

The Current State of Provision for Biodiversity Within Housing Developments and the DwN Guidance

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Developing with Nature guidance – supporting NPF4 ambition

NPF4 -Policy 3 Nature Crisis

- 6 NPF outcomes – ‘*securing positive effects for biodiversity*’
- Policy 3 Nature Crisis – Puts biodiversity enhancement, conservation and Nature network creation/ enhancement at the forefront.
- Universal policy 3c) Local Development
“... *should only be supported if they include appropriate measures to enhance biodiversity, in proportion to the nature and scale of development. ...*”
- Supported by *Developing with Nature* guidance
 - for applicants and planners



Our Desk Based Study

- Study was carried out to establish how biodiversity is catered for within housing developments
- 120 residential development planning applications examined
- All have been granted planning permission in the last 5 years
- From all LA's in Scotland where developments were suitable
- Developments considered consisted of at least 20 houses or 4 blocks of flats
- Biodiversity measures, for example bird boxes, were recorded as used or not used per site



Assessing Planning Applications for Biodiversity

- Large number of documents to review
- Many contain elements relevant to biodiversity
- Some relevant documents are not obvious to the reader!
- **Common documents** to review are: decision notice, landscape plan, planting plan, ecology report, tree report, design and access statement
- Long documents and 'biodiversity' not clearly signposted!

Details Comments (16) Documents (207) Related Cases (6) Map

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	Date Published :	Document Type :	Drawing Number :	Description :	View
☐	08 Mar 2021	Decision		DECISION NOTICE	
☐	04 Mar 2021	Other		SECTION 75 LEGAL AGREEMENT	
☐	18 Nov 2020	Other	19/01165/110	CONDS CRIEFF TRAVEL PLAN	
☐	06 Nov 2020	Other		CONDS EMAILS FROM AGENT	
☐	21 Oct 2020	Other		CONDS EMAIL FROM AGENT	
☐	21 Oct 2020	Drawing	19/01165/107	CONDS SITE PLAN WINDOWS CLOSED	
☐	21 Oct 2020	Other	19/01165/108	CONDS CONDITION 26 DISCHARGE LETTER	
☐	02 Mar 2020	Drawing	19/01165/75	SITE SECTIONS 18-132-80C	
☐	02 Mar 2020	Drawing	19/01165/86	LANDSCAPE LAYOUT REVISION C	
☐	02 Mar 2020	Drawing	19/01165/81	PLANTING PLAN REVISION C 1277-15	
☐	02 Mar 2020	Drawing	19/01165/81	PLANTING PLAN REVISION C 1277-16	
☐	02 Mar 2020	Drawing	19/01165/81	PLANTING PLAN REVISION C 1277-17	
☐	02 Mar 2020	Drawing	19/01165/81	PLANTING PLAN REVISION C 1277-18	

Planting for Biodiversity

- 98/120 developments use amenity plants that would support pollinators
- 46/120 purposefully state a goal of supporting pollinators

How good are they for pollinators?

- Not all pollinators are bees and there are different types of bees
- Supporting pollinator life stages rarely considered

Tree planting

- 102/120 have park trees of good biodiversity standing, of which 99 include native species
- 101/120 have street trees of good biodiversity standing, of which 100 include native species



Invasive Species

- 72/120 developments planting contained species that can be considered non-native invasive
- 13/120 developments lacked enough planting details to assess the species used

With many developments using multiple species:

- 47 have - 1 species
- 21 have - 2 species
- 3 have - 3 species
- 1 has - 4 species

The most common species used are

- | | |
|--------------------|--------------------|
| - Laurel (47) | - Cotoneaster (24) |
| - Rosa rugosa (11) | - Buddleia (7) |
| - Snowberry (4) | |



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Planting for Biodiversity

Hedgerows

62/120 developments plan to plant mixed native hedgerows

6/120 developments have single species hedgerows that use native species

117/120 developments have single non-native species hedgerows

The most common used species are:

- Beech = 47/120
- Laurel = 30/120
- Hornbeam = 23/120



Wildflower Planting

Developments with wildflower meadows = 87/120:

- With no wildflower areas = 33/120
- 1 type of meadow = 30/120
- 2 types = 35/120
- 3 types = 17/120
- 4 types = 5/120

Wet meadows are the most commonly planted type of meadow; 57/87 developments with meadows including these.

Planting of wet meadows is usually part of a SuDs system.



