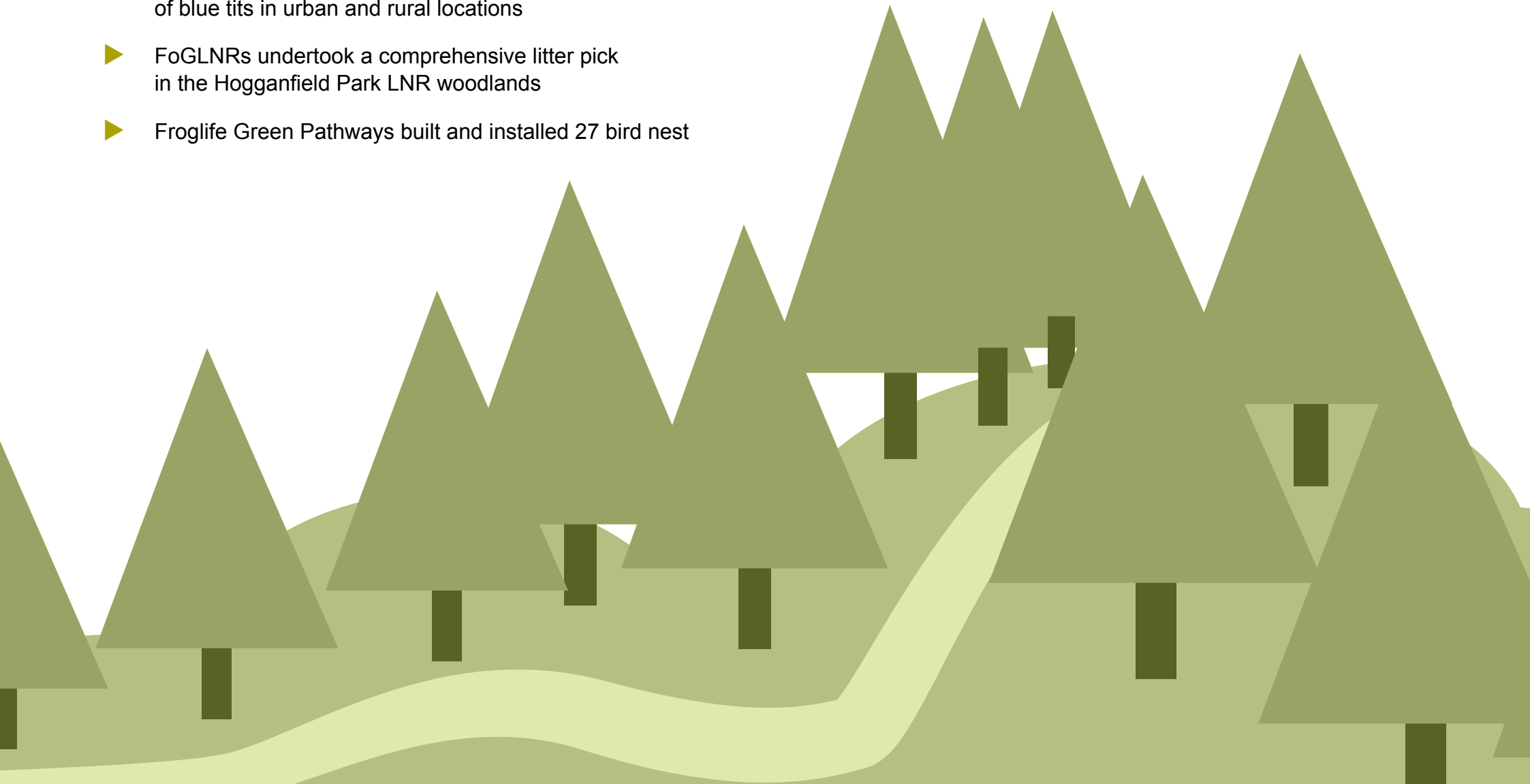
- ▶ Large meadows (8) managed through contract (G2, PP4)
- ▶ FCS managed 5.5 Hectares of acid grassland at Cleddans Burn (G2, PP4)
- ▶ Pictorial meadow strips (1 metre wide) created at the front of uncut grass and seeded with cornfield annuals – 38 strips, totalling 3930 square metres and over 7 kilogrammes of seed (G3, PP5)
- ▶ Wildflower seed provided to create small meadows at Langside Library and Glasgow Botanic Gardens Arboretum (G4,PP7)
- ▶ Wildflower plugs and seed planted at Elder Park (G4)
- ▶ Over 400,000 daffodils and 75,000 mixed bulbs planted citywide. Although non-native, they can contribute to pollinator nectar sources
- ▶ Vegetative grassland species ID training for CRS
- ▶ Froglife Green Pathways worked with young people to create wildflower areas in 7 sites across Glasgow, totalling 26 square metres of area in planters, raised beds and previously mown grass areas.



2.1.3 Woodlands

- ▶ FES removed invasive species – Japanese Knotweed and Himalayan Balsam from across
- ▶ Auchenshuggle, Easterhouse and Drumchapel woodlands (WO11)
- ▶ Seven Lochs volunteers collected willow at Bishop Loch and replaced an existing willow fence at
- ▶ entrance to site. Now a living willow fence of 100 metres length
- ▶ Seven Lochs volunteers carried out woodland thinning at Todd's Well (WO11)
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- ▶ Seven Lochs volunteers created a short section of Hazel fencing at Cardowan Moss
- ▶ Seven Lochs volunteers planted 800 native trees and laid 60 metres of Hawthorn hedge
- ▶ Glasgow University carried out research on breeding success of blue tits in urban and rural locations
- ▶ FoGLNRs undertook a comprehensive litter pick in the Hogganfield Park LNR woodlands
- ▶ Froglife Green Pathways built and installed 27 bird nest

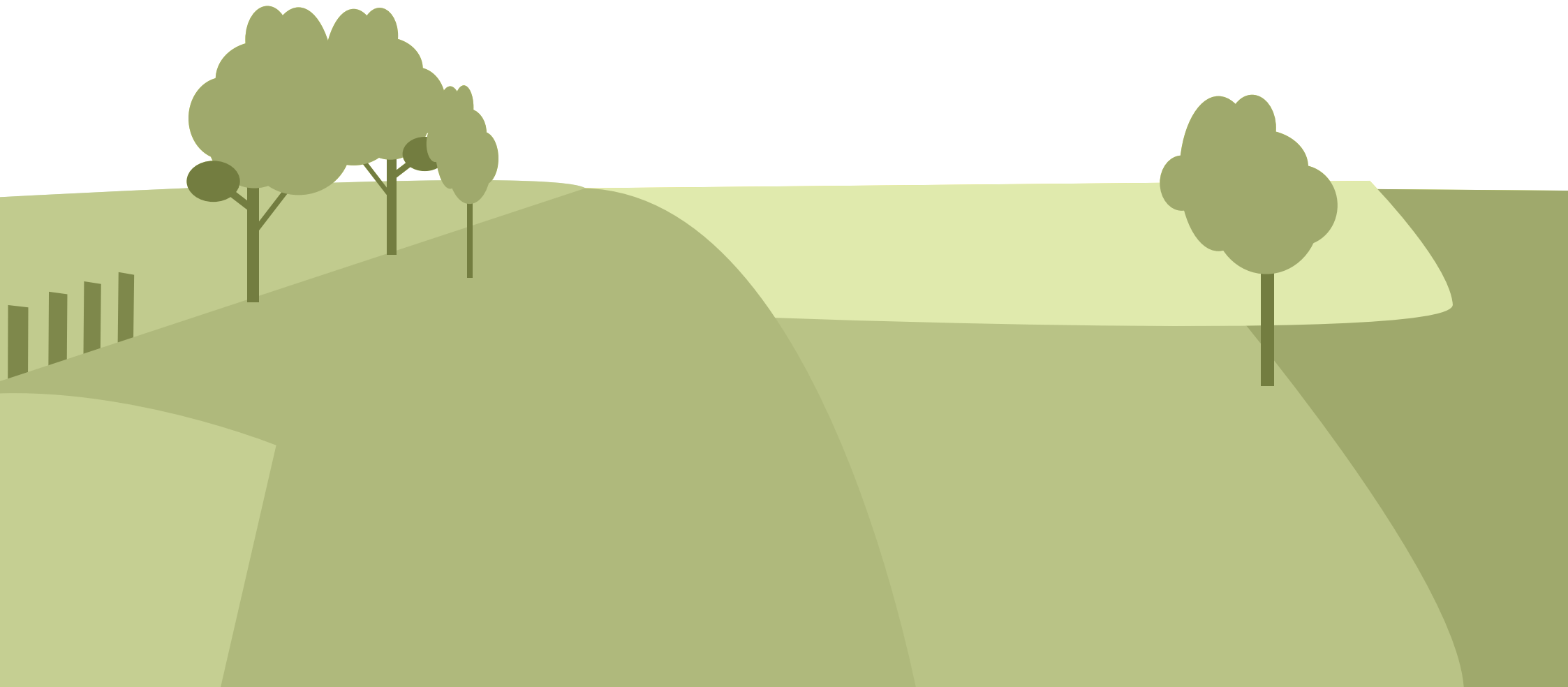


2.1.4 Wetland

- ▶ Annual blue-green algal monitoring carried out (W1)
- ▶ Water quality sampling carried out at Hogganfield Loch (W3)
- ▶ Large Biohavens launched at Hogganfield Loch (W7)
- ▶ Trial of low ground pressure specialist equipment on loan from SNH at Robroyston Park LNR, Hogganfield Park LNR and Craigend Moss to manage for water voles, damp meadow and marsh (W7)
- ▶ Common Frog population monitoring 2018 initiated (W8)
- ▶ FoGLNRs monitored usage of the 5 original biohavens on Hogganfield Loch – 2 pairs of Great Crested Grebe nested on the artificial islands with one pair being successful in raising young (W14)
- ▶ Millerston-Robroyston Phase 1 survey carried out
- ▶ Springburn Park SINC biodiversity improvements included vegetation removal from ponds to increase area of open water, and thinning of island vegetation to create nesting areas for waterfowl
- ▶ Queen's Park duck pond repaired and a 'beach' created adjacent to the island, vegetation removal and a diversity of marginal plantings to improve habitat for waterfowl and amphibians
- ▶ Victoria Park fossil grove pond repaired and aquatic native plants added as egg-laying plants for the Palmate Newt population
- ▶ Pond reinstated at Bellahouston Park Demonstration Garden by LES in conjunction with Froglife and Govan High School
- ▶ Pond created at Croftburn Allotments by Froglife
- ▶ FES staff hand-pulled Himalayan Balsam along Cleddans Burn
- ▶ Froglife Green Pathways restored 11 ponds, created 2 new ponds, 3 new mini-ponds and 2 new bog gardens.

2.1.5 Farmland

- ▶ Meadow management carried out at Carmunnock (F1)
- ▶ Cattle grazing used for habitat management at Carnbooth and Pollok Country Park (F2).



2.1.6 Water Vole

- ▶ Ecological consultant produced draft water vole receptor site report (WV1)
- ▶ Successful grants from the People's Trust for Endangered Species (PTES) and SNH towards the post of water vole project officer (WV2)
- ▶ Regular fossorial water vole meetings held with partner organisations (WV3)
- ▶ Water vole survey carried out at Garscadden Burn in Knightswood Park and Knightswood area (W5,WV10)
- ▶ Water vole survey carried out at Lethamhill (W5, WV10)
- ▶ Glasgow's Wetland and Grassland Water Voles' leaflet published and available online (WV5)
- ▶ Water vole poster produced (WV5)
- ▶ 'Water Voles in Grasslands and Gardens' factsheet uploaded to GCC website (WV5)
- ▶ Regular update of water vole records sent to Glasgow Biological Records Centre (WV6)
- ▶ Water vole trigger map produced for GCC-DRS (WV6)
- ▶ CRS fossorial water vole surveys carried out (WV13)
- ▶ Water vole article published in the Journal of Urban Ecology
- ▶ Student water vole video launched and promoted by Seven Lochs Wetland Park, GCC, water vole project Facebook page, University of Glasgow, Glasgow Natural History Society and RSPB
- ▶ GCC webpage www.glasgow.gov.uk/watervoles regularly updated.

