A Guide to Incorporating Biodiversity into Local Services (Tayside)

2nd Edition 2020

Perth & Kinross Council

Angus Council
Comhairle Aonghais

Tayside Biodiversity Partnership
CELEBRATING 21 YEARS

"Biodiversity isn't something to be found in the far blue yonder - it starts on your own doorstep"

From Magnus Magnusson's Foreword to the 1st Edition
Tayside Local Biodiversity Action Plan

Contents

Tayside vision

By 2030 Tayside will have a fully functioning ecosystem network "from summit to sand" - reaching from the Angus Glens and Highland Perthshire to the Tay Estuary, the Angus coast and beyond to the marine environment. Visitors and residents alike will be able to learn about the area's rich biodiversity and will be keen to protect and enhance it. Both the rural and urban environment will be delivering benefits essential for everyone, from helping to reduce flooding, assisting species to adapt to climate change and ensuring there is no further loss of biodiversity.

(published in the 2nd Edition Tayside Local Biodiversity Action Plan 2016-2026)

What is biodiversity?

It simply means "the variety of all living things". It includes the tiniest insects and the largest trees – and us. We depend on biodiversity for our health, our well-being, and our economy. We benefit from pollination, natural flood prevention, soil creation, and the raw materials for our food and water, clothing, medicines, buildings, and roads. In Tayside, particularly, we depend on our landscape and iconic species for tourism; plants and animals are key components of our cultural heritage. Biodiversity enriches all our lives, whether it's a butterfly visiting our garden or a blackbird heard from a hospital window.

Our duty to safeguard biodiversity

The Nature Conservation (Scotland) Act 2004 places a Biodiversity Duty on all public bodies to further the conservation of biodiversity and to have regard to the Scottish Biodiversity Strategy's 2020 Challenge. This is helping to mainstream the biodiversity process in many organisations, including local authority services. Since the enactment of the Wildlife and Natural Environment (Scotland) Act 2011 or WANE Act it has been mandatory for three-yearly reports to be published by public bodies. The deadlines for these are 1st January 2021, 2024 and 2027. See Appendix 1 for further advice and links to national guidance and templates.

In 2015 the Scottish Government published "Scotland's Biodiversity: a Route Map to 2020" which acknowledged the valuable work underway by local authorities and Local Biodiversity Action Plan Partnerships. The Route Map outlined Six Big Steps for Nature:

1 Ecosystem restoration – to meet the Aichi target of restoring 15% of degraded ecosystems;

2 Investment in natural capital – to ensure the benefits which nature provides are better understood and appreciated;

3 Quality greenspace for health and education benefits – to ensure that the majority of people derive increased benefits from contact with nature where they live and work;

4 Conserving wildlife in Scotland – to secure the future of priority habitats and species;

5 Sustainable management of land and freshwater – to ensure that environmental, social and economic elements are well balanced;

6 Sustainable management of marine and coastal ecosystems – to secure a healthy balance between environmental, social and economic elements.

None of the Aichi targets will be fully met in Scotland - the State of Nature Scotland 2019 report shows Scotland's wildlife has declined substantially in recent decades. Pressures upon wildlife come from many sources, including agricultural management, urbanisation, pollution, hydrological change, woodland management and invasive non-native species. Climate change is driving widespread changes in the abundance and distribution of Scotland's wildlife: all the more reason for public bodies - and local authorities in particular - to take the lead in enhancing biodiversity wherever possible.

The report, including data and analysis underpinning the findings, can be found here: https://www.nature.scot/state-nature-scotland-report-2019. The UK State of Nature 2019 report can also be downloaded: www.nbn.org.uk/stateofnature2019.

In 2020 the Scottish Government published The Edinburgh Declaration on Post-2020 Global Biodiversity Framework - https://www.gov.scot/publications/edinburgh-declaration-on-post-2020-biodiversity-framework/.

It confirms that global action is currently insufficient to achieve the 2050 vision of 'living in harmony with nature' or to achieving the UN Sustainable Development Goals. However, it shares the ambition of the 2030 Mission as set out in the Zero Draft version of the Post-2020 Global Biodiversity Framework 'to take urgent action across society to put biodiversity on a path to recovery for the benefit of the planet and people.' This corresponds with local authorities and others addressing global challenges, including climate change, disaster risk reduction, health and poverty alleviation, and biodiversity.

The Tayside Local Biodiversity Action Plan

The TLBAP has two main aims:

- to conserve and enhance the region's biodiversity, taking into account both local and national priorities; and
- to co-ordinate existing actions, as well as initiating and co-ordinating new ones.

The key to delivering real improvements in biodiversity lies in the step between being merely aware of it and beginning to actively champion it. This can be achieved by treating biodiversity as an integral part of service delivery.

The target audience of the Tayside Local Biodiversity Action Plan includes:

- land managers and landowners
- policy makers and policy implementers
- the wider community e.g. schools, businesses and consumers.

Local Service providers/agencies represent or have contact with a significant element of each target audience. As key partners, Local Authorities have the potential to be providers, advisors, enablers and regulators for biodiversity. Through participation and consensus building Local Authorities can ensure

biodiversity action is supported by the wider community - and importantly - fully involve them. Biodiversity does not recognise boundaries and can best be conserved and enhanced by co-ordination and cross-boundary liaison. As Local Service providers/agencies go about delivering services to local people there will be many opportunities to directly deliver action for wildlife in a host of innovative ways. Ultimately, with a Biodiversity Duty on all public bodies, many of these actions can move from the "nice to have" option to a mainstreamed "need to include" focus.

The maintenance and enhancement of biodiversity is vital if we are to achieve the overall aim of sustainable development ensuring that present and future generations benefit from environmental quality and economic benefits. The co-ordination of activity at the regional level is essential to achieve this. It is important not to just protect the best or rarest of what we have, but we have a duty to safeguard and enhance its general status – a step strongly endorsed in the Scottish Biodiversity Strategy.

How to use this guide

This document provides ideas to promote biodiversity within Local Authority services, what is possible, and via case studies what has been achieved to date. This will help in future Biodiversity Duty reports, but importantly, it will hopefully inspire new initiatives and the sharing of good ideas across services. Biodiversity is very much a dynamic process so as new ways of working become mainstreamed, other ideas are mooted and discussed.

The actions detailed in the following pages are grouped under headings suitable for most Local Service providers/ agencies. Cross-referencing of other sections is, however, advised. The headings may not match the reality of the Service titles within individual local authorities but as these are dynamic, generic headings are used.

Each action is assigned a tick box so that Services can quickly check how they may be contributing to the biodiversity process. It does not matter if different Services tick the same box; in fact this is a bonus. A 3rd edition of this document is envisaged to encompass any Sections omitted from this guide and to include more case studies. If specific Services have been missed or there are good practice examples to share before a 3rd edition is prepared, please contact the Tayside Biodiversity Partnership so that awareness can be raised via E-News or other reports.

Where progress is being made or issues need discussion within the local authority please contact:

- Perth and Kinross Council - the Tree & Biodiversity Officer: Joanna Dick biodiversity@pkc.gov.uk
- Angus Council - the Project Officer, Environmental Strategy: Kelly Ann Dempsey DempseyK@angus.gov.uk.

The Tayside Biodiversity Partnership's Working Groups monitor all actions listed in the 2016-2026 2nd Edition of the Tayside Biodiversity Action Plan – www.taysidebiodiversity.co.uk.
Please contact Catherine Lloyd: caglloyd@pkc.gov.uk.

A guide to incorporating biodiversity into local services

1 Architectural services and building design

- ☐ At the masterplan stage, include raingardens, swales and urban street tree planting in roadway enhancements and developments.
- ☐ Water retention ponds or Sustainable Urban Drainage should be part of a green/blue network through new developments joining up other biodiversity-friendly areas and not being created as 'stand-alone' features. Managed for wildlife these features can add visual value to the new development and become used as part of the integral greenspace.
- ☐ Consider the use of a green or living roof or a roof garden. As well as benefiting a variety of wildlife (especially birds and invertebrates) these features can also improve the visual appearance of roofs, help reduce air pollutants and reduce urban heat islands. Such features can be as important as on a school or community hall roof or at a smaller level for bicycle parks, bus stops, etc.
- ☐ Retain existing features on site that are important for wildlife during the redevelopment of buildings; this is particularly important where retaining existing hedgerows and mature trees are concerned, or when protected species such as Badgers, Red squirrels and bats are identified at the survey stage. If conservation is not possible replace with other designed features nearby or mitigate for habitat loss as close to the development as possible.
- ☐ In an urban setting, consider incorporating a series of integral swift, bee and bat bricks into all developments.
- ☐ Where rural buildings are concerned, incorporate wildlife-friendly features such as barn owl windows and ledges, integral bat bricks and swift nest bricks or specialist-made nest boxes in roof spaces or outbuildings.