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SuDS For Biodiversity... very low occurrence



SuDs pond=9/120
Pond other than SuDs= 2/120



Wet meadow SuDs basin
= 57 /120



Wet meadow swale = 11/120
Amenity grass =5/120



Rain garden= 7/120



Toad ladders=2/120
As condition = 2/2



Amenity grass basin=
14/120



Underground tank
storage= 7/120

Connectivity

How well developments connect on and off-site landscape and habitat features, especially for wildlife movement

- Developments with connectivity= 101/120
- Green connectivity = 59/120
- For biodiversity = 23/120



Connectivity features

- Mini woodlands = 66/120
- Improve existing woods = 38
- Hedgehog highways= 4/120
- Green roofs = 4/120 (1 on utility structure)





Bat boxes= 20/120

As planning condition 12/20



Swift boxes =13/120

As condition =8/13



Bird boxes = 7/120

As condition= 3/7

Multiple types=3/7

Sparrow box= 1/7



Insect boxes/ hotels
=2/120



Log piles=9/120

Other hibernacula = 3/120

Amenity Landscape planting

- 29 / 44 Housing developments found to be missing at least some amenity planting
- 36 / 44 were found to have dead or poor condition planting



Tree planting

- 16 / 44 missing woodland and scrub planting
- 19 / 44 had areas with dead or poor condition planting
- 31 / 44 sites had trees missing on site
- 38 / 44 had dead or poor condition trees



Meadows and Hedging

- 7 meadows were missing
- 6 / 16 were in poor condition
- 26 / 44 had missing hedging
- 24 / 44 had dead or poor condition hedging



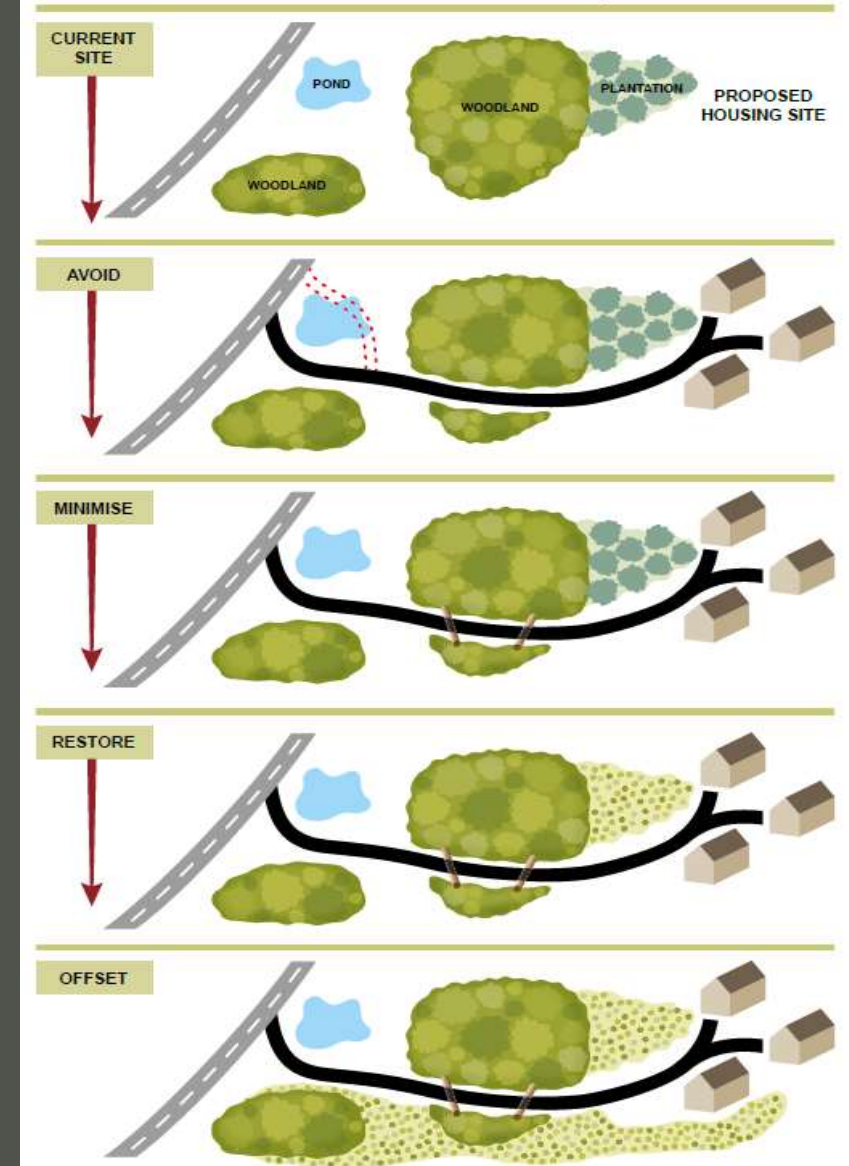
Damage Impacting Biodiversity

- 14 / 44 sites had damage to trees from construction work
- 15 / 44 had construction or contractor rubbish found in wild areas