2.1.7 Urban: Awareness Raising

- ▶ Glasgow Pollinator Plan produced (UA2)
- ▶ CRS delivered 155 Curriculum for Excellence (Cfe) sessions (UA5)
- ▶ CRS worked with almost 4000 pupils in 83 schools
- ▶ CRS held 41 Wild About Glasgow events (UA7)
- ▶ CRS held 65 events in total with 6,300 attendees
- ▶ CRS worked with volunteers carrying out 4000 hours
- ▶ Seven Lochs volunteers carried out tasks including scrub removal, wildflower planting and litter removal at a number of sites
- ▶ Seven Lochs Heritage Volunteering Officer organised a series of Family Explorer Walks with nature based themes
- ▶ Cathkin Braes LNR Celebration held in September (UA6)
- ▶ FoGLNRs attended Cathkin Braes celebration, providing wildlife information and undertaking a litter pick (UA6)
- ▶ Schools' Biodiversity Day held at Dams to Darnley LNR (UA6)
- ▶ Hogganfield Park LNR 20th birthday celebration held (UA6)
- ▶ FoGLNRs produced two leaflets about Hogganfield Park LNR and the birds recorded there (UA10)
- ▶ Friends of Glasgow's LNRs won the GCC Environmental Initiative at the Evening Times Streets
- ▶ Ahead Awards 2017 for work on floating islands at Hogganfield Park LNR (UA11)
- ▶ FoGLNRs carried out 5 wildfowl feeding and education events at Hogganfield Park LNR (UA11)

- ▶ Seven Lochs volunteers carried out wildflower planting, pond creation and learned hedge-laying skills at Hogganfield Park LNR (UA11)
- ▶ RSPB worked in Kelvingrove Park to deliver environmental education through outreach sessions and John Muir and pre-5 education – engaged with 1787 children
- ▶ RSPB bulb planting and annual wildflower seeding at Kelvingrove Park as part of GNAH (UA12)
- ▶ RSPB engaged with 6 schools for priority species – water vole, garden bumblebee, swift and house sparrow. This included planting at 6 locations to improve habitat for the chosen species(UA13)
- ▶ RSPB delivered outreach through Aldi funded officer post to 4911 children (UA13)
- ▶ RSPB delivered CPD to Glasgow University and University of West of Scotland, engaging with 500 students (UA13)
- ▶ RSPB Events Co-ordinator, Glasgow Wildlife Garden Festival 2018 appointed (UA14)
- ▶ Give Nature a Home annual Wildfest month long festival held (UA14)
- ▶ RSPB annual Wild Fest launched in March (UA14)
- ▶ TCV Corporate volunteers from RBS completed 148 hours of habitat enhancement work (including beebank creation and hibernacula creation) at Garscadden Burn and Springburn Park SINC's (UA16)
- ▶ TCV mid-week group volunteers completed 536 hours of habitat enhancement work including: work on meadow management and restoration at 9 Parks, 4 LNRs and Cart and Kittoch SSSI; woodland management at Cart and Kittoch SSSI and Dams to Darnley LNR and wetland habitat enhancement in Toryglen (UA16)
- ▶ Bellahouston Park Demonstration Garden – swift habitat installed and 2 wildflower verges maintained by LES in conjunction with RSPB and Ibrox Primary School, involving 20 volunteer hours (UA16)
- ▶ New display case at Kelvingrove Museum, completed summer 2017, looks at conservation issues world-wide and uses Glasgow-related examples (UA18)
- ▶ Bee Bank created at Springburn Park by corporate volunteers (PP15)
- ▶ Woodland wildflowers planted at Springburn Park by corporate volunteers (PP15)

- ▶ Glasgow Museums Resource Centre hosted a micro moth workshop run by Butterfly Conservation and attended by local vice county moth recorders and others (PP15,16)
- ▶ RSPB worked with 20 partner organisations to deliver 23 walks and talks and 340 connections to nature with 1500 people attending the Botanic Gardens Bioblitz
- ▶ Biodiversity Officer attended the annual Biodiversity Stakeholders' Conference at SNH Battleby
- ▶ Biodiversity Officers attended bi-annual Biodiversity Network meetings
- ▶ Wildlife Haven – this area is managed for biodiversity' signage installed at various sites across the city
- ▶ 'Feed Birds Responsibly' signage installed at various parks
- ▶ 'Launch of Glasgow City region Green Network Strategy (CSGN)
- ▶ 'Biodiversity information formed part of the 'Kelvin in the Kibble' display
- ▶ 'Glasgow Natural History Society undertook field excursions to Cardowan Moss, Victoria Park and Ruchill Park
- ▶ 'Kelvin in the Kibble display held
- ▶ 'Glasgow Natural History Society provided 4 bursaries towards attendance at FSC taxonomy courses
- ▶ The 'Glasgow Naturalist' 2017 issue included a series of papers on the wildlife of the River Kelvin; and a note on Giant Puffballs in Queen's Park
- ▶ CRS gave a presentation on wildlife to Friends of Glasgow Green
- ▶ Froglife Green Pathways attended 11 events to provide information and awareness of biodiversity, amphibian and reptile conservation and Froglife's work in Scotland
- ▶ Froglife Green Pathways worked with 23 different groups of young people (aged 5-25) and a total of 1,720 young people and 200 people over the age of 25

Acronyms

CPD	Continued Professional Development
CRS	Countryside Ranger Service
CSGN	Central Scotland Green Network
DRS	Development & Regeneration Services
FCS	Forestry Commission Scotland
FES	Forest Enterprise Scotland
FoGLNRs	Friends of Glasgow's Local Nature Reserves
GCC	Glasgow City Council
GCVGN	Glasgow & Clyde Valley Green Network
GNAH	Giving Nature a Home
LBAP	Local Biodiversity Action Plan
LES	Land & Environmental Services
LNR	Local Nature Reserve
PP	Pollinator Plan
RBS	Royal Bank of Scotland
RSPB	Royal Society for the Protection of Birds

Biodiversity Monitoring Report

April 2018 - March 2019

1. Monitoring Report

- 1.1** The year to end March 2019 saw further progress on the main Ecosystems and useful work being undertaken for several species groups, including Water Vole which have specific actions in the LBAP Implementation Plan. Many initiatives are on-going; however, each year there are new projects and activities. A project or activity reported on in the monitoring report may help to achieve one or more actions within the LBAP and PP while other projects and activities help achieve the general aims and objectives of the LBAP by improving biodiversity in the city.

1.1.1 Urban: Parks and Open Spaces

Action	Date	Lead	Progress
Maintain and update the Biological Audit	2018-2023	GL	<ul style="list-style-type: none"> ▶ Large number of records added to the database. Currently 6,200 species and a further 395 peripheral specie ▶ Biological records sent six-monthly by GCC Natural Environment Officers (Biodiversity) to the Glasgow Biological Records Centre ▶ The Countryside Rangers provided 466 records for the audit ▶ Robroyston Park LNR bioblitz carried out and species recorded to audit ▶ Castlemilk Park Community Woodland Officer involved volunteers in recording various species ▶ Friends of Garnethill Green Spaces monitored the bird life in their community garden
Designate additional LNRs to reach target of 1 hectare per 1,000 population	2023	GCC-NS	<ul style="list-style-type: none"> ▶ Declaration of Hogganfield Park LNR extension in March 2018 promoted through GCC twitter feed
Continue to co-ordinate butterfly transects at a minimum of 4 sites	2018-2023	GCC-NS/BC	<ul style="list-style-type: none"> ▶ See pollinator plan
Deliver Community Rewilding project across Yoker area, engaging with local communities to plant wildflowers, trees and wilding of sites	2018-2019	TCV	<ul style="list-style-type: none"> ▶ TCV worked with local volunteers to design and install a multi-layered perennial forest garden on a piece of underutilized amenity green space in Yoker. A canopy layer of fruit, nut, and seed trees were planted with nitrogen fixing and food producing, shrubs and herbs were planted to form the lower layers. Edible native meadow varieties were planted to fill in gaps while the garden canopy is still developing and there is less shade. In total over 40 varieties of edible plants are growing in the space. The perennial plant species will form a system that maintains soil fertility and improves soil structure, while providing access to foraged fruits and vegetables and a wildlife environment to the local community with minimal maintenance requirements.

BC: Butterfly Conservation **GCC-DRS:** Glasgow City Council-Development and Regeneration Services **GCC-NS:** Glasgow City Council-Neighbourhoods and Sustainability **GL:** Glasgow Life **TCV:** The Conservation Volunteers

Action	Date	Lead	Progress
Develop Citizen Science and Environmental Monitoring projects for key habitats and species	2018-2023	TCV/ GCC-NS	<ul style="list-style-type: none"> ▶ TCV has developed a brand new Citizen Science survey - The Dead Good Deadwood Survey. This is funded by the Scotland Counts Partners - SNH, Scottish Government and Scottish Forestry. ▶ TCV designed and produced a deadwood survey pack that is simple and accessible for all. ▶ The aim of this survey is to increase knowledge and understanding of the importance of deadwood and also allows participants to record its associated wildlife. ▶ TCV have been funded by The British Hedgehog Preservation Society to run a hedgehog mapping and monitoring project until July 2020. ▶ TCV have 50 volunteers who are trained hedgehog volunteers and have assisted on survey nights. Yorkhill Green Spaces installed bat boxes and insect hotels in Overnewton Park and Cherry Park
Ensure SUDS designs incorporate biodiversity	2018-2023	GCC- DRS/ GCC-NS	<ul style="list-style-type: none"> ▶ Comments on individual planning applications provided to support biodiversity-rich SUDS where appropriate ▶ SUDS are required for all new developments. SUDS design referenced in City Development Plan the statutory planning document (adopted 2017). CDP8 Water Environment 'SUDS should be designed to deliver enhancements for biodiversity and people.'
Seek to assess and update the list of derelict sites of particular importance for biodiversity and outline management needs	2018-2023	Buglife	▶ Ongoing
Maintain swift trigger map showing locations citywide of flocking/breeding swifts	2019	GCC-NS/ RSPB	<ul style="list-style-type: none"> ▶ Swift trigger map maintained ▶ Swift advisory note provided to GCC-DRS for planning applications

BC: Butterfly Conservation **GCC-DRS:** Glasgow City Council-Development and Regeneration Services **GCC-NS:** Glasgow City Council-Neighbourhoods and Sustainability **GL:** Glasgow Life **TCV:** The Conservation Volunteers

Action	Date	Lead	Progress
Aim to ensure connectivity of integrated habitat networks throughout the city through the planning process	2018-2023	GCC-DRS/ NS	<ul style="list-style-type: none"> ▶ Comments made on planning applications ▶ Integrated habitat networks referenced in CDP7 Natural Environment. The Consultative Draft Open Space Strategy section 13 'Connecting Habitats' seeks to further the conservation of biodiversity and deliver greater connectivity between the City's habitats to help inform current and future need for open space. Worked with partners, GCV, to produce the recently released Green Network Blueprint which develops a strategic habitat network.
Align LBAP to emerging Parks and Greenspaces Vision	2020	GCC-NS	<ul style="list-style-type: none"> ▶ Biodiversity information provided for annual GCC climate change update report ▶ Implementation of the LBAP is a key action within the new Parks Vision document.
Ensure biodiversity is considered within the Glasgow Open Space Strategy	2018-2019	GCC-DRS/ GCC-NS	<ul style="list-style-type: none"> ▶ CSGN workshops held to identify green networks through Glasgow and beyond to map, protect and enhance habitats ▶ The importance and benefits of biodiversity are referenced throughout the Consultative Draft Open Space Strategy especially sections: 8. Growing spaces; 11. Surface Water Management; 12. Protecting Sites and Species; and 13. Connecting Habitats.
Ensure that biodiversity is considered in the Stalled Spaces planning process	2018-2023	GCC-DRS	<ul style="list-style-type: none"> ▶ See pollinator plan actions ▶ Biodiversity is strongly considered in the Stalled Spaces process. ▶ A number of projects with biodiversity benefits such as urban growing, environmental education, natural play, and green network improvements have been supported and continue to be welcomed.
Encourage the development of Green Roofs through the planning process	2018-2023	GCC-DRS	<ul style="list-style-type: none"> ▶ Green Roofs are suggested as an option in policy. The City Development Plan recognises green roofs as an element of the green network in CDP6. Green roofs are recognised as a way of enhancing biodiversity in SG7 and as a water management method in SG8.

GCC-DRS: Glasgow City Council-Development and Regeneration Services GCC NS: Glasgow City Council-Neighbourhoods and Sustainability

Action	Date	Lead	Progress
Ensure new developments enhance biodiversity wherever possible	2018-2023		<ul style="list-style-type: none"> ▶ Weekly planning lists monitored by Natural Environment Officer (Biodiversity) for potential biodiversity impacts and enhancement opportunities ▶ In policy terms, CDP 7 Natural Environments seeks to ensure that 'new development should not have an unacceptable effect, either directly, indirectly, or cumulatively' on biodiversity. Supplementary Guidance ▶ 7: Natural Environment contains information and examples for new developments in section 5 Enhancing Biodiversity ▶ Bid for Green Infrastructure Funding in support of North Toryglen TRA Greenspace, aiming to enhance this greenspace in terms of appearance, connectivity and biodiversity through investment in woodland, wetland and parkland
Encourage incorporation of spaces for building dwelling species such as swift in new buildings where appropriate	2018-2023		<ul style="list-style-type: none"> ▶ Advisory note produced for new developments. Consideration being given on how we can better implement the development plan provision on enhancing biodiversity in new development, providing a stronger position on swift boxes and other biodiversity measures.
Create and maintain House Sparrow Plots as funding allows	2018-2023		<ul style="list-style-type: none"> ▶ RSPB house sparrow project delivered 12 meadow plots
Erect a minimum of 30 House Sparrow boxes at targeted sites across the city	2018-2023		<ul style="list-style-type: none"> ▶ RSPB house sparrow project delivered house sparrow boxes across Glasgow
Undertake Phase 1 Habitat Survey of Pollok Country Park	2018-2019		<ul style="list-style-type: none"> ▶ Ongoing and forms part of the Pollok Country Park Working Group actions
Undertake a review of SINCS	2018-2023		<ul style="list-style-type: none"> ▶ SINC review brief produced ▶ The Council are currently in the process of procuring an external consultancy to undertake a year-long study of all SINCs to identify whether their status as a SINC is correct and their boundaries are relevant.