Bats can be in any buildings (new or old) to be refurbished or re-developed. Bats, their maternity or hibernation roosts, whether or not they are present at the time, are protected under the Wildlife & Countryside Act 1981 and Nature Conservation (Scotland) Act 2004. Bats should not be handled and where they are present the local NatureScot (SNH) Office must be contacted before commencing any works.
More information - https://www.nature.scot/species-planning-advice-bats

- ☐ Use timber that is Forest Stewardship Council (FSC) approved and consider the innovative re-use of materials where appropriate.
- ☐ Encourage community orchard areas in under-utilised greenspace, corners of new developments and in parks – pears, plums and apples, but also hazels and crab apples. These can be boundary or linear trees rather than the traditional grouped orchard trees. Under-planting of soft fruit can also be encouraged such as gooseberries, red/black currents, etc., or the amenity grassland managed for wildflowers in some areas.

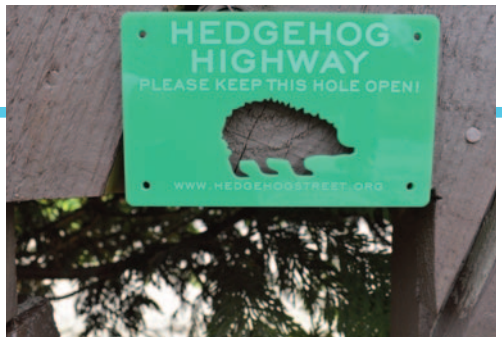
Sustainable Urban Drainage, Forfar© C A G Lloyd

Case study 1

Hedgehog Highways – A & J Stephen, Housebuilders, have been working with the Tayside Biodiversity Partnership to develop long-term hedgehog highways through their new Scone development. The TBP is providing Householder Information Packs with information on gardening with biodiversity in mind and will be working with the company's landscaper to create a wildlife-orientated garden for the development's show house.

Case study 2

The Angus Council building programme of new schools and affordable housing now incorporates measures to improve biodiversity: affordable housing developments in Brechin and Newtyle include bird and bat boxes in the construction of new homes and the Timmergreens Regeneration Project in Arbroath includes significant new tree planting and hedgehog highways. The Council Office complex in Forfar has also been retrofitted with swift boxes which, so far, have been popular with starlings and house martins!



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Case study 3

Following a Biodiversity Ambassador session, the PKC Architect is working with the Council's Tree and Biodiversity Officer and the Tayside Biodiversity Partnership to integrate nature into the plans to expand Letham Nursery in Perth. The result is a partnership with the Woodland Trust to plant native trees and an edible hedge, apple trees from a local supplier and raised beds that will grow vegetables to use in the school kitchen.

Case study 4

A series of workshops were initiated to investigate and define Blue Green Networks in the seven Angus Towns. The Arbroath pilot project brought together a wide mix of officers from across the Council to pool knowledge and map existing and potential blue and green spaces – as assets, problem areas and areas with potential. With the support of NatureScot this was refined into a series of linked networks each with a short written assessment. Community representatives were approached but were unable to attend the workshop. Similar exercises were carried out for the other six towns and once all the results are collated a consultation exercise will be undertaken to confirm and enhance officer views. The information will then be used to inform the next Local Development Plan and the development management process.

2 Community involvement and engagement

- ☐ Highlight biodiversity features throughout community education: at each property feature suitable plants, shrubs and trees to attract pollinating insects such as bumblebees, hoverflies and butterflies.
- ☐ Offer community groups opportunities to access wildlife and the countryside through talks, online events, health walks, community events and day-trips.
- ☐ Encourage participation in Non-Governmental Organisations' species surveys, i.e. BeeWalk, Save our Red Squirrels, Big Butterfly Count, Tayside Swifts, Big Garden Bird Watch, etc.
- ☐ Link into existing volunteers' schemes such as provided by the Ranger Services, the National Trust for Scotland, the Perth & Kinross Tree Wardens' Network, the PKC Biodiversity Ambassadors, and the Trust for Conservation Volunteers. These help share information and practical conservation tasks about biodiversity with local communities.
- ☐ Promote evening and recreational classes with strong biodiversity elements by involving specialist groups such as the Perthshire Natural Science Society, Botanical Society of Britain & Ireland, Tayside Swifts, the Tayside Bat Group, Marine Life Angus, etc. Explore the potential to widen online webinars and talks.
- ☐ Encourage participation in locally-organised BioBlitzes, ensuring the records received are uploaded to iRecord or the National Biodiversity Network (which in turn can be used on local authority GIS).
- ☐ Publicise the Tayside Local Patch Project, an online iRecord survey, to help people of all ages discover the wildlife on their doorstep and to informally adopt a 'local patch' be it their own garden, a local park, roadside verge, a cycle path or golf course.

(c) Perth and Kinross Council

Case study 1

PKC Biodiversity Ambassadors

In Perth and Kinross Council a staff group of 70+ "Biodiversity Ambassadors" meet regularly (including online) to share information, set up practical volunteering projects and undertake species and habitat training sessions. The group has planted 70 trees provided by the Woodland Trust in Viewlands Reservoir Greenspace; it has also planted pollinator-friendly plants at Carpenter Court residential home. During the COVID-19 lockdown, members created cards with a wildlife theme and sent them to residents to bring some cheer for the Easter weekend.

The PKC Ambassadors visiting Perth Station Biodiversity Garden (top) for a Moth Identification Breakfast and (right) taking part in a Flower-Insect Timed Count © C A G Lloyd

Case study 2

East Haven Together, a community group which primarily runs the public toilets in the car park at East Haven (by Carnoustie), undertook a BioBlitz as part of the launch celebrations for the Tayside Biodiversity Action Plan. Since then they have undertaken mini bioblitzes for specific species to add to their knowledge and to contribute to the National Biodiversity Network recording scheme. Knowing which species are using the local area is helping them make reasoned management decisions in caring for a number of sites along the coast.

Planting for pollinators (Perth) © C A G Lloyd

Case study 3

Staff and volunteers at the Scottish Wildlife Trust's Montrose Basin Visitor Centre regularly undertake a range of practical tasks to improve the area's biodiversity. Beach cleans with the local School Species Champions took place during the Angus Coastal Festivals and records of cetacean sightings are encouraged via Marine Life Angus.

Litter picking at Ferryden © C A G Lloyd

Case study 4

PKC Greenspace Rangers run woodland activity sessions for people with early stages of dementia tackling social isolation and providing health and wellbeing benefits to participants, carers and family members. Kinnoull Hill in Perth provides a place for walks, views from the top and The Shed to shelter in on rainy days and enjoy a social lunch at the end of the session. Participants enjoy meeting new people, enjoying nature outdoors as well as completing the John Muir Award. In 2019, the project won a Gold Award in the 'Tackling Inequalities and Improving Health' category of the Designing Futures Awards.

3 Community safety

- ☐ Contribute to property security on both residential and business premises by planting 'barrier hedges' featuring spiky plants such as hawthorn, berberis and blackthorn. These can also be of substantial benefit to local wildlife.
- ☐ Raise staff awareness of relevant biodiversity legislation - contact the Tayside Wildlife and Environment Officer for general advice or to report anything suspicious – Blair Wilkie at 101 extn 3530, mobile 0780 889 9113/ e-mail at blair.wilkie@scotland.pnn.police.uk. This is particularly important where vulnerable or protected species are concerned (such as nesting birds, badgers, otters, bats or birds of prey).
- ☐ Community groups can help create safer more cohesive communities by involving local people of all ages in projects to improve the surrounding environment; this can include actively creating food growing areas with room for pollinator-friendly flowers. This not only creates wildlife habitat but also improves the area visually.

4 Education

- ☐ Incorporate awareness and conservation of biodiversity and geodiversity into lesson plans and the National Curriculum across as many subject areas as possible, using appropriate published guidance for support.
- ☐ Encourage careers teachers and the careers advice service to promote placements for students within conservation and environmental organisations.
- ☐ Encourage educational links with the Tayside Police Wildlife Liaison Officers; a variety of interactive wildlife crime projects are available for primary school pupils.
- ☐ Utilise good quality countryside facilities as learning resources/locations for days out and study visits.
- ☐ The ZoomIn2 photographic time-lapse project can help create interest in specific areas within a park or school playground – www.zoomIn2.co.uk.
- ☐ Encourage schools and colleges to enhance their grounds to promote a wide variety of wildlife, together with facilities for outdoor classrooms via Learning Through Landscapes, the John Muir Award and Forest Schools.
- ☐ Highlight biodiversity features throughout each property: set up Tayside Biodiversity BeeWild projects where appropriate to encourage planting for pollinators.

- ☐ Aim for all potted plants to be peat-free throughout the grounds and school itself.
- ☐ Link with 'healthy eating' and 'local food' initiatives, especially within Food Growing Strategies – or encourage simple 'Square Foot Gardening' projects – details: www.schoolsorganic.net.
- ☐ The Woodland Trust offers fruit tree grants for schools to create school orchards. The Tree Council is also offering fruit tree kits as part of its Tree Champions initiative. All these can be linked to the Tayside Biodiversity Partnership's BeeWild initiative to create pollinator-friendly school grounds and arrange a BeeWild Biodiversity Action Plan with Eco-School Groups and teachers. National Apple Day is 21st October and wassail celebrations are undertaken around 17th January each year.
- ☐ Promote the participations of all age groups in the Tayside Local Patch Project ("Discover the Wildlife on Your Doorstep") and other appropriate surveys by encouraging the adoption of a 'local patch' such as the school grounds, nearby park, footpath or community woodland.
- ☐ Encourage participation in Garden BioBlitz days http://www.bnhc.org.uk/bioblitz/.
- ☐ Backyard Biodiversity Day takes place on 21st June; schools can help to record all the animals, mini beasts and plants in the school grounds.
- ☐ Promote the creation/management of wildlife areas in the local community through partnerships between schools, businesses and local agencies, with particular emphasis on business parks and industrial estates.