Developing with Nature Guidance

1. Apply the mitigation hierarchy
2. Consider biodiversity from the outset
3. Provide synergies & connectivity for nature
4. Integrate nature to deliver multiple benefits
5. Prioritise on-site enhancement before off-site delivery
6. Take a place-based & inclusive approach
7. Ensure long term enhancement is secured



24 - Appropriate Measures

PLANTING

- 1 Pollinator plants
- 2 Meadows
- 3 Orchards
- 4 Trees & scrub
- 5 Living roof
- 6 Green wall
- 7 Hedgerows

HOMES

- 8 Log & leaf piles
- 9 Hibernacula
- 10 Bees
- 11 Bugs
- 12 Hedgehogs
- 13 Small birds
- 14 Owls
- 15 Bats
- 16 Wildlife wall
- 17 Wildlife tower
- 18 Lighting

WATER

- 19 Rain garden
- 20 Swale & ditch
- 21 SuDS pond
- 22 Wildlife pond
- 23 Rivers & burns
- 24 Drain escape





Making space for nature

Measures to enhance biodiversity can be incorporated into most development, with those complementing other measures and strengthening connectivity to be encouraged.

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Take a placed-based and inclusive approach

36. For development with nature to work, an understanding is required of the main natural assets of the site and its surroundings (particularly the ability of soils to support proposed species and habitats), the opportunities they provide for enhancement, and how the development will be used. Consideration should be given to any opportunities to contribute towards restoring or enhancing any habitats and species identified as national, strategic or local priorities. The local environmental records centre or wildlife group may be able to advise on appropriate habitat and species choice.
37. Local stakeholders can apply their knowledge to identify broader benefits of the measures to both people and place. At the same time this can raise understanding and encourage involvement in, and protection of, nature. Schools can become involved in the management and monitoring of nature, contributing to delivery of the curriculum and any award schemes.

Ensure long term enhancement is secured

38. Nature is uncertain and not fully within our control. Securing positive effects for biodiversity inevitably entails a degree of risk as to whether the intended outcomes will be delivered in practice. Incorporating a contingency to compensate for this risk, designing for resilience and taking an adaptive approach that can respond to nature's uncertainty is required.

39. Even after the careful implementation of appropriate measures, on-going management and future monitoring should be secured to ensure the intended enhancement is achieved in practice. This is similar to the requirement for new or enhanced blue / green infrastructure to provide effective management and maintenance plans and funding arrangements under the blue and green infrastructure policy 20(e). Addressing the nature crisis requires measures to be retained for the long term (preferably in perpetuity), in order to deliver a lasting legacy. How this will be done should be set out in the application.

Selecting the measures that are appropriate

40. When selecting biodiversity measures there are ten guiding factors to consider, to ensure the opportunities for enhancement can achieve the greatest benefit for nature. These factors are either of an ecological or practical character.



Ecological Considerations

Locally and ecologically relevant

Consider the measure(s) 'fit' with existing nature, such as how it complements, substitutes for or restores lost, degraded or disturbed habitats and species, particularly those considered a priority for action (for example those identified in a LBAP or similar strategy – see paragraph 42). Selected measures should draw on the nature found on the site and its surroundings, taking in to account their resilience to future climate change. Encouraging native species present in the immediate area will help strengthen local biodiversity, and enhancing these will usually have the greatest chance of success and deliver the most benefits.

Careful species choice

Consider whether the measures' species are appropriate and able to thrive under local conditions, ensuring that it will not benefit one species with unintended consequences for others. Species that are known to be invasive and can come to dominate and overtake valuable biodiverse native habitat should not be used (see Annex B). Preference should be given to:

- using native species (of local provenance) where these are appropriate and available
- employing nationally (Scottish BAP) and locally (LBAP) listed priority species and habitats wherever feasible
- favour rarer species where appropriate

Connected and permeable for nature

Consider how the measures take account of and strengthen connectivity (within the site and to wider networks), with habitats and permeable boundaries allowing safe movement for foraging and dispersal. This is particularly important



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for larger local development, and where development more widely is resulting in the fragmentation of habitats, and as a consequence remaining pockets struggle to maintain viable populations and do not benefit from dispersal from other areas. LBAPs, regional habitat networks, local pollinator corridors, greenway and 'B-lines' initiatives may identify important opportunities.