GCC-DRS: Glasgow City Council-Development and Regeneration Services GCC-NS: Glasgow City Council-Neighbourhoods and Sustainability RSPB: Royal Society for the Protection of Birds

Other actions for Urban: Parks and Open Spaces

- ▶ Natural Environment Officer attended Biodiversity network meeting in East Dunbartonshire
- ▶ FoGLNRs monitored bird nest boxes at Bingham’s Pond, Hogganfield Park LNR and Dawsholm Park LNR – 20 out of 26 boxes were being used by Blue Tits (13) and Great Tits (7)
- ▶ Nest boxes installed at the courtyard, Glasgow Museums Resource Centre, Nitshill

1.1.2 Grassland

Action	Date	Lead	Progress
Update grassland map on GIS	2018	GCC-NS	▶ Grassland sites mapped on GIS showing year and area of cuts.
Manage 30 key grassland sites as traditional meadows in a sustainable manner, on GCC land	2018-2023	GCC-NS	<ul style="list-style-type: none"> ▶ Large meadows (9) managed through contract ▶ TCV undertook scrub removal from meadows at Robroyston Park LNR ▶ TCV undertook work on meadow management and restoration at 4 Parks, 5 LNRs and Cart and Kittoch SSSI ▶ FCS managed meadow at Cleddans Burn by cut and lift
Enhance areas of unmown grassland by introducing local provenance wildflowers. Enhance 1 hectare annually	2018-2023	GCC-NS	<ul style="list-style-type: none"> ▶ Pictorial meadow strips (1 metre wide) created at the front of uncut grass and seeded with cornfield annuals – 42 strips, totalling 4,180 square metres and over 8 kilogrammes of seed ▶ Currently assessing areas across the city for wildflower creation amounting to totalling 9,000 square metres
Create or extend 5 new meadows citywide	By 2023	GCC-NS	▶ Development of new meadows at Springburn Park

GCC-NS: Glasgow City Council-Neighbourhoods and Sustainability

Action	Date	Lead	Progress
Enhance existing meadows by wildflower planting at 8 sites	2018-2023	GCC-NS	<ul style="list-style-type: none"> ▶ Volunteers planted 1,649 wildflowers at LNR celebration days ▶ RSPB planted wildflower meadows at Cardowan Moss with 7 Lochs and Ambassador schools
Establish and identify mechanism to maintain GCC wildflower nursery at Pollok Country Park	2018-2023	GCC-NS	▶ Flower Power nursery at Pollok CP maintained with volunteer support
Encourage sowing and growing of Scottish provenance wildflowers	2018-2023	GCC-NS	▶ Wildflower area at Bellahouston Park nursery tidied, stock audit carried out and self-seeders potted up for use Yorkhill Green Spaces sowed wildflower seed at Overnewton Park and Cherry Park
Trial new council cut and collect equipment for meadow management	2018-2019	GCC-NS	▶ Currently being researched by NS Operations officers.
Implement dwarf shrub heath annual management at 1 site	2018-2023	GCC-NS	▶ Ongoing
Carry out survey of rare plants (Burnet-saxifrage) annually	2018-2023	GCC-NS	▶ Burnet-saxifrage surveyed
Carry out annual management of Glasgow Museums Resource Centre meadow	2018-2023	GL	▶ Annual management of meadow carried out
Enhance water vole meadow at The Bridge, Easterhouse	2018-2023	GL/SLWP	▶ Meadow enhanced and managed for water voles

GL: Glasgow Life GCC-NS: Glasgow City Council-Neighbourhoods and Sustainability SLWP: Seven Lochs Wetland Park

1.1.3 Woodland

Action	Date	Lead	Progress
National Vegetation Classification (NVC) survey of Pollok Country Park Wood Pasture and Parkland Habitat to identify exact species compositions and conditions as base point for future management planning and assessments	2018-2023	GCC-NS	▶ GCC Natural Environment Officer (Woodlands) recruitment currently being progressed to lead on this action.
Individual management plans for Ancient and Veteran trees within Wood Pasture and Parkland Habitat in Pollok Country Park	2018-2023	GCC-NS	▶ GCC Natural Environment Officer (Woodlands) recruitment currently being progressed to lead on this action
Improve condition of Upland Mixed Ashwoods and Upland Oakwoods woodlands at Cart and Kittoch SSSI	2018	GCC-NS	▶ GCC Natural Environment Officer (Woodlands) recruitment currently being progressed to lead on this action
Assess all UK BAP Woodland Priority Habitat types (excluding Lowland Mixed Deciduous Woodland), to confirm council ownership and establish woodland condition and management requirements	2018-2023	GCC-NS	▶ GCC Natural Environment Officer (Woodlands) recruitment currently being progressed to lead on this action

GCC-NS: Glasgow City Council-Neighbourhoods and Sustainability

Action	Date	Lead	Progress
Commence citywide NVC survey of woodlands (not already surveyed) to ascertain UK BAP Priority Habitats extent in Glasgow	2018-2023	GCC/NS	▶ GCC Natural Environment Officer (Woodlands) recruitment currently being progressed to lead on this action
Develop 8 Urban Woodland Management Plans for larger woodlands city-wide (over 400 hectares in total)	2018-2023	GCC-NS	▶ Cart and Kittoch SSSI Management Plan produced
Deliver a woodland management strategy for the Greater Easterhouse area	2018-2023	GCC-DRS	▶ Potentially being explored in the upcoming Strategic Development Framework for Greater Easterhouse
Promote woodland as a temporary greening and bioremediation on vacant and derelict land	Ongoing	GCC-NS/DRS	▶ Temporary greening and bioremediation on vacant and derelict land continues to be supported through Stalled Spaces.
Create 3 new woodlands within city boundary (or expansion of existing woodlands) totalling 10 hectares or more	2018-2023	GCC-NS	<ul style="list-style-type: none"> ▶ TCV undertook tree planting at Cathkin Braes as part of re-establishment of semi-natural broad-leaved woodland on the Braes - 1.8 hectares ▶ Woodland planting carried out to enhance Castlemilk Park woodlands ▶ TCV undertook woodland planting at Provanmill (M80) wildlife corridor - 0.5 hectares ▶ Yorkhill Green Spaces planted trees in Cherry Park
Protect and enhance habitats for wildlife as part of continued management at Drumchapel and Easterhouse Woods lease	2018-2023	FALS	▶ Wildlife habitats protected and enhanced through the implementation of management plans at Drumchapel and Easterhouse woodlands

GCC-DRS: Glasgow City Council-Development and Regeneration Services GCC-NS: Glasgow City Council-Neighbourhoods and Sustainability SLWP: Seven Lochs Wetland Park SNH: Scottish Natural Heritage U of G: University of Glasgow

Action	Date	Lead	Progress
Remove invasive species where appropriate and manage sites to encourage a varied tree age, species and structure at Drumchapel and Easterhouse Woodlands	2018-2021	FALS	<ul style="list-style-type: none"> ▶ FCS undertook Japanese Knotweed treatment at Drumchapel and Easterhouse woods ▶ FCS undertook woodland thinning at Drumchapel woods ▶ FCS installed three nest planted exclosures of Oak at Bishop Loch to improve understorey planting
Carry out annual monitoring of rare woodland plants	2018-2023	GCC-NS	▶ Countryside Rangers counted Toothwort spikes with volunteer help
Undertake strategic tree planting programme annually	2018-2023	GCC-NS	▶ 150 trees planted with associated 1,000 square metres of new sown perennial wildflower meadow at Blairdardie and a further 200 square metres of plug planting in Waverley Gardens

Other actions for woodland:

- ▶ 75 metres of native species hedgerow planted at Trinley Brae Allotments in Knightswood
- ▶ Alders planted at Old Station Park on request from community group
- ▶ FCS carried out tree work and willow thinning at Auchenshuggle Wood
- ▶ Castlemilk Park Community Woodland Officer carried out bat recording and installed 15 bat boxes – Common Pipistrelle were recorded using the boxes
- ▶ Castlemilk Park Community Woodland Officer carried out species monitoring
- ▶ 500 native trees planted by volunteers during LNR celebration days

FAL: Forestry and Land Scotland **GCC-NS:** Glasgow City Council-Neighbourhoods and Sustainability

1.1.4 Wetland

Action	Date	Lead	Progress
Carry out annual blue green algae monitoring at 43 sites citywide	2018-2023	GCC-NS	▶ Annual blue-green algae monitoring carried out at 43 ponds citywide
Carry out annual WeBS counts at 15 key sites	2018-2023	GCC-NS	▶ GCC Countryside Rangers continue to monitor key sites for wetland birds
Carry out water quality tests at key sites - Hogganfield Loch, Queen's Park, Richmond Park and Knightswood Park ponds	2018-2023	GCC-NS	▶ Water quality sampling carried out at Hogganfield Loch ▶ Water quality sampling taking place at Richmond Park during 2019-2020 ▶ Timescales for Queen's Park and Knightswood Park Pond Water
Naturalise 50% of Queen's Park boating pond	2018-2019	GCC-NS	▶ GCC NS will continue to engage and assist interested parties towards building support for this proposal.
Carry out riparian water vole surveys at 2 sites per year	2018-2023	GCC-NS	▶ Water vole surveys carried out at Garscadden Burn Park and Garscasprindden Burn through Knightswood Park and adjacent areas
Identify Bog Rosemary populations and monitor health and spread	2018-2023	GCC-NS	▶ Ongoing.

GCC-NS: Glasgow City Council-Neighbourhoods and Sustainability

Action	Date	Lead	Progress
Monitor frog populations at Robroyston Park and Cathkin Braes, to assess health of population in north and south of city	2018-2023	GCC-NS	▶ Common Frog population monitoring carried out by Countryside Rangers, TCV, and volunteers
Carry out wetland management at 5 Local Nature Reserves, including water level control at Robroyston Park for wading birds	2018-2023	GCC-NS	▶ TCV undertook wetland habitat enhancement in Toryglen ▶ FoGLNRs monitored usage of the 5 original biohavens at Hogganfield Loch – 1 pair of Great Crested Grebe and 1 pair of Moorhen nested on them with numerous other species using them to rest and preen
Continue to restore 3 raised bogs and monitor results for water levels and biodiversity	2018-2023	SLWP/ GCC-NS	▶ Water levels recorded at Commonhead Moss and Bog Myrtle and birch removed
Promote river restoration and deculverting projects	2018-2023	GCC- DRS	▶ CDP8: 'with reference to the Scotland River Basin Management Plan, new development proposals should take opportunities to reinstate natural flood management measures, including the removal of culverts.' The Council and partners through the MGSDP are delivering deculverting projects such as Cardowan and Sandyhills Park
Monitor INNS and protected freshwater fish species	2018-2023	CRF	▶ No report received to date
Monitor snipe species at key wetland sites	2018-2023	GCC-NS	▶ Common Snipe and Jack Snipe monitored at Windlaw Marsh

CRF: Clyde River Foundation GCC-DRS: Glasgow City Council-Development and Regeneration Services GCC-NS: Glasgow City Council-Neighbourhoods and Sustainability SLWP: Seven Lochs Wetland Park

Action	Date	Lead	Progress
Implement Integrated Green Network proposals as part of the Cardowan Surface Water Management Plan and Blairtummock	2019	GCC-DRS	▶ Work is underway to deliver the Cardowan Surface Water Management Plan. This involves deculverting and the creation of an attenuation area to manage water through sustainable processes and reduce sewer flooding. The project will deliver multi-functional use of the open space and enable the redevelopment of nearby sites

Other actions for wetland:

- ▶ Victoria Park Fossil Grove pond repaired and enhanced for Palmate Newt population through native species planting
- ▶ Pond naturalisation projects at 8 sites assessed for management works to enhance biodiversity
- ▶ Biodiversity advice provided by GCC Natural Environment Officers on flood alleviation schemes citywide
- ▶ Castlemilk stream bioblitz held by Castlemilk Park Community Woodland Officer and TCV was attended by 60 people

GCC-DRS: Glasgow City Council-Development and Regeneration Services GCC-NS: Glasgow City Council-Neighbourhoods and Sustainability

SLWP: Seven Lochs Wetland Park SNH: Scottish Natural Heritage U of G: University of Glasgow

1.1.5 Farmland

Action	Date	Lead	Progress
Implement wetland management for biodiversity as part of 7 Lochs Wetland Project	2018-2023	SLWP	▶ Wetland habitat creation and management carried out at 3 sites within Seven Lochs Wetland Park
Manage 50 hectares as traditional meadow on GCC owned farmland at Carmunnock	2018-2023	GCC-NS	▶ All meadows at Carmunock cut and lifted
Use cattle grazing as a management tool at Dawsholm Park, Carnbooth and Pollok Country Park	2018-2023	GCC-NS	▶ Cattle grazed at all three sites
Continue hedgerow management by creating new hedges and enhancing existing hedges	2018-2023	GCC-NS	▶ Ongoing discussions with NS Operations and Park Development to enhance the current maintenance processes in place
Maintain and enhance wild bird plot at Carmunnock	2018-2023	GCC-NS	▶ This plot is no longer actively maintained by NS due to other priorities.
Monitor breeding tree sparrow populations at Millichen farms	2018-2023	RSPB	▶ Tree sparrows were ringed by member of Clyde Ringing Group near to Millichen site ▶ Food supplied in feeders for Tree Sparrows near to Millichen site
Develop and deliver the 7 Lochs Co-operative Habitat Restoration project in partnership with landowners and land managers	2018-2021	SLWP	▶ Secured funding for new Species Rich Networks Team (SpRiNT) project in July 2019 to deliver habitat creation, enhancement and management at 15 sites by Sep 2020

CC-NS: Glasgow City Council-Neighbourhoods and Sustainability RSPB: Royal Society for the Protection of Birds SLWP: Seven Lochs Wetland Park

1.1.6 Water Vole

Action	Date	Lead	Progress
Develop and produce water vole Plan	2018-2019	GCC-NS/ SNH/ U of G	▶ Draft 'Interim guidelines for the conservation of grassland water voles' developed by LES, University of Glasgow and SNH
Seek funding to extend the fossorial water vole project. The water vole project is required for scientific monitoring of habitat creation, management and development of guidelines as well as assessing the wider water population dynamics	2018	GCC-NS/ SNH/ U of G	▶ Project extended with funding from Seven Lochs Wetland Park, GCC, SNH and PTES
Host the East End Water Vole Project meetings	2018-2023	GCC-NS	▶ Regular water vole project meetings held ▶ Water Vole Knowledge Exchange workshops hosted by Seven Lochs Wetland Park
Carry out scientific assessment of disturbance caused by grass cutting, under licence	2018-2021	GCC-NS/ SNH/ U of G	▶ Grassland management trial underway with U of G/SNH at SLWP
Develop, review and update guidance on habitat management	2018-2023	GCC-NS/ SNH	▶ Draft Interim Guidelines include information on habitat creation and enhancement
Update water vole distribution map and annually update trigger map for development planning	2018-2023	GCC-NS/ DRS	▶ Distribution map updated

GCC-DRS: Glasgow City Council-Development and Regeneration Services GCC-NS: Glasgow City Council-Neighbourhoods and Sustainability

SLWP: Seven Lochs Wetland Park SNH: Scottish Natural Heritage U of G: University of Glasgow