Case study 1

Kinnoull Primary School's Eco Group in Perth is working with the Tayside Biodiversity Partnership on preparing its BeeWild Biodiversity Action Plan which will see fruit trees in tubs, raised beds for vegetable and herb growing, pollinator banks and berried trees being planted to help feed the birds. Teachers, pupils and families will all be involved in deciding what actions they want to undertake in the school grounds.

Case study 2

Following the success of the Angus School Orchards project (with some 68 school orchards being planted and maintained), Perth & Kinross schools are looking into taking part in the Tree Council's Orchards for Schools and Tree Champions Programme. Over 20 nursery, primary and secondary schools have registered their interest and Oakbank Primary in Perth is now on the Tree Council's Teachers' Focus Group. One of the secondary schools has expressed an interest in setting up a small tree nursery and the Perth & Kinross Tree Wardens' Network and other volunteers will be involved in the future.

Case study 3

In partnership with construction company Robertson, Perth and Kinross Council, Carbon Footprint and Generations Working Together, the pupils at Perth Grammar School planted native trees in their school grounds, working with PKC Tree and Biodiversity Officer to research the types of trees to maximise carbon storage. This will support the United Nations Sustainable Development Goal 13: Climate Action. Together with the Men's Shed, the pupils are creating a sensory and reflection garden, plus a maintenance regime for the trees. To encourage tree planting in school grounds, an advisory sheet will be circulated in line with the Council's Climate Change Action Plan.

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5 Environmental health

- ☐ Run regular environmental awareness-raising campaigns for schools and community groups regarding litter and animal welfare; ensure information is available online.
- ☐ Protect honey and masonry bees from pest control and advise the public accordingly. Honey bees should be destroyed only where there is a direct public safety risk. Masonry bees, which constitute no risk to the public, should not be destroyed, but safeguarded where possible.
- ☐ Garden ants should not be destroyed outside buildings.
- ☐ Guard against the use of control methods for house mice or brown rats which might affect birds of prey or other non-target species (such as domestic pets). Suitable assessment methods should be in place and properly applied prior to the implementation of any treatments.
- ☐ Remove all loose bait and rodent bodies at the end of the treatment period where poisoned baits are utilised (with all appropriate safeguards in place).
- ☐ Avoid control measures wherever possible against rodents in gardens and outbuildings that may involve Wood mice *Apodemus sylvaticus* (these are not pests).
- ☐ Use biodegradable non-persistent treatments to minimise transmission effects to wildlife when controlling public health pests (fleas, bedbugs, cockroaches etc).

6 Greenspace and countryside management

- ☐ Provide advice on the creation, enhancement and restoration of wildlife habitats throughout all areas of operation.
- ☐ Use the updated data being made available on Local Nature Conservation Sites and Geodiversity Sites when checking sites.
- ☐ Publicise the importance of biodiversity through interpretation and environmental education, including guided walks, online and countryside events, and linking to the Tayside Biodiversity Partnership and Tayside Recorders' Forum events.
- ☐ Continue accurate biological recording and the regular monitoring of species and habitats.
- ☐ Participate in records input/exchange of fauna and flora records to ensure local data is kept up to date.
- ☐ Incorporate the relevant TLBAP objectives, targets and actions into site management plans where appropriate.
- ☐ Liaise with the Greenspace Rangers, Countryside Rangers and Access Officers to ensure the Public Rights of Way network is managed to raise awareness of biodiversity - for example footpath verge mowing regimes, hedge and bank maintenance, and (where safe) retention of standing dead wood.
- ☐ Advise on pest control issues where they relate to wildlife, e.g. humane Grey Squirrel control as part of the Scottish Wildlife Trust's Save our Red Squirrel project.
- ☐ Work with others to control Invasive Non-Native Species, including Himalayan Balsam, Giant Hogweed and Japanese Knotweed.
- ☐ Consider all biodiversity issues when planning the development of local, coastal and glens path networks.
- ☐ Consider biodiversity issues during implementation of the Access to the Countryside elements of the Land Reform Act.

Case study 1

The Linnet Link - this innovative project involved the planting of shrub strips along the Arbroath to Dundee cycle track. Co-ordinated by Angus Council, the track was surveyed for Linnets at different times of year. They were always associated with woodland strips and hedges running perpendicular to the cycleway so the enhancement planting was prioritised to link these linear habitats to help the birds' wider access along this corridor. The planting was beneficial for other farmland birds including Tree Sparrow, Yellowhammer, Chaffinch and Goldfinch. It also created shelter for cyclists from the busy highway and made the cycle path more interesting for those using it.

Parks and grounds maintenance

- ☐ Use linear features and 'wildlife corridors' to connect areas of semi-natural vegetation to minimise fragmentation of habitats, for example plant hedgerows and retain but manage unmown strips of grass. Retain mature tree-lines or plant up gaps with native tree species to assist yellowhammers, birds of prey and bats.
- ☐ Reduce the area of strimming and chemical use around trees and shrubs.
- ☐ In appropriate areas allow a block of grassland to develop around planted trees, thus reducing costs and creating important 'biodiversity banks' for invertebrates. If the trees are newly-planted, ensure mulch mats or clear earth is kept around the trees to safeguard the trees.
- ☐ Reduce the area of short sward amenity grassland in all areas whilst retaining suitable play and recreation provision, setting some of this aside to create 'biodiversity banks', nectar bars, wildflower meadow areas, etc. Manage appropriately so that the area does not become rank; add interpretation where necessary or publicise any species discovered using the new area.
- ☐ Identify areas of species-rich grassland and adopt appropriate management regimes e.g. a single cut late in the summer with cuttings removed.
- ☐ Develop 'Pocket Wildlife Areas' on urban greenspace by using less intensive mowing regimes and planting native shrubs and trees, as well as heritage fruit varieties where appropriate. Glades within plantings should be kept open to encourage wild flowers, insects and birds - more wildlife is supported at the edge of plantings when there is a variety of ages and heights. Where possible, involve the local community to raise awareness of the benefits in changing to a less intensive management.
- ☐ Use more perennials and blossom/berry-bearing shrubs in formal flowerbeds, reducing the need for replacing bedding plants according to season and thereby reducing costs and minimising resources, including water. A decrease in chemical usage on flower beds will also increase biodiversity.
- ☐ Use only biodegradable systemic herbicides wherever possible; ideally applied by spot treatment methods. Lower usage wherever possible.
- ☐ Utilise walls and fences for growing a wide variety of climbing plants which will provide shelter and a food source for invertebrates, birds and bats.
- ☐ Safeguard ivy on walls and trees wherever possible and appropriate, removing it only by cutting at the base and allowing it to die down naturally. This safeguards roosting bats and nesting birds who will move away as their habitat deteriorates.

Beaver Scouts at Craigie Hill, by Perth © Perth & Kinross Council

- ☐ Use habitat piles (e.g. small, discrete piles of logs, dead wood or prunings from woody plants) in appropriate locations to encourage fungi, mosses and invertebrates, as well as refugia for common toads and hedgehogs.
- ☐ Consider the use of specific flowers rich in pollen and nectar which will attract a variety of bees, butterflies and moths. These can be garden flowers where a more formal planting is needed. It is important to plan a flowering programme so that pollen and nectar sources are available from February until November.
- ☐ Use native, local provenance species of shrubs, trees and plants whenever possible.
- ☐ Retain trees where possible - even the old, neglected or dead ones - as these are particularly valuable to wildlife. Standing (or lying) dead wood should be left in situ if safe to do so.
- ☐ Chip wood prunings in order to produce mulch for establishing and maintaining low maintenance perennial beds, etc.
- ☐ Restore ponds and watercourses in late autumn or winter when animals are not breeding. Clear only half a pond or one side of a bank at a time, replacing the aquatic plants as soon as possible. Leave all the cleared plants/soil on the side of the pond for a few days after the work to allow wildlife to disperse as necessary. Any new plantings should only be of native species found in the local area.
- ☐ Replace the usage of all peat products with peat-free alternatives and specify peat-free composts for site landscape planting. Peat extraction is seriously damaging important wildlife habitats; the UK has lost 96% of its peat bogs in just 50 years.
- ☐ Ensure all plants in council offices are in peat-free compost.
- ☐ Avoid the use of limestone pavement or any of its derivatives in horticultural operations. Limestone Pavement is a Priority habitat; only 3,000 ha. remain in Britain – a small proportion is within Tayside.
- ☐ Use locally-collected biodegradable materials in composting schemes and manage this to produce an effective by-product which can be used in horticultural work.