Action	Date	Lead	Progress
Create fossorial water vole habitat at key sites as part of the Water Voles in the City project (including Blairtummock Park, Cranhill Park, Hogganfield Park and Auchinlea Park)	2018-2021	SLWP	▶ Habitat creation underway at Cranhill, Croftcroighn and Blairtummock Parks as part of Greater Easterhouse green infrastructure project
Trial habitat management at key sites as part of Water Voles in the City project	2018-2021	SLWP	▶ Methodology developed in partnership with SNH and University of Glasgow with trial to start in September 2019
Implement Integrated Green Network proposals as part of the Cardowan Surface Water Management Plan and Blairtummock	2018-2019	GCC-DRS	▶ Habitat creation works for water vole translocation and Green Infrastructure at Hogganfield and Riggside
Carry out riparian water vole surveys at 2 sites per year	2018-2023	GCC-NS	▶ See Wetland
Monitor and assess success of habitat creation and management projects	2018-2023	GCC-NS/ SNH/ U of G	▶ Monitoring and assessment ongoing
Develop a project protocol for assessing the population dynamics of water voles in Glasgow	2018-2019	GCC-NS/ SNH/ U of G	▶ Research carried out on water vole territory size and range

GCC-DRS: Glasgow City Council-Development and Regeneration Services GCC-NS: Glasgow City Council-Neighbourhoods and Sustainability

SLWP: Seven Lochs Wetland Park SNH: Scottish Natural Heritage U of G: University of Glasgow

Action	Date	Lead	Progress
Survey 20 square kilometres annually as part of fossorial water vole landscape scale monitoring	2018-2023	GCC-NS	▶ Ongoing
Develop training programme of specialist groups including operations staff, ecological consultants and pest control operatives	2018-2021	GCC-NS/ SNH/U of G	▶ Water Vole Knowledge Exchange sessions delivered to ecological consultants and local authority staff ▶ Water Vole Project Officer delivered training to ecological consultants and GCC staff
GCC-DRS: Glasgow City Council-Development and Regeneration Services GCC-NS: Glasgow City Council-Neighbourhoods and Sustainability SLWP: Seven Lochs Wetland Park SNH: Scottish Natural Heritage U of G: University of Glasgow			

Other actions for water voles:

- ▶ GCC webpage www.glasgow.gov.uk/watervoles regularly updated
- ▶ LES Natural Environment Officer (Biodiversity) featured on Glasgow water vole FB page, promoting GCC contribution to partnership project
- ▶ BBC aired a feature on water voles on Breakfast News, Reporting Scotland, BBC Radio and online
- ▶ Glasgow's water voles featured on BBC Springwatch
- ▶ SSPCA water vole release filmed and aired on BBC Scotland
- ▶ Water vole poster created for events
- ▶ Article about Glasgow's water voles published in BBC Wildlife magazine
- ▶ Scientific paper 'Water vole (*Arvicola amphibius*) abundance in grassland habitats of Glasgow' published by GNHS
- ▶ RSPB produced a water vole education pack for schools across the 7 Lochs Wetland Park

1.1.7 Urban: Awareness Raising

Action	Date	Lead	Progress
Produce LBAP Communication Plan	2018-2019	GCC-NS	▶ To be developed.
Produce Pollinator Plan for the city	2018	GCC-NS	▶ Glasgow Pollinator Plan produced for 2017-2022
Produce Water Vole Plan for the city	2018-2019	GCC-NS	▶ See Water Vole
Raise awareness of biodiversity value of habitats and species within Glasgow through monthly articles for the Evening Times advice column on Gardens and Wildlife	2018-2023	GCC-NS	▶ Biodiversity highlighted through GCC twitter feed, rather than articles
Raise awareness of biodiversity value through delivering Outdoor Learning sessions for Glasgow Schools (Curriculum for Excellence)	2018-2023	GCC-NS	▶ The Countryside Rangers delivered across 8 key topics and to 99 schools ▶ The Countryside Rangers ran 135 tailored curricular visits to 56 schools across 30 parks, engaging 2700 pupils across different age groups
Promote LNRs by holding celebration events	2018-2023	GCC-NS	▶ Hogganfield Park LNR open day and 20th Anniversary celebration held in May ▶ LNR celebration days held also at Linn Park, Malls Mire,
Organise annual Wild About Glasgow countryside events for the public	2018-2023	GCC-NS	▶ Wild About Glasgow events included 32 guided walks, activities and events ▶ Butterflies & Blooms Celebration Day held at Pollok CP with 800 children attending with families or from out-of-school clubs ▶ Wild in the City was held at Castlemilk Park with 450 children and parents from local area and out-of-school clubs

Action	Date	Lead	Progress
Promote Glasgow biodiversity and engagement through teacher training events and Eco Schools days	2018-2023	GCC-NS	<ul style="list-style-type: none"> ▶ FCS co-facilitated with RSPB a popular CPD session on water vole habitats in Easterhouse ▶ FCS co-facilitated with RSPB wildflower planting and two water vole education sessions and one CPD ▶ Schools Biodiversity Day was held at Hogganfield Park LNR attended by 141 pupils from 3 local schools ▶ Countryside Rangers attended 3 Eco-school days promoting biodiversity activities to 244 pupils ▶ Countryside Rangers organised and led 2 teacher CPD sessions for 44 teachers
Produce Biodiversity Duty Report for Scottish Government	2018-2023	GCC-NS	<ul style="list-style-type: none"> ▶ Natural Environment Officers (Biodiversity) attended a site visit on the Seven Lochs Trail with new CEO of SNH, to highlight Glasgow's unique water voles ▶ Biodiversity projects promoted through Seven Lochs events website and social media
Continue to promote biodiversity projects within the 7 Lochs wetland park	2018-2023	GCC-NS/ SLWP	<ul style="list-style-type: none"> ▶ Programme of public events and activities ongoing ▶ Weekly TCV volunteer conservation tasks throughout Seven Lochs area ▶ New schools outdoor learning project from October 2018 to March 2020 underway

Action	Date	Lead	Progress
Continue to promote and implement 'Giving Nature a Home' project city-wide	2018-2020	RSPB/ NS	<ul style="list-style-type: none"> ▶ RSPB worked in Kelvingrove Park to deliver environmental education through field teaching outreach sessions, John Muir activities and pre-5 education – engaged with 1961 ▶ RSPB delivered schools outreach through Aldi funded officer post to 5558 young people. ▶ RSPB delivered CPD to 400 Glasgow University and seven lochs schools area teachers ▶ RSPB and Glasgow Botanical Gardens created a self-led interpretation trail highlighting urban wildlife species. ▶ RSPB and Hillhead School Queen Bees group created a pollinator highway down Gibson St working with business to link their school ground to local green space.
Continue Ambassador Schools project	2018-2020	RSPB/ GCC-NS	<ul style="list-style-type: none"> ▶ RSPB engaged with 6 schools for priority species – water vole, garden bumblebee, swift and house sparrow. This included planting at 6 locations to improve habitat for the chosen species ▶ FCS assisted with RSPB water vole ambassador school days at Sunnyside Primary School

Action	Date	Lead	Progress
Hold annual Glasgow Wildfest GCC-NS	2018-2020	RSPB/	<ul style="list-style-type: none"> ▶ RSPB and GCC Events Co-ordinator for Glasgow Wildlife Garden Festival delivered six month events programme. ▶ Give Nature a Home annual Wildfest month long festival held between May and June over 45 community green spaces and parks engaged with 5410 people ▶ RSPB and GCC created a mobile exhibition highlighting Glasgow biodiversity over the last 30 year and Glasgow Garden Festival 1988. Exhibited in Kelvingrove Museum, Glasgow Science Centre and Glasgow Peoples Palace engaged with 22796 people. ▶ RSPB annual Wild Fest activities over six months celebrating 30 years of biodiversity and the 30th Anniversary of the Glasgow Garden Festival 1988. ▶ RSPB created a pop up Glasgow Garden Festival garden on Glasgow Green as part of European championships engaged with 3826 people. ▶ RSPB ran Let Glasgow Flourish Youth Conference at Glasgow Science centre - Day long talks and workshops designing the next 30 years of Glasgow's green spaces with 90 young people from schools across Glasgow and 10 green organisations.
Continue Young Roots project	2018-2020	RSPB	▶ This project has now been completed

Action	Date	Lead	Progress
Continue to encourage conservation volunteering through undertaking projects and holding events at LNRs and other wildlife sites	2018-2023	GCC-NS/ TCV/ FoGL- NRS	<ul style="list-style-type: none"> ▶ TCV mid-week group volunteers completed 925 hours of habitat enhancement work for grasslands, wetlands and woodlands ▶ FoGLNRs carried out 11 wildfowl feeding and education events and 7 litter picks at Hogganfield Park LNR ▶ FoGLNRs led a guided walk from Hogganfield Park LNR to Frankfield Loch via Cardowan Moss LNR ▶ Castlemilk Park Community Woodland Officer co-ordinated 197 volunteer hours for biodiversity at the Park ▶ Castlemilk Park Community Woodland Officer worked with volunteers to construct bat boxes and create a wildflower meadow ▶ Castlemilk Park Community Woodland Officer delivered bat walk training involving 32 volunteers from a variety of groups, and 96 volunteering hours. ▶ Castlemilk Park wildflower walk attracted 20 people and foraging walk 13 people ▶ Countryside Rangers worked with 79 volunteers at the Flower Power nursery over 124 volunteer hours ▶ Skills for Life students accrued over 500 volunteer hours at the Flower Power nursery on seed growing, potting on and planting out ▶ Froglife worked with young people to create wildflower areas at 6 different sites totalling 15m² in planters, raised beds and grass areas, also built and installed bird boxes, planted 200 bulbs for pollinators ▶ Continue to work with The Friends of Possilpark Greenspace and Scottish Canals to support the management of Claypits LNR, designated in 2016

Action	Date	Lead	Progress
Organise biodiversity-themed activities at park venues	2018-2023	GCC-NS	<ul style="list-style-type: none"> ▶ Pollinators promoted through a range of activities at the Glasgow Go Live at the Green event ▶ The Countryside Rangers co-ordinated 4 Forest School Programmes ▶ Forest School bookings – 785 across 8 locations with new sites at Cathkin Braes, Ruchill Park, Dawsholm Park and Bellahouston Park ▶ Countryside Rangers were involved in 61 events attended by over 7000 people ▶ Friends of Garnethill Green Spaces planted a diversity of flowers and vegetables to attract wildlife ▶ Friends of Garnethill Green Spaces organised several events, including wildflower seed planting with local school pupils

Other actions for Urban: Awareness Raising:

- ▶ BRISC Recording Urban Wildlife Conference included talks on Glasgow's Buzzing (Buglife), Giving Nature a Home (RSPB) and Seven Lochs Wetland Park
- ▶ FoGLNRs won the Environmental Award at the People Make Glasgow Inspiring City Awards 2018
- ▶ Froglife attended 18 events to provide information and awareness of biodiversity, amphibian and reptile conservation and Froglife's work in Scotland
- ▶ GNHS have donated copies of Peter Macpherson's 'Flora of Lanarkshire' to the libraries of all Glasgow secondary schools

Pollinator Plan April 2018-March 2019

Action	Date	Lead	Progress
Monitor the Pollinator Plan through annual LBAP Monitoring Report and Biodiversity Duty Reports	Annually	GCC-NS	▶ The Pollinator Plan actions are included in the Biodiversity Annual Monitoring Report and will be included in future Biodiversity Duty Reports
Continue to protect habitat and species value through the designation and maintenance of SSSIs, LNRs and SINCs	Ongoing	GCC-NS/ DRS/SNH	▶ SSSIs and LNRs are statutory designations that are designated via separate legislation to the development planning process but the Council has a duty to protect them. SINCs are non-statutory designations identified through the development planning process and are currently being reviewed.
Aim to ensure connectivity of integrated habitat networks throughout the city through the planning process (LBAP Action)	2017-2022	GCC-DRS/ GCC-NS	▶ Integrated habitat networks outlined in CDP7, Open Space Strategy Draft Report, and GCV Blueprint.
Manage 30 key grassland sites as traditional meadows in a sustainable manner, on GCC land (LBAP Action)	2017-2022	GCC-NS	▶ See grassland update
Enhance areas of unmown grassland by introducing local provenance wildflowers. Enhance 1 Ha annually (LBAP Action)	2017-2022	GCC-NS	▶ See grassland update
Grow pollinator-friendly plants in the Pollok Wildflower Nursery	2017 onwards	GCC-NS	▶ Nearly 1500 wildflower plugs and plants grown ▶ 27 different wildflower species raised
Plant pollinator-friendly wildflowers city-wide at SINCS, LNRs and Parks	2017-2022	GCC-NS	▶ RSPB Scotland carried out wildflower planting with school groups at Elder Park and Bishop Loch ▶ Annual wildflowers sown at Victoria Park
Incorporate nectar-rich plants into formal planting schemes in parks and open spaces	2017-2022	GCC-NS	▶ Ongoing as part of parks and open spaces management plans.
Assess nectar-rich plants for use in Parks bedding schemes/planters	2018	GCC-NS	▶ Trial planters with wildflowers planted and monitored

Action	Date	Lead	Progress
Aim to ensure early and late nectar sources in plantings	2017-2022	GCC-NS	▶ 350,000 daffodils planted city-wide and grass left uncut until October. Although non-native, these can provide some nectar sources
Create a butterfly garden within a Glasgow park	2017-2018	BC/GCC-NS	▶ Tollcross nectar bar created for pollinators
Identify a park and/or LNR to promote as a pollinator demonstration site	2018	GCC-NS	▶ Hogganfield Park identified as key pollinator demonstration site
Carry out events for Urban Butterfly Project (LBAP Action)	2017-2018	BC/GCC-NS	▶ Two butterfly ID events held at Nitshill and Drumchapel ▶ Two butterfly ID and transect events held at Castlemilk and Hogganfield Park ▶ Butterfly Conservation (Scotland) carried out a planting day at the Flower Power nursery in Pollok Country Park
Work with Buglife, Butterfly Conservation, Friends of the Earth Scotland and others to ensure best practice for pollinator action in Glasgow	2017 onwards	GCC-NS/BL/ FoES(GG)/ SLWP	▶ Buglife held workshops on hoverflies, solitary bees and other species – 6 workshops engaged with 74 people ▶ Buglife ran sessions with community groups to raise awareness of the diversity of pollinators, record invertebrates and learn how to enhance areas for pollinators – 8 events engaging with 67 people
Raise awareness of the importance of pollinators through website information, leaflets, events	2017-2022	GCC-CRS// BL/ BC/ FoES (GG)/ SLWP	▶ Pollinator Plan promoted through GCC website twitter feed and a short article in the GNHS newsletter ▶ Progress on the Pollinator Plan and case studies provided to SNH for the national strategy progress report and SNH pollinator blog ▶ Pollinator Plan promoted and awareness raised about the plight of pollinators at all Countryside Ranger events
Carry out surveys and monitoring of butterflies, bees and hoverflies at key sites	2017-2022	GCC-CRS/ BC/ SLWP	▶ Solitary bee population monitoring carried out at Victoria Park ▶ Bee bank at Alexandra Park monitored ▶ Red Mason Bees recorded at Victoria Park using mud from newly lined pond

Action	Date	Lead	Progress
Continue to co-ordinate butterfly transects at a minimum of 4 sites	2017-2022	GCC-NS/BC	<ul style="list-style-type: none"> ▶ Butterfly transect monitored at Castlemilk Park ▶ Countryside Rangers co-ordinated butterfly transects at Robroyston Park and Cathkin Braes ▶ Butterfly transect carried out at Glasgow Museums Resource Centre meadow
Encourage Stalled Spaces projects to include pollinator friendly practices	2017-2022	GCC-DRS	<ul style="list-style-type: none"> ▶ Information provided to GCC-DRS encouraging Stalled Spaces projects to include nectar-rich plantings for pollinators ▶ Stalled Spaces continues to welcome and support projects that include pollinator friendly practices. ▶ Pacitti Community Garden (Kinning Park) contains raised beds and a small orchard ▶ Wellhouse & Queenslie Community Council encouraged butterflies and bees to their stalled space
Provide information to support creation of additional nectar-rich plantings to compensate for new honeybee hive locations	2017-2022	GCC-NS/DRS	<ul style="list-style-type: none"> ▶ Advice given on honeybee hives at 2 locations to minimise biodiversity impacts. ▶ Bee keeping and Biodiversity Factsheet includes advice to help reduce competition with native pollinators
Provide information to support creation of additional nectar-rich plantings at allotments and community growing spaces	2017-2022	GCC-NS	<ul style="list-style-type: none"> ▶ Information on honey bees and wild bees provided to groups
Seek funding opportunities for Pollinator Projects	2017-2022	GCC-NS/TCV	<ul style="list-style-type: none"> ▶ Volunteer Matters Action Earth grants for LNR celebrations included wildflower planting for pollinators
Investigate the potential for a B-Line within the city to connect to the wider countryside	2018	GCC-NS/BL/SLWP	<ul style="list-style-type: none"> ▶ Workshops held to identify potential B-Line routes through Glasgow ▶ Two B-Lines agreed through Glasgow, and added to the UK B-Lines map (Buglife website) ▶ Glasgow's B-Lines connect to the rest of the Central Scotland Green Network area

Action	Date	Lead	Progress
Seek volunteers to set up Beewalk transects at key sites	2018	GCC-CRS/ BBCT	▶ Ongoing
Carry out a survey of Marsh Violet at Commonhead Moss and adjacent sites (food plant for Small Pearl-bordered Fritillary)	2018	GCC-CRS/ SLWP	▶ Volunteers trained in Small Pearl-bordered Fritillary and associated food plant identification and survey methods ▶ 3 sites surveyed
Investigate propagation of local provenance Marsh Violet for planting at appropriate sites to aid Small Pearl-bordered Fritillary populations	2018	GCC-NS/ SLWP	▶ Working in partnership with Northern Corridor Community Volunteers to develop wildflower nursery to propagate local provenance plants including Marsh Violet

Participating Organisation - Acronyms

BAP	Biodiversity Action Plan	GNHS	Glasgow Natural History Society
BC	Butterfly Conservation	Ha	Hectare
BBC	British Broadcasting Corporation	LBAP	Local Biodiversity Action Plan
BL	Buglife	LNR	Local Nature Reserve
BRISC	Biological Recording in Scotland	NVC	National Vegetation Classification
CDP	City Development Plan	NS	Neighbourhoods & Sustainability
CEO	Chief Executive Officer	PTES	People's Trust for Endangered Species
CP	Country Park	PP	Pollinator Plan
CPD	Continued Professional Development	RBS	Royal Bank of Scotland
CRF	Clyde River Foundation	RSPB	Royal Society for the Protection of Birds
CRS	Countryside Ranger Service	SEPA	Scottish Environment Protection Agency
CSGN	Central Scotland Green Network	SINC	Site of Importance for Nature Conservation
DRS	Development & Regeneration Services	SLWP	Seven Lochs Wetland Park
FAL	Forestry and Land Scotland	SNH	Scottish Natural Heritage
FES	Forest Enterprise Scotland	SSPCA	Scottish Society for the Prevention of Cruelty to Animals
FoES (GG)	Friends of the Earth Scotland (Glasgow Group)	SSSI	Site of Special Scientific Interest
FoGLNRs	Friends of Glasgow's Local Nature Reserves	SUDS	Sustainable Urban Drainage System
GCC	Glasgow City Council	TCV	The Conservation Volunteers
GCVGN	Glasgow & Clyde Valley Green Network	U of G	University of Glasgow
GIS	Geographic Information System	WeBS	Wetland Bird Survey
GL	Glasgow Life	WT	The Woodlands Trust
GNAH	Giving Nature a Home		

Biodiversity Monitoring Report

April 2019 - March 2020

1. Background and Context

- 1.1** This annual monitoring report has been compiled with the support of the Council's partners in the Glasgow Biodiversity Partnership. The purpose of the partnership is to bring a broad range of expertise to the development of Glasgow's Local Biodiversity Action Plan (LBAP). The Council established a Glasgow Biodiversity Partnership consisting of representatives from 16 different environmental organisations. Key partners include NatureScot (previously Scottish Natural Heritage) Forestry and Land Scotland (FLS) which was previously Forestry Commission Scotland, Scottish Environment Protection Agency (SEPA) and the Royal Society for the Protection of Birds (Scotland) (RSPB) along with other environmental interest groups.
- 1.2** The refreshed LBAP (2018-2028) and a Glasgow Pollinator Plan (PP) (2017- 2027) have been produced.
- 1.3** The Council announced a Climate and Ecological Emergency in May 2019. A working group was set up and has had several meetings to discuss and identify key recommendations to halt and reverse the declines in biodiversity in Glasgow. The implementation of the LBAP and PP will play a vital role in contributing to this.
- 1.4** Over the past year, officers have been working with partner organisations to deliver the implementation of a number of key actions as detailed within Glasgow's LBAP and PP.
- 1.5** Projects and actions reported on are related back to the relevant actions from the new LBAP and PP to ensure that monitoring tracks the Implementation Plans for both documents. Other projects and activities help achieve the general aims and objectives of the LBAP by improving biodiversity in the city.

1.6 Projects and actions continue to link to, support and benefit from a range of other workstreams including

- ▶ **Climate change adaptation,**
- ▶ **Volunteering and employability opportunities,**
- ▶ **Curriculum for Excellence,**
- ▶ **Health and wellbeing,**
- ▶ **The Glasgow Open Space Strategy**
- ▶ **Parks and Greenspaces Vision**
- ▶ **Metropolitan Glasgow Strategic Drainage Partnership (MGSDP)**

1.7 Under the Nature Conservation (Scotland) Act (2004), all public bodies in Scotland are required to further the conservation of biodiversity when carrying out their responsibilities. The Council fulfils this primarily through the implementation of the Glasgow LBAP.

1.8 The Wildlife and Natural Environment (Scotland) Act (2011), further requires public bodies in Scotland to provide a publicly available report, every three years, on the actions they have carried out to meet the biodiversity duty.

1.9 The content of this annual biodiversity report will contribute towards the statutory Biodiversity Duty Report due for publication in January 2021.

1.10 It is noted that due to Covid-19 and subsequent lockdown and with staff in organisations working from home, there may be data which has been unobtainable due to the current circumstances.

2.1.1 Urban: Parks and Open Spaces

Action	Date	Lead	Progress
1. Maintain and update the Biological Audit	2018-2023	GL	<ul style="list-style-type: none"> ▶ Over the year 205, 552 records were added to the biological audit database ▶ 36 new species were added to the database ▶ At the end of March 2020 there was a total of 731,371 records in the biological audit database ▶ SOC collect bird records from all over the Clyde area and upload to BirdTrack monthly ▶ SOC share notable bird sightings via a daily Grapevine to SOC members ▶ SOC encourage observers to submit bird records ▶ Bioblitz carried out at Kelvingrove Park ▶ TCV Glasgow Hogwatch produced 100+ new hedgehog sightings across Glasgow
2. Designate additional LNRs to reach target of 1 Ha per 1000 population	2023	GCC-NS	<ul style="list-style-type: none"> ▶ Officers have reviews opportunities for additional designations for inclusion within future monitoring
3. Continue to co-ordinate butterfly transects at a minimum of 4 sites	2018-2023	GCC-NS/BC	<ul style="list-style-type: none"> ▶ See pollinator plan
4. Deliver Community Rewilding project across Yoker area, engaging with local communities to plant wildflowers, trees and wilding of sites	2018-2019	TCV	<ul style="list-style-type: none"> ▶ See monitoring report 2018- 2019. Project concluded in March 2019. Final evaluation report available on request

Action	Date	Lead	Progress
5. Develop Citizen Science and Environmental Monitoring projects for key habitats and species	2018-2023	TCV/ GCC-NS	<ul style="list-style-type: none"> ▶ Working with Scottish Forestry, TCV has developed and produced 'The Deadgood Deadwood Survey' for groups and individuals to use to record details of deadwood and its associated wildlife. Survey has been live since March 2020. Trialled with 10 community groups in Glasgow during 2019/20. Official launch scheduled for late 2020 ▶ TCV Citizen Science project 'Glasgow HogWatch' launched in April 2019 was set up to monitor hedgehog populations and create habitat ▶ TCV Glasgow Hogwatch - 5 nocturnal hedgehog surveys under license carried out Glasgow Botanic Gardens, Seven Lochs, Pollok Park. ▶ SOC carry out winter gull monitoring in Glasgow parks ▶ Friends of Linn Park have over 60 nest boxes in the park. These are monitored during nesting season and the information reported to the BTO. ▶ University of Glasgow are carrying out ongoing research into the breeding success of Blue Tits along an urban gradient in and around Glasgow. Tawny Owl nest boxes have also now been installed for additional research
6. Ensure SUDS designs incorporate biodiversity	2018-2023	GCC-DRS/ GCC-NS	<ul style="list-style-type: none"> ▶ Comments on individual planning applications provided to support biodiversity-rich SUDs where appropriate ▶ DRS Flood Risk Management continues to push through the Planning system for above-ground blue-green SuDS for new development and redevelopment, which will benefit biodiversity ▶ Retrofit blue-green SuDS are being delivered by the Avenues Project ▶ Retrofit blue-green SuDS are core elements of the surface water management plans that have and are being delivered by DRS Flood Risk Management, including basins, ponds, swales, trees and highway raingardens.

Action	Date	Lead	Progress
7. Seek to assess and update the list of derelict sites of particular importance for biodiversity and outline management needs	2023	Buglife	▶ Ongoing
8. Aim to ensure connectivity of integrated habitat networks throughout the city through the planning process	2018-2023	GCC-DRS/ GCC-NS	<ul style="list-style-type: none"> ▶ planning policy incorporated into the City Development Plan 2017 (policy CDP7) and associated Supplementary Guidance (SG7) ▶ advice provided on planning applications to implement policy/SG as appropriate. ▶ Adoption of Open Space Strategy (Feb 2020) and preparation of OSS Delivery Plan, will provide an opportunity to pro-actively promote habitat connectivity at an early stage ▶ Green Connectors project aims to link greenspaces through tree planting, hedgerows and wildflower strips
9. Maintain swift trigger map showing locations city-wide of flocking/breeding swifts	2019	GCC-NS/ RSPB	<ul style="list-style-type: none"> ▶ RSPB launched Swift Mapper website and smart phone app in Spring of 2020 to encourage recording of swift nesting sites and scream parties near nesting sites across the UK. ▶ Swift Mapper displays historic data and up to the minute records. There are 89 swift records on Swift Mapper covering Glasgow up to 31st March 2019
10. Align LBAP to emerging Parks and Greenspaces Vision	2020	GCC-NS	<ul style="list-style-type: none"> ▶ Climate and Ecological Emergency declared by the Council in May – Ecological Working Group held a series of meetings ▶ Biodiversity information provided for annual GCC climate change update report ▶ Implementation of the LBAP is a key action within the new Parks Vision document