Wildflower trials, Brechin© C A G Lloyd

- ☐ Demonstrate to both the local community and visitors to the region through appropriate initiatives how horticultural practices can improve or enhance the area's biodiversity and what is being done for biodiversity locally.
- ☐ Conserve natural resources through reducing, reusing and recycling waste.

Case study 2

Brechin Flood Prevention Scheme - in Inch Park the protection measures included concrete-cored earth bunds. These were planted with three different wildflower seed mixes, each sourced locally and matching the varying ground conditions. Shrubs and trees – a source of nectar and food for birds and insects - were also planted in the park. Along the riverbank meadowsweet, marsh marigold, yellow flag and purple loosestrife, together with willow and alder trees, were planted. In all, Angus Council created nearly 40,000 square metres of species-rich wildflower meadows and reduced the overall quantity of chemicals applied in parks and other open spaces.

Case study 3

During the COVID-19 lockdown more people became aware of the wildlife on their doorstep because of less grass cutting. There was also a greater abundance of wildflower species along road verges and in parks. This led to Perth and Kinross Council asking local people to survey an area close to them that had been left uncut and compare it to an area of cut grass to ascertain the difference. Areas left uncut contained five times the number of wildflower species than cut areas and 62% of uncut areas contained bees compared to just 12% of non-cut areas. The results are now helping to review grass mowing of greenspaces.

Case study 4

The 'Montrose Space for Nature Pilot' involves a change in the grass cutting regime and herbicide application in open spaces in Montrose to allow wildflower regeneration. A 2km section of cycle path is reducing from 16 cuts to just 2 cuts per year, with the final cut and lift in late autumn. This will reduce nutrient load on the verges, allowing wildflowers and pollinators to thrive. The pilot project was modelled on good practice shared by Dorset Council and Butterfly Conservation, and the project is a partnership with local native wildflower seed producers Scotia Seeds. The project is contributing directly to the Pollinator Strategy for Scotland, enhancing biodiversity by allowing regeneration of native grassland meadow and improving the food source for pollinators.

Case study 5

Greenspace staff are reviewing the location of inappropriate shrubs across Perth and Kinross and removing them where they cause issues such as obstructing paths. Shrubs removed are then replaced by pollinator-friendly shrub species.

Crematoria, cemeteries and graveyards

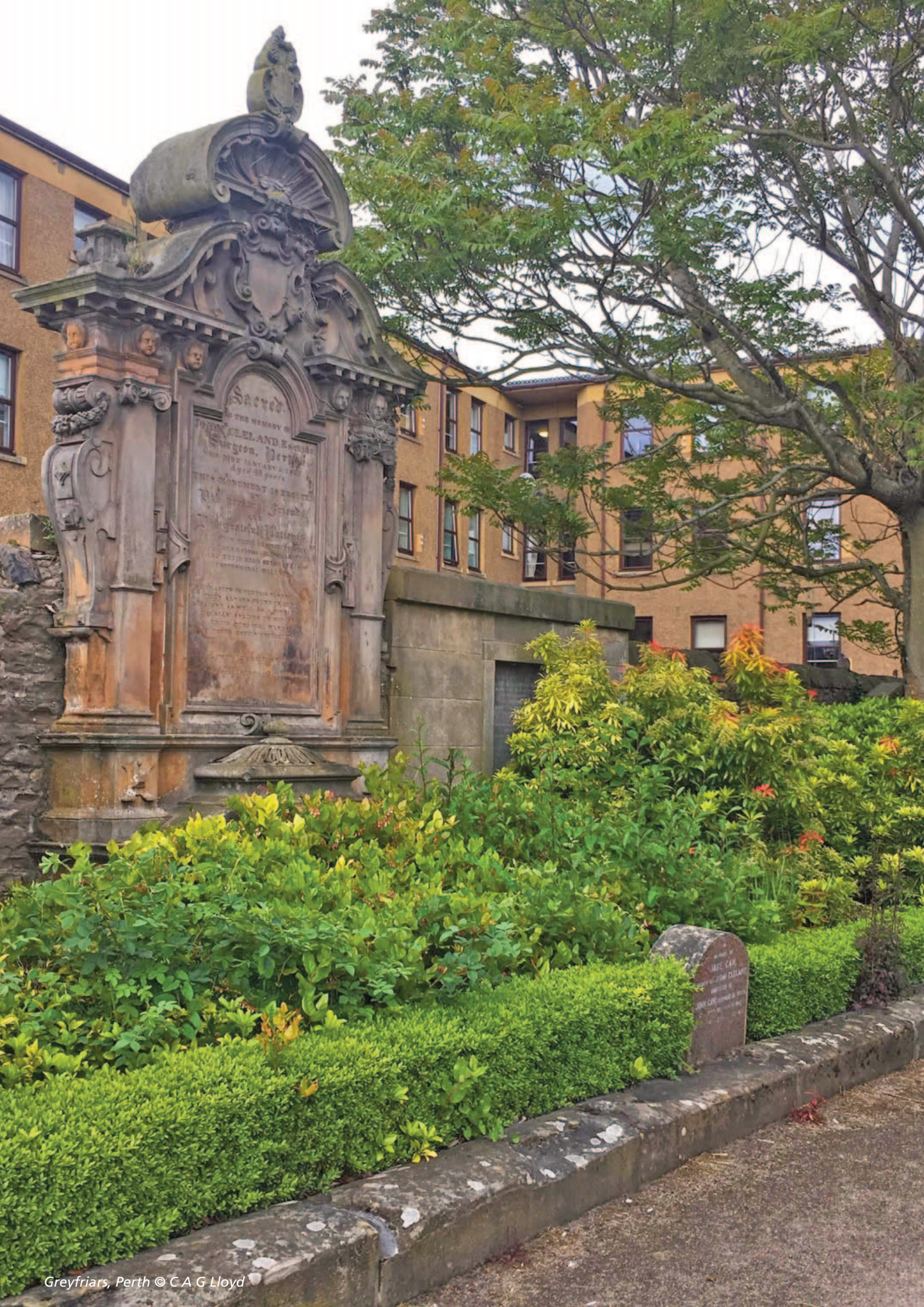
- ☐ Develop natural areas to create a peaceful space for both people and wildlife. Include berry-bearing trees such as holly, rowan and crab apple; use native hedge plants and yew in plantings. Consider a deep shrub area featuring plants that have spring blossom and berries in the autumn. Shrubs chosen for their wide and tall growth can be unmaintained for many years and create an area suitable for nesting birds and hedgehogs to breed and hibernate in.
- ☐ A woodland or shrubby area can be enhanced with shade-loving wildflowers or single-flowered bulbs such as crocus, snowdrop, narcissus and squill. Underplant appropriate plant species in new woodland/copse areas.
- ☐ Encourage the retention of original ground flora in more established woodland, leave lying or standing deadwood away from any public access where appropriate, and install bird and bat boxes on the trees wherever possible.
- ☐ Explore the opportunity to plant 'commemorative' native trees and shrubs in Gardens of Remembrance, etc.
- ☐ Use nectar-rich flowers and scented herbs in window boxes, hanging baskets and pots where appropriate to encourage beneficial pollinating invertebrates and birds.
- ☐ Leave untouched boundary walls, buildings and older gravestones as far as possible to retain lichen and moss assemblages (very rare species have been discovered in Perthshire), as well as

growth of ivy where appropriate and no herbicide usage at the base of stone walls to safeguard amphibian hibernacula and small plant growth on the walls.

- ☐ Consider the preparation of a Lichen Policy and a 'Use of Chemicals' Policy to review the safeguarding of lower plants and vascular plants in churchyards and cemeteries, especially those on walls and gravestones. Obtain advice before removing lichens or mosses from monuments as many are slow-growing and can be very rare.
- ☐ Where appropriate, develop specific wildlife areas within crematorium grounds and cemeteries as 'contemplation zones' for visitors - consider erecting a variety of nest boxes to encourage wildlife to use these areas. Where appropriate, a mosaic of less frequently cut grass will encourage butterflies and moths, including some of the rarer species. Desire lines can be incorporated or a maze cut (at a mower's width) to encourage people to explore a hidden area.
- ☐ An alternative contemplation zone could be a Biodiversity (or Wildlife) Garden area which can be a formal 'neat and tidy' garden hosting plants, shrubs and trees all suitable for pollinators. Water features such as ponds, fountains or flow forms can help expand the wildlife habitat whilst retaining an oasis of calm in the area.
- ☐ Link to the existing Tayside Green Graveyard Initiative and work in partnership with the local community or via the Biodiversity Villages Project. The advisory leaflet is available here: https://www.taysidebiodiversity.co.uk/2015/02/03/green-graveyards-initiative/
- ☐ Liaise, where appropriate, with Eco-Congregation Scotland - http://www.ecocongregationscotland.org/
- ☐ Explore the feasibility of woodland or green burial schemes.
- ☐ As part of the Tayside Green Graveyard Initiative, in Commonwealth War Grave Commission Graveyards consider the simple planting of naturalised snowdrops (to assist early pollinators) and forget-me-nots to provide spring/early summer nectar for pollinators.
- ☐ To safeguard the DNA of the Fortingall Yew, the Royal Botanic Gardens Edinburgh is growing cuttings for the Tayside Churchyard Yew Project; in due course these cuttings will be available to any churchyard or crematorium in the area. Please apply via the Tayside Biodiversity Partnership.
- ☐ Only Britain can boast so many yews in its churchyards. Many carry a lot of deadwood and can look 'untidy' or have discoloured needles; they still recover. If they have not been regularly pruned it is best to leave them alone, although if boughs collapse these can root and regenerate.
- ☐ Raise awareness of any changes in management practice with appropriate interpretation and, where feasible, involve the local community in simple surveys and plans for habitat enhancement.