Action	Date	Lead	Progress
11. Ensure biodiversity is considered within the Glasgow Open Space Strategy	2018-2019	GCC-DRS/ GCC-NS	<ul style="list-style-type: none"> ▶ the OSS identifies the need to enhance biodiversity (OSS section 12) and connect habitats as being two of the key uses to which Glasgow's Open Spaces can be put ▶ Data is being gathered to identify those open spaces that can do either or both with a view to identifying them for this purpose (and, where appropriate, other complementary purposes) through the preparation of an Open Space Strategy Delivery Plan, expected to be available in 2022
12. Ensure that biodiversity is considered in the Stalled Spaces planning process	2018-2023	GCC-DRS	<p>See pollinator plan actions</p> <ul style="list-style-type: none"> ▶ As part of the Connecting Nature project the Stalled Spaces programme has been reviewed with a greater focus on the environment and biodiversity
13. Encourage the development of Green Roofs through the planning process	2018-2023	GCC-DRS	<ul style="list-style-type: none"> ▶ The CDP (and associated Supplementary Guidance) is supportive of the provision of green roofs for a variety of purposes, but principally for biodiversity and as part of the SUDS trail ▶ It is anticipated that the Biodiversity Net Gain approach being developed in the next iteration of the CDP will put a much greater emphasis on the use of green roofs in new development
14. Ensure new developments enhance biodiversity wherever possible	2018-2023	GCC-DRS	<ul style="list-style-type: none"> ▶ Weekly planning lists monitored by Natural Environment Officer (Biodiversity) for potential biodiversity impacts and enhancement opportunities ▶ NS/DRS are developing a Biodiversity Net Gain approach that will help implement the CDP7/SG7 requirement to enhance biodiversity in new development. It should be ready for use with planning applications by early 2021 ▶ DRS Flood Risk Management continues to push through the Planning system above-ground blue-green SuDS for new development and redevelopment, which will benefit biodiversity

Action	Date	Lead	Progress
15. Encourage incorporation of spaces for building dwelling species such as swift in new buildings where appropriate	2018-2023	GCC-NS/ RSPB	<ul style="list-style-type: none"> ▶ Swift advisory note provided to DRS ▶ planners for appropriate development proposals ▶ the Biodiversity Net Gain approach being developed will emphasise the importance of delivering easy wins, such as bat and bird boxes, in new development
16. Create and maintain House Sparrow Plots as funding allows	2018-2023	RSPB/ GCC-NS	<ul style="list-style-type: none"> ▶ RSPB house sparrow project delivered 12 meadow plots ▶ RSPB have provided community groups linked to the green spaces handover documents with all of the steps involved in planning and management of the meadows as well as more information on hedge maintenance and what needs to be done to protect sparrow populations going forward ▶ RSPB planted the meadow in Maryhill park in 2019 with help from friends of Maryhill park which was successful for house sparrows ▶ RSPB are continuing to work with friends of Maryhill park as part of the work with John Paul academy for NatureScot ▶ Glasgow Botanic Gardens has interpretation funded by Glasgow University about the management of an area for house sparrows, working with RSPB. This includes meadow and hedgerow to benefit this species
17. Erect a minimum of 30 House Sparrow boxes at targeted sites across the city	2018-2023	RSPB	<ul style="list-style-type: none"> ▶ RSPB house sparrow project delivered house sparrow boxes across Glasgow
18. Undertake Phase 1 Habitat Survey of Pollok Country Park	2018-2019	GCC-NS	<ul style="list-style-type: none"> ▶ Ongoing and forms part of the Pollok Country Park Working Group actions
19. Undertake a review of SINCS	2018-2023	GCC-DRS	<ul style="list-style-type: none"> ▶ SINC review brief produced

2.1.2 Grassland

Action	Date	Lead	Progress
1. National Vegetation Classification (NVC) survey of Pollok Country Park Wood Pasture and Parkland Habitat to identify exact species compositions and conditions as base point for future management planning and assessments	2018-2023	GCC-NS	► recruitment process for Project Coordinator Community Woodlands commenced (in post August 2020)- officer to review this target in light of emerging requirement for a Forestry and Woodland Strategy
2. Individual management plans for Ancient and Veteran trees within Wood Pasture and Parkland Habitat in Pollok Country Park	2018-2023	GCC-NS	► recruitment process for Project Coordinator Community Woodlands commenced (in post August 2020)- officer to review this target in light of emerging requirement for a Forestry and Woodland Strategy
3. Improve condition of Upland Mixed Ashwoods and Upland Oakwoods woodlands at Cart & Kittoch SSSI	2018	GCC-NS	► recruitment process for Project Coordinator Community Woodlands commenced (in post August 2020)- officer to review this target in light of emerging requirement for a Forestry and Woodland Strategy
4. Assess all UK BAP Woodland Priority Habitat types (excluding Lowland Mixed Deciduous Woodland), to confirm council ownership and establish woodland condition and management requirements	2018-2023	GCC-NS	► recruitment process for Project Coordinator Community Woodlands commenced (in post August 2020)- officer to review this target in light of emerging requirement for a Forestry and Woodland Strategy
5. Commence city wide NVC survey of woodlands (not already surveyed) to ascertain UK BAP Priority Habitats extent in Glasgow	2018-2023	GCC-NS	► recruitment process for Project Coordinator Community Woodlands commenced (in post August 2020)- officer to review this target in light of emerging requirement for a Forestry and Woodland Strategy

Action	Date	Lead	Progress
6. Develop 8 Urban Woodland Management Plans for larger woodlands city-wide (over 400 Ha in total)	2018-2023	GCC-NS	► recruitment process for Project Coordinator Community Woodlands commenced (in post August 2020)- officer to review this target in light of emerging requirement for a Forestry and Woodland Strategy
7. Deliver a woodland management strategy for the Greater Easterhouse area	2018-2023	GCC-DRS	► recruitment process for Project Coordinator Community Woodlands commenced (in post August 2020)- officer to review this target in light of emerging requirement for a Forestry and Woodland Strategy
8. Promote woodland as a temporary greening and bioremediation on vacant and derelict land	Ongoing	GCC-NS/ GCC-DRS	► Temporary greening and bioremediation on vacant and derelict land continues to be supported through Stalled Spaces
9. Create 3 new woodlands within city boundary (or expansion of existing woodlands) totalling 10ha or more	2018-2023	GCC-NS	<p>► An innovative, collaborative project involved the CRS with the recreation of a bluebell wood in front of Burrell Collection at Pollok Country Park (PCP) with Kelvin College ASL students. The project was designed to complement the Burrell Renaissance revitalisation as well as demonstrating a significant health impact through working with people who have defined health or social needs. It involved planting 400 hedgerow species and the collection, growing of plugs and spreading of native bluebell seed on the site.</p> <p>► Glasgow Tree Lovers' Society and Friends of Queen's Park collaborated in a tree planting project on St. Andrew's Day 30th November 2019 in Queen's Park</p> <p>► The trees, forestry transplants 420No. were supplied by the Woodlands Trust - the theme was trees for seasonal interest</p> <p>► 2,665m² of woodland managed by TCVs Glasgow Midweek volunteer group</p> <p>► Friends of Linn Park undertook some rhodedendron cutting back and planted some woodland wild flowers</p> <p>► Woodland Trust supplied a total of 50 tree packs comprising 34,065 trees to schools and community groups within the Glasgow area</p>

Action	Date	Lead	Progress
10. Protect and enhance habitats for wildlife as part of continued management at Drumchapel and Easterhouse Woods lease	2018-2023	FLS	▶ Wildlife habitats protected and enhanced through the implementation of management plans at Drumchapel and Easterhouse woodlands
11. Remove invasive species where appropriate and manage sites to encourage a varied tree age, species and structure at Drumchapel and Easterhouse Woodlands	2018-2021	FLS	▶ Completed thinning work across the woodlands managed by FLS in Easterhouse and Drumchapel to allow for a more diverse structure and benefit biodiversity in the area ▶ INNS treatment and control was carried out at 1.5 Ha of Easterhouse woodlands and 3.6 Ha of Drumchapel woodlands
12. Carry out annual monitoring of rare woodland plants	2018-2023	GCC-NS	▶ Ongoing
13. Undertake strategic tree planting programme annually	2018-2023	GCC-NS	▶ 150 replacement trees planted in parks and greenspaces

Other action for Woodlands:

- ▶ SWT released hedgehogs in conjunction with SSPCA at Possil Marsh SSSI into willow scrub habitat.
- ▶ The Glasgow Hogwatch project: 1100 hedgerow trees planted - 100 trees (hedgerow species) planted Sunnyside Primary and Townhead Primary, 600 at Easterhouse Seven Lochs project and 400 to Pollok Country Park.

2.1.3 Wetland

Action	Date	Lead	Progress
1. Carry out annual blue green algal monitoring at 43 sites city-wide	2018-2023	GCC-NS	▶ Annual blue-green algal monitoring carried out at 29 ponds city-wide
2. Carry out annual WeBS counts at 15 key sites	2018-2023	GCC-NS	▶ GCC Countryside Rangers continue to monitor key sites for wetland birds
3. Carry out water quality tests at key sites- Hogganfield Loch, Queen's Park, Richmond Park and Knightswood Park ponds	2018-2023	GCC-NS	▶ Water quality sampling carried out at Hogganfield Loch ▶ SWT carried out water quality testing at Possil Marsh SSSI
4. Naturalise 50% of Queen's Park boating pond	2018-2019	GCC-NS	▶ See monitoring report 2018-2019
5. Carry out riparian water vole surveys at 2 sites per year	2018-2023	GCC-NS	▶ Water Vole survey at Cleddans Burn ▶ Riparian Water Vole survey at Early Braes and Garscadden Burn commissioned by DRS
6. Identify Bog Rosemary populations and monitor health and spread	2018-2023	GCC-NS	▶ Bog Rosemary monitored at Commonhead Moss with new plants/areas recorded
7. Carry out wetland management at 5 Local Nature Reserves, including water level control at Robroyston Park for wading birds	2018-2023	GCC-NS	▶ FoGLNRs monitored biohavens on Hogganfield Loch.They were used by a wide range of birds to rest and preen e.g. Gadwall, Pochard, Tufted Duck and Cormorant ▶ One biohaven was used successfully again by a nesting pair of Great Crested Grebes

Action	Date	Lead	Progress
8. Monitor frog populations at Robroyston Park and Cathkin Braes, to assess health of population in north and south of city	2018-2023	GCC-NS	▶ Ongoing
9. Continue to restore 3 raised bogs and monitor results for water levels and biodiversity	2018-2023	SLWP/ GCC-NS	▶ TCV Seven Lochs volunteers carried out bog restoration work (scrub clearance) at Commonhead Moss LNR
9. Continue to restore 3 raised bogs and monitor results for water levels and biodiversity	2018-2023	SLWP/ GCC-NS	▶ TCV Seven Lochs volunteers carried out bog restoration work (scrub clearance) at Commonhead Moss LNR
10. Promote river restoration and deculverting projects	2018-2023	GCC- DRS	<p>▶ Cardowan surface water management plan has deculverted a length of the Whamflett Burn through Blairtummock Park in Easterhouse. Length circa 250m. Project achieved substantial completion January 2020.</p> <p>▶ The Camlachie Burn Realignment Project has decluverted a length of the Camlachie Burn along Shettleston Road. Length circa 200m. This project also rehabilitated an existing open channel section of the Camlachie Burn at Biggar St, by forming a new open channel section. Length circa 100m. The project achieved substantial completion September 2019.</p>
11. Monitor INNS and protected freshwater fish species	2018-2023	CRF	▶ SWT monitored and controlled invasive species particularly Himalayan Balsam
12. Monitor snipe species at key wetland sites	2018-2023	GCC-NS	▶ SWT carried out winter wader netting and ringing for Common Snipe and Jack Snipe
13. Implement Integrated Green Network proposals as part of the Cardowan Surface Water Management Plan and Blairtummock	2019	GCC- DRS	▶ Cardowan surface water management plan has delivered green network improvements through Blairtummock Park in Easterhouse, as well as at Croftcroighn Road and Cranhill Park.
14. Implement wetland management for biodiversity as part of 7 Lochs Wetland Project	2018-2023	SLWP	▶ Wetland habitat creation and management carried out at sites within Seven Lochs Wetland Park

Other actions for Wetland:

- ▶ Wetland management carried out at Kelvingrove Park pond to increase the open water area and provide nesting and sheltering places for waterfowl.
- ▶ Research paper published by University of Stirling as part of the UK wide partnership Hyroscape project (which examines the impact of people and the natural environment on freshwater biodiversity and ecosystem resilience). Glasgow is the main urban location for research. The recent research shows that aquatic plant communities are an indication of wider biodiversity health, and a short article written by University of Stirling/GCC on 'Measuring the health of ponds in urban areas' was published by Greenspace Scotland.
- ▶ Froglife Glasgow Green Pathways restored 1 pond in Glasgow (planting new pond plants, removing algae, replacing liner), created two new ponds (totalling 12m²) and created 4 new miniponds.
- ▶ Froglife Glasgow Green Pathways attended 13 events to provide information and awareness of biodiversity, amphibian and reptile conservation and Froglife's work in Scotland.