Case study 6

Carmyllie Graveyard, between Arbroath and Forfar, is an important refugia in the middle of intensive arable farmland. A small population of Common pipistrelles roost in the nearby manse and use the graveyard for feeding, especially the mature trees. Soprano pipistrelles roost in the church itself and also use the graveyard for foraging. The graveyard trees are vital to their continued existence in the area as they provide a safe area of escape from predators such as owls and buzzards, as well as roosting areas outwith the maternity season. A slight rewilding of the churchyard or the provision of flowers for pollinators will help create more habitat for beneficial insects.



Greyfriars, Perth © C A G Lloyd

Case study 7

Greyfriars in Perth is a Green Graveyard, part of a priority project in the Tayside Local Biodiversity Action Plan. It is a unique urban wildlife haven offering sanctuary to birds, bats and butterflies. The graveyard is managed with a range of grass lengths – long for pollinators and short for the rare waxcap fungi. Some of the grass is cut at the end of the summer once the wildflowers have seeded - cow parsley, yarrow, meadow buttercup and ox eye daisy, all plants which attract beneficial insects. In turn this provides food for blackbirds, robins and chaffinches which are present here. Swifts feed over the graveyard and nest in the surrounding buildings. Deadwood is left on site as it provides a food source to many priority species. Bird and bat boxes are provided on some of the mature trees in the graveyard; bats also benefit from the increased insect life in the meadow areas.

7 Housing

- ☐ Ensure a 'whole area' approach to biodiversity is considered when planning works within housing zones.
- ☐ Concerns about the carbon footprint of housing stock is highlighting the greater importance to understanding bats' use of cavity walls as roosting sites during all seasons. If bats are present in a cavity wall scheduled to be filled with insulation a gap must be left for the bats. Professional advice is available via https://www.bats.org.uk/our-work/buildings-planning-and-development/existing-buildings/cavity-wall-insulation.
- ☐ Use sustainably sourced materials wherever possible in maintenance and construction - timber that is Forest Stewardship Council (FSC) approved and solvent-free or low-solvent paints. Consider the re-use of materials where appropriate.
- ☐ Incorporate a specific housing policy for swallows, swifts and house martins to ensure contractors working on buildings do not disturb or remove current nests – encourage property managers to install artificial nest-boxes as appropriate. Such a cost-effective initiative will raise awareness, especially where well-known buildings are targeted.
- ☐ Ensure contractors working on buildings know to check for the presence of bats before undertaking any work throughout the year.
- ☐ Consider providing a Householders' Biodiversity Pack to residents which can include advice on gardening to encourage wildlife, making gaps in fences to create hedgehog highways, suitable nest boxes, how to make bee hotels and hedgehog homes. It can also encourage residents of all ages to take part in citizen science surveys. Contact caglloyd@pkc.gov.uk for further information.

Swift Best Practice Advice Notes
http://www.taysidebiodiversity.co.uk/2017/03/10/swift-best-practice-advice-notes/

Bat Guidance Note
https://www.bats.org.uk/our-work/buildings-planning-and-development/building-or-development-works/planning-and-the-law

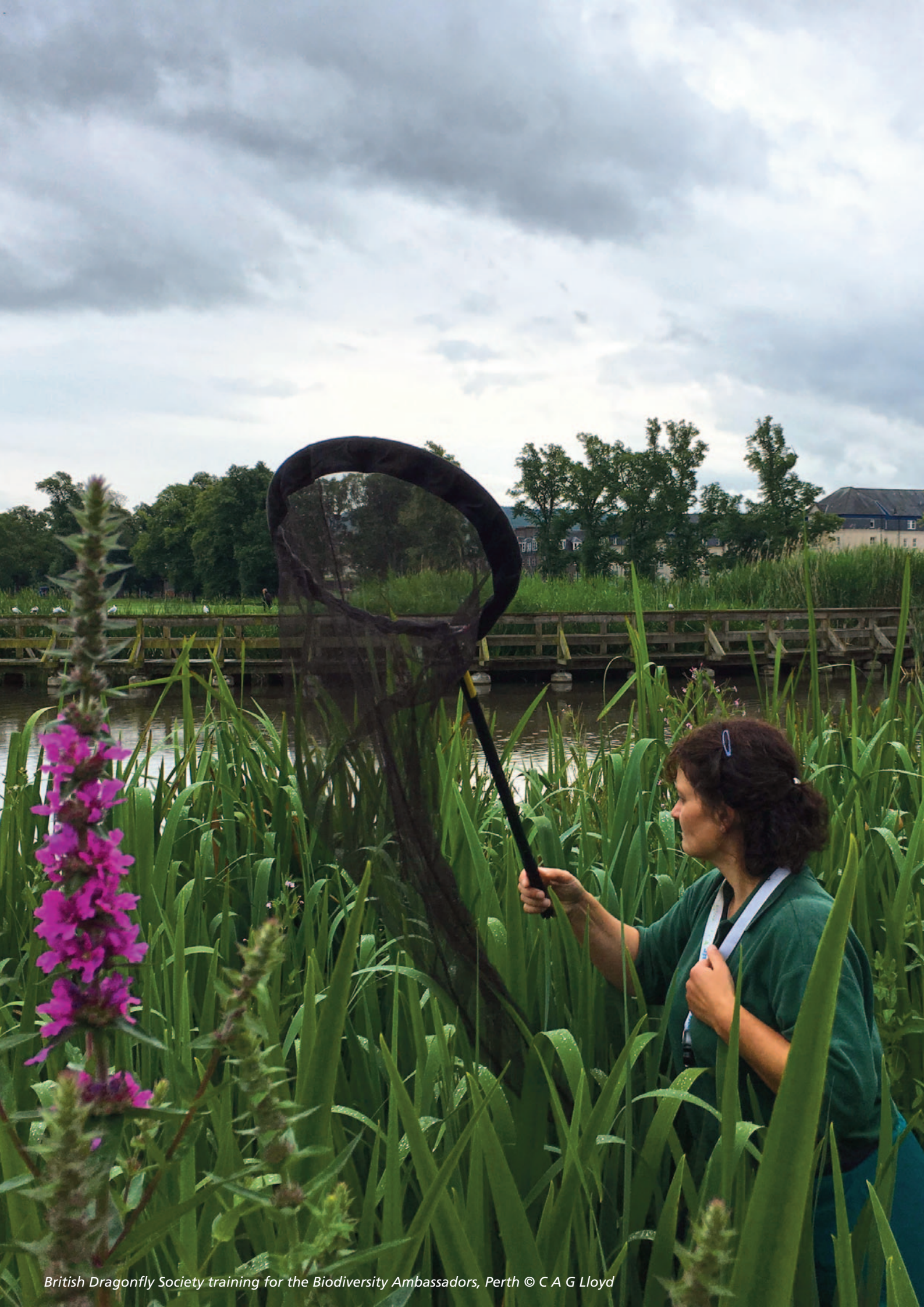
Species Planning Advice – Bats:
https://www.nature.scot/species-planning-advice-bats

8 Legal services

- ☐ Ensure staff are aware of legislation relevant to the biodiversity of the area and the Local Authority, especially the Wildlife and Countryside Act 1981 and all updates, as this relates to species protection in the area.
- ☐ Facilitate the drawing up of appropriate, enforceable countryside bylaws in order to protect and promote the importance of biodiversity on the land.
- ☐ Ensure that appropriate comments regarding the effectiveness of any new legislation relating to biodiversity are relayed to Government during the consultation phase for such legislation.
- ☐ Bluebells, snowdrops and moss can be illegally gathered on a large scale for the garden trade. Further information is available from Plantlife: www.plantlife.org.uk
- ☐ Scottish Wild Mushroom Code - https://www.nature.scot/scottish-wild-mushroom-code
- ☐ The Scottish Invasive Species Initiative (SISI) is working with Fishery Trusts/Boards across northern Tayside to tackle key invasive non-native species, including mink - www.invasivespecies.scot.