2.1.4 Farmland

Action	Date	Lead	Progress
1. Manage 50 hectares as traditional meadow on GCC owned farmland at Carmunnock	2018-2023	GCC-NS	▶ All meadows at Cathkin and Windlaw continue to be managed by either local farmer or contractor
2. Use cattle grazing as a management tool at Dawsholm Park, Carnbooth and Pollok Country Park	2018-2023	GCC-NS	▶ Ongoing
3. Continue hedgerow management by creating new hedges and enhancing existing hedges	2018-2023	GCC-NS	<ul style="list-style-type: none"> ▶ TCV created almost 500m of new hedgerow in farmland at Cathkin Braes LNR ▶ Friends of Pollok CP planted hedges along woodland edge in country park ▶ SLWP volunteers/trainees carried out management of hedgerows at Hogganfield Park LNR, including hedge laying.
4. Maintain and enhance wild bird plot at Carmunnock	2018-2023	GCC-NS	▶ see monitoring report 2018-2019
5. Monitor breeding tree sparrow populations at Millichen farms	2018-2023	RSPB	<ul style="list-style-type: none"> ▶ RSPB ran an event with the Clyde ringing group on the 9th November 2019 in Dobies Milngavie on tree sparrows. They talked to staff from Dobies of the importance of the population for the birds and encouraged them to put measures in place to protect the birds such as putting up the right nest boxes in the right places, putting out bird seed and maintain the hedges ▶ The volunteers from the Clyde ringing group ringed several birds, including tree sparrows on the day. The public were also able to interact with this process and watch the birds being ringed and asking questions
6. Develop and deliver the 7 Lochs Co-operative Habitat Restoration project in partnership with landowners and land managers	2018-2021	SLWP	▶ Secured funding for new Species Rich Networks Team (SpRiNT) project in July 2019 to deliver habitat creation, enhancement and management at 15 sites by Sep 2020

2.1.5 Water Vole

Action	Date	Lead	Progress
1. Develop and produce water vole Plan	2018-2019	GCC-NS/ NatureScot/ U of G	<ul style="list-style-type: none"> ▶ Interim Guidelines consultation carried out by University of Glasgow and published on GCC website May 2019 ▶ Spatial habitat mapping project started by the University of Glasgow. ▶ Above reports will form key parts of the proposed Water Vole Conservation Action Plan
2. Seek funding to extend the fossorial water vole project. The water vole project is required for scientific monitoring of habitat creation, management and development of guidelines as well as assessing the wider water population dynamics	2018	GCC-NS/ NatureScot/ U of G	<ul style="list-style-type: none"> ▶ See monitoring report 2018-2019
3. Host the East End Water Vole Project meetings	2018-2023	GCC-NS	<ul style="list-style-type: none"> ▶ Regular water vole project meetings held ▶ Water Vole Knowledge Exchange workshops hosted by Seven Lochs Wetland Park
4. Carry out scientific assessment of disturbance caused by grass cutting, under licence	2018-2021	GCC-NS/ NatureScot	<ul style="list-style-type: none"> ▶ University of Glasgow completed research on home range size of grassland water voles (used to inform the habitat management project protocol) ▶ 3 year Grassland water vole habitat management project developed and Year 1 actions implemented by University of Glasgow, GCC, NatureScot and SLWP
5. Develop, review and update guidance on habitat management	2018-2023	GCC-NS/ NatureScot	<ul style="list-style-type: none"> ▶ Awaiting outcomes from habitat management trial
6. Update water vole distribution map and annually update trigger map for development planning	2018-2023	GCC-NS/ DRS	<ul style="list-style-type: none"> ▶ Distribution map updated

Action	Date	Lead	Progress
7. Create fossorial water vole habitat at key sites as part of the Water Voles in the City project (including Blairtummock Park, Cranhill Park, Hogganfield Park and Auchinlea Park)	2018-2021	SLWP	▶ Habitat creation ongoing at Cranhill, Croftcroighn and Blairtummock Parks as part of Greater Easterhouse green infrastructure project
8. Trial habitat management at key sites as part of Water Voles in the City project	2018-2021	SLWP	▶ 3 year Grassland water vole habitat management project developed and Year 1 actions implemented by University of Glasgow, GCC, NatureScot and SLWP. Actions include; licence granted, surveys/monitoring completed and grass cutting implemented in allocated plots, perimeters and access routes
9. Implement Integrated Green Network proposals as part of the Cardowan Surface Water Management Plan and Blairtummock	2018-2019	GCC-DRS	▶ Phase 1 complete. Assessment ongoing ▶ The Cardowan surface water management plan has delivered green network improvements through Blairtummock Park in Easterhouse, as well as at Croftcroighn Road and Cranhill Park. This required the development of a water vole strategy to proactively manage / relocate water voles
10. Carry out riparian water vole surveys at 2 sites per year	2018-2023	GCC-NS	▶ See Wetland
11. Monitor and assess success of habitat creation and management projects	2018-2023	GCC-LES NatureScot/ U of G	▶ Monitoring and assessment ongoing
12. Develop a project protocol for assessing the population dynamics of water voles in Glasgow	2018-2019	GCC-LES NatureScot/ U of G	▶ Completed and incorporated into guidelines
13. Survey 20km squares annually as part of fossorial water vole landscape scale monitoring	2018-2023	GCC-NS	▶ On hold until spatial habitat mapping complete
14. Develop training programme of specialist groups including operations staff, ecological consultants and pest control operatives	2018-2021	GCC-NS/ NatureScot/ U of G	▶ Water Vole Knowledge Exchange sessions, organised by SLWP, delivered to ecological consultants and local authority staff ▶ SNH issued bulletin to pest control groups

Other actions for water voles:

- ▶ GCC webpage www.glasgow.gov.uk/watervoles and Glasgow water Vole Project facebook page regularly updated
- ▶ GNHS presented 2 Awards to the University of Glasgow for research on water voles.
- ▶ The Glasgow Water Vole Project was awarded a commendation by the Association of Local Government Ecologists.
- ▶ The University of Glasgow delivered a talk at the Mammal Society Annual Conference, and GCC/University of Glasgow hosted site visits.
- ▶ Talk delivered by NS Natural Environment Officer (Biodiversity) at the Urban Wildlife conference (hosted by The Wildlife /information Centre)
- ▶ Repeat airing of SSPCA/GCC water vole release on BBC Born to be Wild
- ▶ Feature on Glasgow's grassland water voles published by Natural History Museum <https://www.nhm.ac.uk/discover/how-water-voles-left-their-riverside-homes-for-glasgow-grassland.html>
- ▶ NS Natural Environment Officer (Biodiversity) interviewed on BBC Radio about water voles, as part of Climate Week
- ▶ Integrated Green Network article in the Herald
- ▶ RSPB Scotland did 41 hours of outreach with 810 children from St Timothy's, St Philomena's and Haghill Park Primary schools. These sessions used activities from the 7 lochs education pack to engage the children with nature and their local green space.
- ▶ As part of Watervole Ambassador sessions RSPB Scotland worked with 628 children for 13 hours from June 2019 to February 2020 to learn about watervoles and their ecology, plan improvements for local green space, plant 60 wildflower plugs and sow wildflower seed over 40m² of green space.

2.1.6 Urban: Awareness Raising

Action	Date	Lead	Progress
1. Produce LBAP Communication Plan	2018-2019	GCC-NS	▶ To be developed
2. Produce Pollinator Plan for the city	2018	GCC-NS	▶ See monitoring report 2018-2019
3. Produce Water Vole Plan for the city	2018-2019	GCC-NS	▶ See Water Vole
4. Raise awareness of biodiversity value of habitats and species within Glasgow through monthly articles for the Evening Times advice column on Gardens and Wildlife	2018-2023	GCC-NS	▶ Biodiversity highlighted through GCC twitter feed, rather than articles
5. Raise awareness of biodiversity value through delivering Outdoor Learning sessions for Glasgow Schools (Curriculum for Excellence)	2018-2023	GCC-NS	<ul style="list-style-type: none"> ▶ CRS supported ‘The Scottish Curriculum for Excellence through outdoor learning’ delivering across 8 key topic areas across 55 schools in Glasgow of which 50% were schools in the highest 20% of SIMD areas ▶ Countryside Rangers organised & ran 120 individual tailored curricular visits to 55 different schools across 19 different Glasgow parks, engaging 3170 from nursery, primary and secondary years ▶ RSPB Scotland spent 68 hours between April 2019 and February 2020 working with Avenue End Primary for 7 weeks with 10 children with additional needs from across the school ▶ RSPB worked with 23 P7 students for Sunnyside primary for schools 2 hours per week over 10 weeks ▶ RSPB worked with Lochend secondary school do deliver the John Muir Award over a week with a group of 13 S1 students. These sessions included litter collecting and surveys, watervole, bird, terrestrial and aquatic invertebrate ID, surveys, recording and bush craft. We also made homes for hedgehogs and food for birds ▶ Overall, RSPB had 2876 engagements with children through these sessions

Action	Date	Lead	Progress
6. Promote LNRs by holding celebration events	2018-2023	GCC-NS	<ul style="list-style-type: none"> ▶ Local Nature Reserve celebration events were organised & run by the Countryside Rangers at 4 LNRs and supported from Action Earth Fund, Volunteering Matters and community organisations ▶ Celebration of Linn Park in May to showcase all of the facets of Linn Park including representation from Scotland: The Big Picture, RSPB and W.I.L.D forest school
7. Organise annual Wild About Glasgow countryside events for the public	2018-2023	GCC-NS	<ul style="list-style-type: none"> ▶ Butterflies and Blooms family event held at Pollok CP with over 500 children attending ▶ Wild About Glasgow diary of countryside events included 29 free guided walks, activities and events run by the Countryside Rangers to promote awareness understanding and care of Glasgow's wild places
8. Promote Glasgow biodiversity and engagement through teacher training events and Eco Schools days	2018-2023	GCC-NS	<ul style="list-style-type: none"> ▶ Schools Nature Day held at Queen's Park with 156 pupils attending ▶ Countryside Rangers attended Eco-school day at St Maria Goretti Pr, Cranhill with a top decile ranking in SIMD index taking biodiversity themed activities with them to 207 pupils across age groups ▶ Countryside Rangers organised and led 5 teacher CPD sessions to a total of 73 teachers
9. Produce Biodiversity Duty Report for Scottish Government	2018-2023	GCC-NS	<ul style="list-style-type: none"> ▶ Annual biodiversity monitoring reports for 2017 - 2020 collated which will form part of Biodiversity Duty Report due in 2021
10. Continue to promote biodiversity projects within the 7 Lochs wetland park	2018-2023	GCC-NS/SLWP	<ul style="list-style-type: none"> ▶ Biodiversity projects promoted through Seven Lochs events website and social media
11. Continue to engage with communities in practical activities within 7 Lochs area	2018-2023	SLWP / TCV	<ul style="list-style-type: none"> ▶ Programme of public events and activities ongoing ▶ Weekly TCV volunteer conservation tasks throughout Seven Lochs area ▶ New schools outdoor learning project from October 2018 to March 2020 underway

Action	Date	Lead	Progress
12. Continue to promote and implement 'Giving Nature a Home' project city-wide	2018-2020	RSPB/ GCC-NS	<ul style="list-style-type: none"> ▶ RSPB has continued to work with community groups across the city to promote Giving Nature a Home activities ▶ RSPB officers attended networking meetings for improving greenspaces in the north, south and east of the city with Greenspace Scotland ▶ RSPB also fed into the Springburn community charette and formed part of the steering group for the redevelopment of the area around the Glasgow Science Centre
13. Continue Ambassador Schools project	2018-2020	RSPB/ GCC-NS	<ul style="list-style-type: none"> ▶ In summer 2019, RSPB worked with Pirie Park primary to put in a planter full of flowers shaped like a boat (relevant to the location in Govan). Surrounding the boat, wildflowers were planted from the house sparrow mix and the school also planted sunflowers for the birds to feed off. They also added another nest box into their school grounds. The children in the whole school have been taught about house sparrows and the primary four have been involved in the planting ▶ In the school year 2019-2020 RSPB worked with Hillhead high school to deliver the John Muir award with first year pupils doing 14 sessions engaging 300 children. Homes for hedgehogs were made as part of the sessions that were put in the Glasgow Botanic Gardens, there was also camera trapping and the children were taught how to identify birds and terrestrial invertebrates ▶ In the RSPB's schools work for NatureScot there has been plug planting and seeding of a wildflower meadow in Cunningar Loop with St Mungos secondary ▶ RSPB also worked with students to plant a planter with flowers in Springburn academy and planted a wildflower meadow in Rosshall park ▶ John Paul academy and RSPB have been doing biological recording and made log piles in Maryhill park as well as doing lots of bulb planting in the park and in the school grounds. For this project RSPB worked with 341 children for 50.5 hours connecting them with green spaces across the city

Action	Date	Lead	Progress
14. Hold annual Glasgow Wildfest	2018-2020	RSPB/ GCC-NS	<ul style="list-style-type: none"> ▶ In 2019 RSPB did a series of events outside Kelvingrove art galleries and museums and around the city and our local reserves and green spaces around Dippy on tour. The Diplodocus dinosaur was visiting from the Natural History Museum in London and was on display in the centre hall of the Kelvingrove Art Gallery and Museum from the 6th January to the 6th May. During this time, RSPB engaged with 1894 adults and 2735 children ▶ Bioblitz event held as part of City Nature Challenge- a global competition to record wildlife in cities. RSPB engaged with 219 adults and 218 children at the event ▶ RSPB ran weekly events in Kelvingrove connecting people to nature with events such as pollinators, bird ID, willow weaving and climate change. These events engaged with 2334 Adults and 2590 children ▶ RSPB ran early years sessions with half the sessions inside Kelvingrove with songs, stories and crafts, and half the session outdoor learning. These sessions ran from April 2019 to March 2020 and engaged with 337 children and 337 parents/ carers
15. Continue Young Roots project	2018-2020	RSPB	▶ This project has now been completed
16. Continue to encourage conservation volunteering through undertaking projects and holding events at LNRs and other wildlife sites	2018-2023	GCC-NS/ TCV/ FoGL- NRS	<ul style="list-style-type: none"> ▶ TCV completed a total of 164 volunteer days as part of their habitat restoration and management work at 17 GCC sites ▶ TCV Glasgow Hogwatch carried out 16 school education sessions and outreach, 4 public events ▶ Biodiversity Action with Volunteers - he Countryside Rangers delivered 6052 volunteer hours with 1,842 volunteers in practical conservation tasks across the city which enhanced biodiversity across an area of 148,081 m2 sq ▶ Countryside Rangers led 8 biodiversity community involvement events which attracted a total of 1,134 volunteers of whom 569 (50%) were new to volunteering, who in turned enhanced an area of 25,6292 across these 5 sites by planting a total of 1470 meadow wildflowers and 800 trees and erected 11 bird boxes