9 Leisure

- ☐ Promote a healthy lifestyle by encouraging the use of cycle paths, bridle paths and footpaths. Walks suitable for the family, together with pastimes such as watching wildlife and photography, can improve health, enjoyment of the local environment and engender a greater understanding of wildlife. Check the Paths to Health website: www.pathsforall.org.uk and the Perth & Kinross Countryside Trust website – www.pkct.org; AngusAlive – www.AngusAlive.scot.
- ☐ Consider opportunities for biodiversity enhancement around the perimeters of sports or playing fields as they act as valuable wildlife corridors, i.e. plant corners with low-maintenance flowering/berried shrubs, plant a row of native trees such as crab apple, holly, rowan or birch. Retain native hedge boundaries where possible or plant new ones if the site is suitable.
- ☐ Promote the enhancement of golf courses to benefit wildlife by involving both greenkeepers and golf club members in understanding the environmental value of their course.
- ☐ Create, protect and manage cycle paths and footpaths with biodiversity in mind – retaining an appropriate area of short verge sward will encourage walkers and runners to alternate between the hard and soft surfaces. An adjoining area of taller grasses and attractive wild flowers will also encourage butterflies, bumblebees and hoverflies: 98 per cent of flower-rich meadows have been lost in the past 50 years and a major contribution can be made by encouraging such ‘grassland strips’.
- ☐ Manage the boundaries adjoining paths to improve the surrounding environment for walker and cyclist alike, i.e. where appropriate, under-hedge planting of primroses, ramsons and ragged robin will encourage wildlife, as will the planting of berry-bearing native trees or Scottish heritage fruit trees. Scented climbing plants such as honeysuckle rambling over fences and walls will enhance the walkers’ and cyclists’ experience.
- ☐ Promote volunteering for practical wildlife conservation work to aid social inclusion and improve both physical and mental health. The TCV's `Green Gym' initiative – and the Countryside/Greenspace Ranger volunteer groups - offer the opportunity to improve physical fitness by involvement in practical conservation activities.



British Dragonfly Society training for the Biodiversity Ambassadors, Perth © C A G Lloyd

- [ ] Encourage participation – individually or in groups - in appropriate environmental award schemes to focus attention on the exploration and care of a wild place – be it a local pond, sand dune or glen. One such non-competitive scheme open to everyone is the John Muir Award: www.johnmuiraward.org.
- [ ] Contribute to a healthy lifestyle by encouraging the development and retention of allotments or small raised-bed community areas at the edge of lesser-used parks to provide an opportunity to grow local food.
- [ ] Encourage gardening with wildlife in mind – at home, in the community, on allotments and in school grounds. Check https://www.gardenorganic.org.uk/ and www.RHS.org.uk. Copies of the Tayside Biodiversity Partnership's Making Way for Nature booklet are available or can be downloaded from http://www.taysidebiodiversity.co.uk/2016/07/04/making-way-for-nature/
- [ ] Raise awareness of the damage created by planting non-native plants outwith gardens and public parks.
- [ ] Promote local heritage varieties of fruit and vegetables in community gardens, allotments and community/school orchards - promoting local distinctiveness and a pride of place can help many people discover 'the wildlife on their doorstep'.
- [ ] Raise awareness of the impact of litter and fly-tipping on biodiversity by encouraging personal responsibility for disposal of litter.
- [ ] Encourage beach cleans and specific marine litter picks (creels/ghost fishing gear) at key times of year.
- [ ] Raise awareness of the Marine Conservation Society's 'Don't Let Go' campaign which helps safeguard wildlife and livestock from choking or getting tangled in the remains of balloons or sky lanterns - Angus and Perth & Kinross Councils are amongst 50 councils in the UK which have agreed a voluntary ban on balloon and sky lantern releases on their land. Biodegradable items can still take up to four years to break down and lanterns pose a fire risk to summer crops.

Case study 1

Angus Council's Elected Members have demonstrated a commitment to supporting community initiatives by joining the Beach Cleans arranged for the Angus Coastal Festival in association with the Marine Conservation Society's Big Beach Cleans. In addition, "Turning the Plastic Tide", run by the East Grampian Coastal Partnership to address those areas affected by the blight of marine plastic, is raising awareness of the opportunities available to tackle beach litter at a local level to schools, community councils and other groups.

Case study 2

Woodlands Primary School in Carnoustie are the Angus School Species Champions for the Small Blue butterfly. Pupils from the school have been regularly involved in planting Kidney Vetch along the coast at Carnoustie Golf Links. The plants are grown by Carnoustie's Food is Free volunteers with seed donated by Brechin-based Scotia Seeds. Other School Species Champions are tackling marine litter and learning about the Wild cats in the Angus Glens.

10 Libraries, community campus hubs and museums

- ☐ Ensure general biodiversity information is accessible to as wide a range of client groups as possible, including those without direct access to the written word e.g. through 'talking newspapers', audio books, online training events, etc.
- ☐ Act as information centres/contact points for details about biodiversity within the area. Each library could have a section of the public notice board set aside for biodiversity contacts, gardening and wildlife groups, as well as advertising local volunteering opportunities to get involved in practical conservation.
- ☐ Encourage environmental groups and Non-Governmental Organisations to hold regular exhibitions to publicise special Weeks/Months such as UK Swift Awareness Week, Small Blue Week, Scottish Badger Week, the Big Butterfly Count, Moth Nights, etc.
- ☐ Ensure copies of the Tayside Local Biodiversity Action Plan (1st and 2nd Editions) are available for people to consult or help publicise the website links. Hold a selection of appropriate leaflets from the Tayside Biodiversity Partnership and local environmental groups.
- ☐ Support the collation and reporting of biodiversity records; publicise the annual Tayside Recorders' Day programme, Local Patch project (and iRecord data recording) and annual Recorders' Bulletin - paper copies and online.

Case study 1

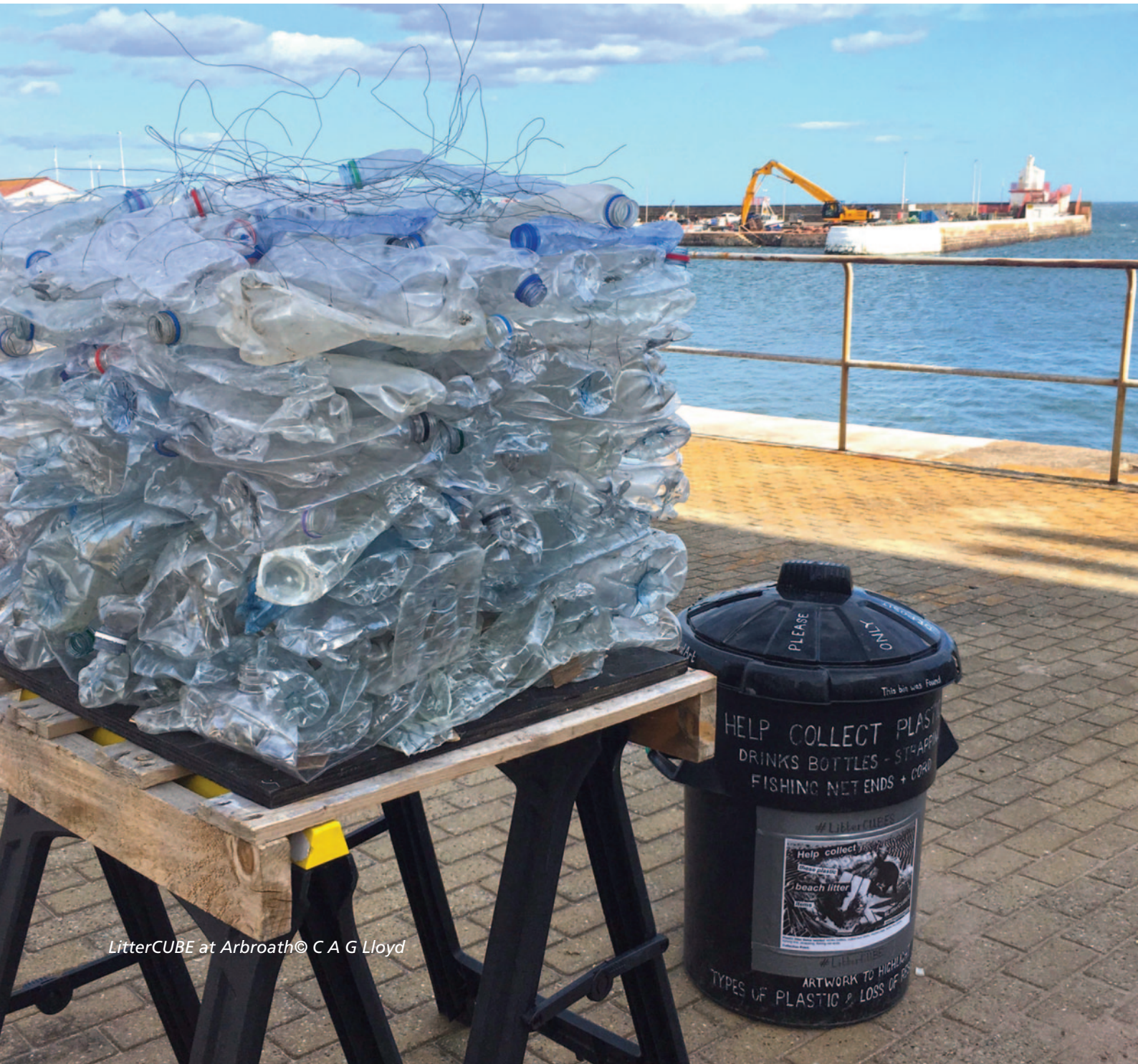
Tayside Swifts holds its Swift Mapping events in local libraries, together with a display and drop-in sessions for children and adults alike to take part in competitions and to find out more about the swift conservation projects being undertaken in specific towns and villages across Tayside.

Swift art competition
© D Muir

Swift art competition
© D Muir

Case study 2

During the Angus Coastal Festival, Tayside Biodiversity partners undertook a series of library exhibitions to help raise awareness of both the Festival and local projects. Butterfly Conservation Scotland featured 'the coastal butterflies of Angus'; the Marine Conservation Society added children's events to their displays; both Tayside Swifts and the East Grampian Coastal Partnership planned library exhibitions. Littoral Art's LitterCUBE proved particularly popular with a talk at the Carnoustie Leisure Centre and beach-based and harbour-based public events.



LitterCUBE at Arbroath© C A G Lloyd

11 Planning and development

- [ ] Ensure Local Development Plans and masterplans take full cognisance of biodiversity issues.
- [ ] Ensure the adequate protection of local, national and internationally important wildlife sites, including the Local Nature Conservation Sites (LNCS) for both biodiversity and geodiversity.
- [ ] Utilise the Tayside Local Biodiversity Action Plan in assessing all relevant planning applications.
- [ ] Encourage wildlife enhancement and appropriate habitat creation when considering projects and in processing planning applications - including the retention and enhancement of existing features such as wildlife corridors, tree-lines, mature trees, footpaths and grass swards.
- [ ] Use Tree Preservation Orders (TPO's) where appropriate to protect trees and orchard plantings of high wildlife value.
- [ ] Ensure biodiversity issues are given due consideration in any Environmental Impact Assessments.
- [ ] Ensure all mineral site restoration schemes accommodate wildlife through significant, appropriate habitat creation programmes.
- [ ] Ensure mineral site restoration takes into consideration the local geodiversity, and where appropriate any proposed or confirmed Geodiversity Sites (LNCS).
- [ ] Where possible, retain existing biodiversity features in all landscaping for development, especially mature or veteran trees, existing waterways, hedgerows, orchards, etc.
- [ ] Encourage the creation of wildlife-friendly greenspace within new development or redevelopment.
- [ ] Ensure that as well as identifying the presence of invasive non-native plant species, developers submit a plan outlining how the plants will be treated and removed where appropriate.
- [ ] Consider biodiversity as a suitable end-use for brownfield sites where appropriate, especially if this assists in achieving the objectives of strategic projects such as Community Woodlands, Climate Change targets, community orchards, growing spaces, etc.
- [ ] Encourage, where appropriate and feasible, repointing in lime mortar so as not to exclude masonry bees when renovating buildings (including listed buildings). Also, where possible, retention of lime-loving plants such as ferns, liverworts and mosses should be considered.
- [ ] Maximise the biodiversity benefits when designing new or managing existing SUDS (Sustainable Urban Drainage Systems), swales or soakaways, water flow technology, raingardens and willow- and reed-beds.
- [ ] Consideration should be given to any existing water vole populations on or near developments through the stabilisation of water levels where possible, creation of suitable bank profiles and habitat corridors.
- [ ] Maximise opportunities for habitat creation through design and development of all schemes, including the re-creation of natural landforms and features such as river and burn meanders. Ensure all future storm water overflows have incorporated into their design appropriate functioning oil-traps.

Case study 1

The Glebe housing development near Perth is a Council project providing 65 affordable homes. Early engagement with the architects and landscape designers has meant bat and swift bricks are being installed in 50% of properties and hedgehog highways, wildlife kerbs, flowering lawns and the planting of native trees and hedges will create connectivity across the site with the nearby woodland.

Working with the Street Lighting Partnership has ensured permanent lights are low lux-level, downward facing and directed away from hedgerows, treelines and woodland to avoid fragmentation of foraging and commuting opportunities for bats. These biodiversity enhancement measures have been incorporated into Perth and Kinross Council's New Build Homes Design Guide.

A community orchard, including local fruit varieties surrounded by native shrubs, is part of the design. The Tayside Biodiversity Partnership is providing Householder Information Packs to all new homeowners and will be working with the landscape designers to create a wildlife garden at the showhouse.

12 Roads and transport

- ☐ Ensure, as far as is possible, that all necessary works are undertaken without a negative effect upon biodiversity. Where Environmental Impact Assessments are not required, endeavour to undertake an ecological survey prior to the determination of road alignment or re-alignment schemes. This is especially important where works are to be undertaken adjacent to sensitive sites or habitats such as Sites of Special Scientific Interest, Local Nature Conservation Sites, Geodiversity Sites or key habitats identified in the TLBAP.
- ☐ Ensure that all works to bridges and culverts take into consideration the possible presence of bats which are protected under Schedule 5 of the Wildlife and Countryside Act (1981, as amended).
- ☐ Give consideration wherever possible to the design of bridges and culverts to allow features such as bird and bat boxes, both integral and external.
- ☐ Ensure that bridges and culverts wherever possible are designed at the initial stage, or re-designed when reconstructed, to accommodate the safe passage of species such as badger and otter where there is a known presence of the species.
- ☐ Ensure, as far as is possible, that road drainage schemes do not discharge into wetland sites or on to sensitive habitats that could be damaged by petrochemical or salt run-off. Where appropriate, work with the relevant authority to consider removal of any which currently do, unless specifically designed for the purpose e.g. balancing ponds.
- ☐ Minimise salt loading of roads, especially by-roads to reduce salt spray effects (notwithstanding public safety aspects) - particular attention should be paid to areas near wetlands and semi-natural grasslands to safeguard amphibian, invertebrate and vascular plant populations.
- ☐ Taking amphibian migration routes into consideration, install dropped kerbs or wildlife kerbs to enable safe passage for common toads, newts and common frogs. Where necessary, install amphibian ladders into gully pots to enable animals to escape. These can be ordered directly from the British Herpetological Society: https://www.thebhs.org/the-bhs-amphibian-gully-pot-ladder.

- [ ] Be aware of the potential presence of water voles in urban waterways and along ditches. With only 2% of the original population left in the UK, this species is protected under Schedule 5 of the Wildlife and Countryside Act (1981, as amended). Design appropriate protection for all populations of water voles (as well as other vulnerable species) when drainage and similar works are to be undertaken.
- [ ] Protect roadside trees from root damage — where the service provider/agency has responsibility — during any roadworks or work on utilities' pipes and cables. If trees have to be removed, ensure that they are replaced as quickly as possible using native and berry-bearing trees where appropriate.
- [ ] Protect townscape trees from drought after nearby work by the use of porous, replacement road and paving surfaces, allowing rain water to reach the roots.
- [ ] Timetable maintenance work where possible - especially verge, grass sward and hedge trimming operations that could disturb nesting birds: avoid the breeding season (between March and August).
- [ ] Reduce the frequency of grass-cutting on roadside verges. Mow suitable safety margins and all sight lines; otherwise allow the development of a rough grassland network to develop along all major road corridors. This favours wild flowers, small mammals and birds of prey and acts as a network along which many species, especially invertebrates, amphibians and reptiles can disperse. An occasional full cut will be needed to ensure the inner verge does not revert to scrub or young tree growth. Utilise eye-catching signage to explain the management to both the public and contractors.
- [ ] Before changing roadside verge management check if any existing plant or fungi is rare as in some cases low-growing plants and wax caps require a regular cutting regime.
- [ ] Liaise with the relevant agencies to take control measures if advised of serious infestations of ragwort (an injurious weed covered by the 1959 Weeds Act) on roadside verges or land managed or owned by the Local Service provider/ agency. Ragwort is a native food plant of the Cinnabar moth so should not be eradicated except where it is likely to cause issues with livestock or horses.
- [ ] Use local provenance wildflower mixes as low maintenance alternatives on poor soil and manage these under a once a year cut/hay crop regime.
- [ ] Use nursery grown native trees and shrubs from UK-stock, preferably of local provenance. This will contribute towards the preservation of local landscape character and genetic biodiversity, at the same time as improving tree and shrub survival rates and contributing towards the rural economy. It will also safeguard against the importation of diseases or the spread of disease.
- [ ] Undertake appropriate roadside hedge management work in late winter to avoid nest destruction and to maintain winter food supplies such as hawthorn berries for birds. Management should be undertaken to prolong the life of the hedge as a wildlife resource; a cut once every two years is usually sufficient. Seek advice as to which roadside hedges to flail or which hedge bottoms, if any, to spray. In rural areas, especially, hedge bottoms should not be sprayed and native hedge plants encouraged to create a healthy wildlife corridor.
- [ ] Encourage the height of roadside hedges to be increased to at least 2m, where safe and appropriate to do so, particularly if barn owls are known in the area. This will help prevent road kills when the birds swoop over lower hedges into the path of vehicles.