Action	Date	Lead	Progress
16. Continue to encourage conservation volunteering through undertaking projects and holding events at LNRs and other wildlife sites	2018-2023	GCC-NS/ TCV/ FoGL- NRS	<ul style="list-style-type: none"> ▶ BCS Helping Hands for Butterflies project – 3 year project in collaboration with GCC at Springburn Park, Ruchill Park and Elder Park initiated ▶ FoGLNRs erected 17 new bird boxes - 5 at Cardowan Moss LNR; 5 at Bishop Loch LNR; 4 at Hogganfield Park LNR; 2 at Dawsholm Park LNR; and 1 at Bingham’s Pond SINC ▶ FoGLNRs monitored the usage of existing bird boxes and found that 11 out of 19 boxes were used at Dawsholm, 4 out of 6 at Hogganfield and 2 out of 2 at Bingham’s Pond ▶ Nest boxes were used by Blue or Great Tits apart from one, at Dawsholm Park, which was used by a pair of Nuthatches ▶ FoGLNRs undertook 2 major clean-ups, one at Dawsholm Park LNR and one at Hogganfield Park LNR; and 7 small clean-ups, one at Bishop Loch LNR and the remainder at Hogganfield Park LNR ▶ FoGLNRs organised and led 2 Guided Walks – at Cardowan Moss LNR and Dawsholm Park LNR ▶ FoGLNRs obtained grants from Scotmid and Action Earth towards the cost of equipment ▶ FoGLNRs supported and participated in events hosted by other groups – Bird Ringing Demonstration at Linn Park LNR; Sustainable Glasgow Conference; Glasgow National Park City and the Glasgow Parks Forum ▶ GNHS held field excursions to Newlands Park and Knightswood Park, and a fungal foray at Queen’s Park ▶ GNHS members participated in the City Nature Challenge at Kelvingrove Park, along the Kelvin Walkway and the Canal as well as elsewhere across the City ▶ GNHS provided 4 bursaries towards attendance at FSC taxonomy courses

Action	Date	Lead	Progress
16. Continue to encourage conservation volunteering through undertaking projects and holding events at LNRs and other wildlife sites	2018-2023	GCC-NS/ TCV/ FoGL- NRS	<ul style="list-style-type: none"> ▶ 'The Glasgow Naturalist' 27 (1) included papers on Glasgow's grassland Water Voles; the risks posed to them by American Mink; an aquatic invertebrate new to Scotland found in the Clyde at Govan; and short notes on the recent spread of prickly lettuce in Glasgow; a rare Scottish occurrence of Palloptera muliebris; local occurrences of collared earthstar; and six notes on additions to our knowledge of the wildlife of Glasgow Botanic Gardens in the last 20 years ▶ GNHS also published the proceedings of a conference held in the University of Glasgow on Amphibians and Reptiles ▶ SOC encouraged younger people to take an active interest via SOC Youth Connect ▶ SOC organised excursions to local and other sites to improve own knowledge / experience and add to knowledge about the site(s) ▶ Friends of Linn Park held First Tuesday group volunteer session which has met each Tuesday since (excepting covid shut-down). This group has carried out a series of work in the park including removing invasive species, wildflower planting, path clearing, litter picking and tree planting ▶ Friends of Linn Park held guided walks about nature ▶ • Friends of Pollok CP carried out wildflower planting, removal of invasive non-native species and tended the wildlife garden ▶ • Heart of Scotstoun community gardeners developed a biodiversity garden, planting native trees and wildflowers and installing bird feeders and bee hotels ▶ • Heart of Scotstoun community gardeners created a biodiversity learning zone for local schools to visit and learn ▶ • Heart of Scotstoun community gardeners installed an illustrated information board for their biodiversity garden

Action	Date	Lead	Progress
16. Continue to encourage conservation volunteering through undertaking projects and holding events at LNRs and other wildlife sites	2018-2023	GCC-NS/ TCV/ FoGL- NRS	<ul style="list-style-type: none"> ▶ Friends of Yorkhill Greenspaces installed bird boxes at Cherry Park. ▶ Friends of Yorkhill Greenspaces created a turf bank for ground beetles at Overnewton Park ▶ Froglife Glasgow Green Pathways built and installed bird boxes at 6 sites (14 boxes built)
17. Organise biodiversity-themed activities at park venues	2018-2023	GCC-NS	<ul style="list-style-type: none"> ▶ The Countryside Rangers delivered the biodiversity message to 14,344 members of the public in 2019/20. This number includes 3,341 school children at outdoor education events/studies, 8,582 at guided walks & local nature reserve days and 2,342 through volunteering on practical conservation tasks. Countryside Rangers worked collaboratively with 22 different partner agencies and 9 community Friends groups in achieving these outputs and outcomes ▶ Countryside Rangers ran 6 Forest School programmes across the city ▶ FoGLNRs hosted seven wildfowl feeding and bird identification events at Hogganfield Park LNR ▶ To assist with bird ID, FoGLNRs produced laminated bird identification sheets for all the birds likely to be seen at Hogganfield Park LNR and other LNRs ▶ FoGLNRs also published a 'bird tick list' for Hogganfield Park LNR and prepared an updated list for Dawsholm Park LNR which can be downloaded from their web site ▶ Glasgow Museums ran the annual Family Fun day at Glasgow Museums Resource Centre in August with Butterfly Conservation Scotland. Included activities highlighting butterflies and moths that can be seen in Glasgow, and how to garden for pollinators ▶ Friends of King's Park carried out gardening and litter picking

2.1.7 Pollinator Plan

Action	Date	Lead	Progress
1. Monitor the Pollinator Plan through annual LBAP Monitoring Report and Biodiversity Duty Reports	Annually	GCC-NS	▶ The Pollinator Plan actions are included in the Biodiversity Annual Monitoring Report and will be included in future Biodiversity Duty Reports
2. Continue to protect habitat and species value through the designation and maintenance of SSSIs, LNRs and SINCs	Ongoing	GCC-NS/ DRS/ NatureScot	▶ SSSIs and LNRs are statutory designations that are designated via separate legislation to the development planning process but the Council has a duty to protect them. SINCs are non-statutory designations identified through the development planning process and are currently being reviewed.
3. Aim to ensure connectivity of integrated habitat networks throughout the city through the planning process (LBAP Action)	2017-2022	GCC-DRS/ GCC-NS	▶ planning policy incorporated into the City Development Plan 2017 (policy CDP7) and associated Supplementary Guidance (SG7) and advice provided on planning applications to implement policy/SG as appropriate ▶ Adoption of Open Space Strategy (Feb 2020) and preparation of OSS Delivery Plan, will provide an opportunity to pro-actively promote habitat connectivity at an early stage
4. Manage 30 key grassland sites as traditional meadows in a sustainable manner, on GCC land (LBAP Action)	2017-2022	GCC-NS	▶ See Grassland
5. Enhance areas of unmown grassland by introducing local provenance wildflowers. Enhance 1 Ha annually (LBAP Action)	2017-2022	GCC-NS	▶ See Grassland
6. Grow pollinator-friendly plants in the Pollok Wildflower Nursery	2017 onwards	GCC-NS	▶ See Grassland

Action	Date	Lead	Progress
7. Plant pollinator-friendly wildflowers city-wide at SINCS, LNRs and Parks	2017-2022	GCC-NS	<ul style="list-style-type: none"> ▶ Friends of Yorkhill Greenspaces planted bulbs at Overnewton park for early nectar and pollen sources ▶ Friends of Yorkhill Greenspaces planted nectar-rich plants in borders and beds at Overnewton Park and Cherry Park ▶ Froglife Glasgow Green Pathways planted bulbs at 2 different sites for pollinators (200 bulbs, crocus, grape hyacinth, snowdrops) ▶ Froglife Glasgow Green Pathways created wildflower areas in 2 different sites across Glasgow (totalling ~15m2 of area in planters, raised beds, previously mowed grass areas etc)
8. Incorporate nectar-rich plants into formal planting schemes in parks and open spaces	2017-2022	GCC-NS	<ul style="list-style-type: none"> ▶ Ongoing as part of parks and open spaces management plans
10. Aim to ensure early and late nectar sources in plantings	2017-2022	GCC-NS	<ul style="list-style-type: none"> ▶ 350,000 daffodils planted city-wide and grass left uncut until October. Although non-native, these can provide some nectar sources ▶ In additional 10,000 early flowering bulbs (early Daffodils, Crocus, Scilla, Anemone etc) planted city-wide ▶ SLWP planted pollinator planters at Hogganfield Park LNR
11. Create a butterfly garden within a Glasgow park	2017-2018	BC/GCC-NS	<ul style="list-style-type: none"> ▶ See monitoring report 2018-2019
12. Identify a park and/or LNR to promote as a pollinator demonstration site	2018	GCC-NS	<ul style="list-style-type: none"> ▶ See monitoring report 2018-2019
13. Carry out events for Urban Butterfly Project (LBAP Action)	2017-2018	BC/GCC-NS	<ul style="list-style-type: none"> ▶ See monitoring report 2018-2019
14. Work with Buglife, Butterfly Conservation, Friends of the Earth Scotland and others to ensure best practice for pollinator action in Glasgow	2017 onwards	GCC-NS/BL/ FoES(GG)/ SLWP	<ul style="list-style-type: none"> ▶ Buglife held 12 workshops/talks on pollinators with over 90 attendees in Castlemilk, Pollokshaws and the Seven Lochs Wetland Park ▶ Development of a hoverfly survey is underway by TCV

Action	Date	Lead	Progress
15. Raise awareness of the importance of pollinators through website information, leaflets, events	2017-2022	GCC-CRS//BL/BC/FoES (GG)/SLWP	<ul style="list-style-type: none"> ▶ Pollinator Plan promoted through GCC website twitter feed ▶ Progress on the Pollinator Plan and case studies provided to SNH for the national strategy progress report and SNH pollinator blog ▶ Pollinator Plan promoted and awareness raised about the plight of pollinators at all Countryside Ranger events ▶ BCS carried out two butterfly ID training events in summer 2019 at Castlemilk Park and Hogganfield Park LNR
16. Carry out surveys and monitoring of butterflies, bees and hoverflies at key sites	2017-2022	GCC-CR/BC/SLWP	<ul style="list-style-type: none"> ▶ Solitary bee population monitoring carried out at Victoria Park ▶ Beewalks transects surveyed and monitored
17. Continue to co-ordinate butterfly transects at a minimum of 4 sites	2017-2022	GCC-NS/BCS	<ul style="list-style-type: none"> ▶ BCS reported that butterfly transects were undertaken at several sites in Glasgow: Hogganfield Loch, Robroyston LNR, Cathkin Braes, Coulter's Wood, Hurltehill and Castlemilk Park, Cardowan Moss, Commonhead Moss and Linn Park ▶ Friends of Linn Park have two butterfly transects within the park which are walked on a weekly basis from April to September and the results shared with UKBMS ▶ Butterfly transect carried out at the Glasgow Museums Resource Centre meadow
18. Encourage Stalled Spaces projects to include pollinator friendly practices	2017-2022	GCC-DRS	<ul style="list-style-type: none"> ▶ During the review of the Stalled Spaces programme, a recommendation has been made to management that pollinators need to be considered within all Stalled Spaces
19. Provide information to support creation of additional nectar-rich plantings to compensate for new honeybee hive locations	2017-2022	GCC-NS/DRS	<ul style="list-style-type: none"> ▶ Bee keeping and Biodiversity Factsheet includes advice to help reduce competition with native pollinators
20. Provide information to support creation of additional nectar-rich plantings at allotments and community growing spaces	2017-2022	GCC-NS	<ul style="list-style-type: none"> ▶ Information on honey bees and wild bees provided to groups

Action	Date	Lead	Progress
21. Seek funding opportunities for Pollinator Projects	2017-2022	GCC-NS/ TCV	<ul style="list-style-type: none"> ▶ Volunteer Matters Action Earth grants for LNR celebrations included wildflower planting for pollinators ▶ TCV has sought funding to work with Field Studies Council to produce printed copies, make a school package and run taster sessions during summer 2021 for hoverfly survey
22. Investigate the potential for a B-Line within the city to connect to the wider countryside	2018	GCC-NS/BL/ SLWP	<ul style="list-style-type: none"> ▶ See monitoring report 2018-2019 ▶ Proposals developed to enhance Glasgow's B-Lines through wildflower planting ▶ Green Connectors project focuses on the B-Lines and makes connections between them
23. Seek volunteers to set up Beewalk transects at key sites	2018	GCC-CRS/ BBCT	▶ BBCT co-ordinated 7 Beewalk transects
24. Carry out a survey of Marsh Violet at Commonhead Moss and adjacent sites (food plant for Small Pearl-bordered Fritillary)	2018	GCC-CR/ SLWP	▶ See monitoring report 2018-2019
25. Investigate propagation of local provenance Marsh Violet for planting at appropriate sites to aid Small Pearl-bordered Fritillary populations	2018	GCC-NS/ SLWP	▶ See monitoring report 2018-2019

Acronyms

BBC	British Broadcasting Corporation	LBAP	Local Biodiversity Action Plan
BBCT	Bumblee Conservation Trust	LNR	Local Nature Reserve
BCS	Butterfly Conservation (Scotland)	NS	Neighbourhoods & Sustainability
BL	Buglife	OSS	Open Space Strategy
BTO	British Trust for Ornithology	PCP	Pollok Country Park
CDP	City Development Plan	PP	Pollinator Plan
CP	Country Park	PTES	People's Trust for Endangered Species
CPD	Continued Professional Development	RSPB	Royal Society for the Protection of Birds
CRF	Clyde River Foundation	SEPA	Scottish Environment Protection Agency
CR	Countryside Rangers	SG	Supplementary Guidance
DRS	Development & Regeneration Services	SIMD	Scottish Index of Multiple Deprivation
FLS	Forestry & Land Scotland	SINC	Site of Importance for Nature Conservation
FoES (GG)	Friends of the Earth Scotland (Glasgow Group)	SLWP	Seven Lochs Wetland Park
FoGLNRs	Friends of Glasgow's Local Nature Reserves	SOC	Scottish Ornithologists' Club
GCC	Glasgow City Council	SpRiNT	Species Rich Networks Team
GIS	Geographic Information System	SSSI	Site of Special Scientific Interest
GL	Glasgow Life	SUDS	Sustainable Drainage System
GNAH	Giving Nature a Home	SWT	Scottish Wildlife Trust
GNHS	Glasgow Natural History Society	TCV	The Conservation Volunteers
Ha	Hectare	U of G	University of Glasgow
ID	Identification	UKBMS	United Kingdom Butterfly Monitoring Scheme
INNS	Invasive Non-Native Species		