- [ ] Retain mature hedgerows and hedgerow trees where appropriate and plant new or additional hedgerow trees to safeguard future tree-lines. Since the 1950s the UK has lost 190,000 miles of its hedgerows.
- [ ] Consider the installation of appropriate wildlife warning signs in areas where road kill may be negatively impacting on important species programmes e.g. red squirrels, otters and common toads.

Case study 1

To mitigate localised flooding issues, rain gardens and wildflower swales are being developed at a number of sites, including the Kinross Park & Ride. The gravel infiltration treatment at the private car park at Loch Leven's Larder is also being managed with biodiversity in mind.

The initiative 'Perth, People, Place' is making streets more resilient and more people-friendly. Providing shade, storm water capacity and on-street biodiversity at the masterplan stage will help create attractive rain gardens along a key transport route into Perth.

Case study 2

Angus Council Roads Department has sought the Tayside Biodiversity Partnership and others input before the three yearly verge cutting tenders are considered. This enables key biodiversity-rich verges to be checked and reported upon so that accurate management can be discussed. The public are encouraged to highlight their favourite verges via a Social PinPoint link (which covers both Angus and Perth and Kinross council areas): https://shapingangus.co.uk/where-are-our-roadside-wildflower-hotspots/map#/

Case study 3

Where retrofitting of wildlife kerbs or dropped kerbs is not possible or proves insufficient, both Angus and Perth and Kinross Councils have been able to install a series of amphibian ladders and in some cases arranged for volunteers to undertake regular gullypot checks. This is particularly important when the roads cross well-established amphibian migration routes and where there can be a very high mortality rate at certain times of year. The amphibian ladders were invented in Angus but are now proving extremely popular throughout the UK – with interest shown from Europe and America. The Tayside Biodiversity Partnership arranges amphibian ladder-making workshops where new areas of concern are identified.

© T Rose

13 Social services

- [ ] Involve volunteers in making, siting and maintaining a variety of nest boxes and bird feeding stations to contribute to the various biodiversity projects being undertaken throughout Tayside.
- [ ] Help residents, visitors and staff in sheltered housing, nursing homes, hostels and hospitals – as well as visitors and staff at medical centres and clinics – improve the immediate environs both for their benefit and the benefit of wildlife. Where appropriate encourage the setting up of bird feeding stations and provision of identification materials (posters, books and binoculars). Set up Tayside Biodiversity BeeWild projects where appropriate to encourage planting for pollinators.
- [ ] Review the grassland management around car parks and property grounds and where appropriate, create biodiversity banks and nectar bars to reduce the regular mowing regime. Plant perennials to be more sustainable and attract wildlife. Consider orchard plantings (including boundary trees, car parks, staff areas) to visually improve surroundings but also to attract wildlife.
- [ ] Take client groups to well-known countryside facilities to allow a wider enjoyment and appreciation of biodiversity. Where this is not possible, encourage online facilities to create an interest in wildlife.

Case study 1

Working with Voluntary Action Angus (VAA), the Tayside Biodiversity Partnership helped 9 care homes, a sheltered housing complex and a busy day centre create a BeeWild Action Plan. Funding enabled wildlife ponds, orchards, BeeWild patios and native trees to be provided to each of the sites. VAA staff and young volunteers made high-quality hedgehog boxes, tubs, bat and bird boxes. Events were held in the care homes to raise awareness to staff on how to manage the wildlife ponds and encourage pollinators to the improved garden spaces.

© C A G Lloyd

© C A G Lloyd

Case study 2

As a result of the Biodiversity Ambassadors' membership, the Tayside Biodiversity Partnership provided the Perth and Kinross Council Family Change Unit with a BeeWild Action Plan to help improve the private outside space for staff, visiting children and their parents as part of the therapeutic social work undertaken.

Case study 3

During the Covid19 pandemic, the Learning & Development Team in the Perth & Kinross Health & Social Care Partnership worked with community councils and Zero Waste Perth to provide "Give and Take" boxes. In addition to non-perishables being made available, the Tayside Biodiversity Partnership was asked to provide free booklets and wildflower seeds to add to the seed bombs also donated. The initiative also prompted a special Easter egg box and inspired other communities across the region, as well as attracting global interest.

Case study 4

Perth and Kinross Council Greenspace Rangers work in partnership with NHS Tayside and the Perth & Kinross Association of Voluntary Service to provide practical outdoor sessions. Volunteers have the opportunity to care for local greenspaces and woodlands by clearing footpaths, thinning trees, removing litter and planting wildflower meadows. The group is open to all and some participants are referred by the NHS to enjoy the benefits of outdoor exercise and meeting new people to improve mood and reduce anxiety. Groups are run across Perth and Kinross with a lot of work being completed – and a lot of tea and biscuits consumed each year!

14 Trading standards and licensing

- ☐ Information is available through Partnership Against Wildlife Crime Scotland on wild birds and the law, amphibians and freshwater pearl mussels, badgers and other wild mammals, poaching of game, deer and salmon, and wild plants and the law - https://www.gov.uk/government/groups/partnership-for-action-against-wildlife-crime
- ☐ CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora) is an international agreement between governments which ensures international trade in specimens of wild animals and plants does not threaten their survival. Legislation ensures that trade in protected species is legal, sustainable and traceable
- ☐ Develop links with the local Police Wildlife and Environment Officer – tel. mobile 0780 8899 113 or 0300 111 2222, ext 3530, or by e-mail at blair.wilkie@tayside.pnn.police.uk
- ☐ Ensure biodiversity issues are considered when liaising with Local Service providers/agencies and the public regarding `green' legislation – i.e. to reduce the effect on wildlife by minimising the use of pesticides and substances prepared or used for the control of pests or for protection against pests, and poisons (including use of drain cleaners, weed killers, pond cleaners and mould removers).
- ☐ Roof companies treating timber and pests must be reminded that all bats and their roosts are protected by law, using any chemical treatments in a roof that is used by bats must be checked with NatureScot. The same chemicals can inadvertently kill vegetation and pollute waterways.

Trade Agreements and their Potential Impact on Environmental Protection – https://digitalpublications.parliament.scot/ResearchBriefings/Report/2020/9/4/Trade-Agreements-and-their-Potential-Impact-on-Environmental-Protection-1

This briefing outlines differing environmental protection measures and their interactions with potential trade agreements. It discusses Scottish environmental protection in the context of UK post-Brexit trade agreements. There will be updates to the document available via the Scottish Parliament website.

Notes

Appendix 1

Biodiversity Duty reporting

The Wildlife and Natural Environment (Scotland) Act 2011 or WANE Act requires three-yearly mandatory Biodiversity Duty Reports to be published by all public bodies. The deadlines for these are 1st January 2021, 2024 and 2027. All previous local Biodiversity Duty Reports are on the TBP website – www.taysidebiodiversity.co.uk. Other public body reports (2015-17) are available from https://www.nature.scot/previous-biodiversity-duty-reports.

- Angus Council Biodiversity Duty Report – 2015 – 2017 https://www.angus.gov.uk/sites/angus-cms/files/2018-01/Angus%20Statutory%20Biodiversity%20Duty%20Report%202017_0.pdf
- Perth and Kinross Council Biodiversity Duty Report 2015- 2017 - https://www.taysidebiodiversity.co.uk/wp-content/uploads/2018/03/PKC-Biodiversity-Duty-Report-Jan-2015-Dec-2017.pdf

In May 2020 NatureScot published a new document "The Biodiversity Duty Explained" which can be downloaded via https://www.nature.scot/scotlands-biodiversity/scottish-biodiversity-strategy/biodiversity-duty. It outlines which reporting template is suitable and outlines illustrative examples of action that have been previously reported. The document also includes a comprehensive table to help link actions to the contribution they are making directly to the Scottish Biodiversity Strategy.

Appendix 2

Further information

UK Biodiversity Indicators 2020
https://jncc.gov.uk/our-work/uk-biodiversity-indicators-2020/

Scottish Biodiversity Strategy
https://www.nature.scot/scotlands-biodiversity/scottish-biodiversity-strategy

Pollinator Strategy for Scotland 2017–2027
https://www.nature.scot/pollinator-strategy-scotland-2017-2027

Tayside Local Biodiversity Action Plan 2nd Edition (2016-2026)
http://www.taysidebiodiversity.co.uk/action-plan/action-plan-new-lbap-2015

Developer and Householder Guides
http://www.taysidebiodiversity.co.uk/information/information-guides-manuals/

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Appendix 3

Further reading

Practical guides and best practice

Plantlife - Managing Grassland Road Verges.
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"When we try to pick out anything by itself, we find it hitched to everything else in the Universe"

John Muir, My First Summer in the Sierra

Acknowledgements

This Guide is an updated version originally researched and compiled by the Tayside Biodiversity Partnership. Thanks are extended to members of the Partnership for their contribution and professional advice, and to Edward Dillon for updating the Appendices.

The Tayside Biodiversity Action Plan 2nd Edition (2016-2026) can be viewed on www.taysidebiodiversity.co.uk

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2nd Edition Incorporating Biodiversity into Local Services (Tayside) - published 2020 (c) Tayside Biodiversity Partnership

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