Space for adaptation

Consider how well the measure(s) will work in response to the modified habitats and natural processes following development. Provide space to allow nature the opportunity to expand and colonise new areas naturally.

Allow for synergies

Consider the opportunities for individual measures to complement and reinforce one another, and for nature outwith the development to support its introduction (such as existing foraging habitat being present for the species provided with shelter). None of the measures should be considered in isolation, but as part of the wider whole.

Scale of provision

Consider the scale of the measure(s) to be delivered is suitable for ecological reasons. Some measures work best when provided in groups (for example a cluster of swift or sparrow boxes), or are of a minimum size (for example a grassland area).

Measure 3:

New and Old Growth Orchards

Orchards consist of five or more fruit or nut trees that are planted for the food they produce, often with a mix of different species and variety of fruit trees. They can be planted in larger gardens or communal green space shared by users of a site, or a community orchard can be established. Existing traditional or old growth orchards can be found on sites subject to development, and these can be brought back into condition with pruning, taking grafts to establish new trees of the same variety, and reintroducing management.

Orchards are more than the trees, with an understorey that can be sown and managed as a meadow, fallen trees and log piles providing deadwood features, and often enclosed by a hedgerow (containing flowering shrubs such as hawthorn and dog rose) or wall.



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Benefits to Nature

Orchards can be exceptionally species rich environments, with the most valuable comprising multiple trees of multiple species. They provide important floral resources (especially for early season pollinators), and a large number of invertebrate species like this type of habitat or feed directly from the trees. The fruit borne by the trees in autumn provide an important sugar source for late season insects and food source for birds, with larger fruits lasting in to the winter. As orchard trees grow and mature they provide a suitable substrate for many species of lichen and moss to grow on, with many of conservation interest reliant on this type of habitat. Old

growth orchard is of special importance and particularly difficult to replace. Veteran trees can also contain rot holes and sap runs, providing feeding and nesting habitat for a wide variety of birds and invertebrates. Many insects and their larvae will feed on the tree's foliage, and ultimately support their predators, including small mammals and birds. The ground flora and flowering shrubs in any attached hedgerows also provide important sources of additional nectar for dead wood invertebrates (which are often not very good dispersers).



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Other benefits of orchards include absorbing air pollutants, carbon capture, crop pollination and pest control, providing shade and cooling, water management, food provision, well-being and recreation.

Key Requirements

Orchards can be very variable in size, from as few as five fruit trees in a garden or on a small site, to multiple groups of trees on a larger site. The soil must be of adequate depth and type to support the trees, and avoid frost pockets where possible. The trees will need to be protected

from browsing animals, such as rabbits or deer. The ability to manage the ground cover and undertake regular pruning is required, which will be greater for old growth orchards.

Future Management

When orchard trees are first established watering may be required until they are well established. A schedule of yearly pruning will encourage the trees to develop the best form for bearing fruit, and produce strong fruit crops. Rejuvenating an old growth orchard may require harsher pruning to restore the health of the trees, and

more understorey management to remove any weedy or invasive species which have become established. Any replacement trees should be of similar varieties where possible, with consideration given to taking cuttings from the original trees (to protect historic varieties). Any other biodiversity measures incorporated into the orchard, such as bird boxes, will need to be maintained as required.

Complementary Measures

A large number of other measures can be incorporated in an orchard, including bee boxes and bricks, and a bee bank (measure 10) where there is a large enough open space with direct sunlight without canopy cover. Bee species that use these are some of the best pollinators of fruit trees.

Log and leaf piles (measure 8), hibernacula (measure 9), bug hotels and boxes (measure 11) and hedgehog houses (measure 12) will encourage invertebrates, amphibians and small mammals that predate on other invertebrate species that could cause damage to the orchard, providing a natural pest control. Bird and bat boxes (measures 13 and 15) can be placed on older orchard trees that are able to support their weight, or on trees or structures nearby, with young birds especially preying on potentially damaging caterpillar species. As orchards can be important habitats for nocturnal insects and foraging bats, where light sources are necessary these should be wildlife friendly (measure 18).

A wildlife wall (measure 16) or hedgerow (measure 7) can be used to establish the orchard's perimeter and provide shelter. A wall also provides basking areas for many invertebrate species, and the hedgerow can complement the orchard's resources for pollinators and predators. The understorey of the orchard can be sown with a wildflower meadow mix (measure 2).

Nature Notes

Old growth orchards are valuable historic and biodiversity features that usually support a large diversity of wildlife. However they have been in rapid decline in our landscape, and where neglected their trees can take several years to return to good condition. Where development includes an old orchard its protection and enhancement should be prioritised where possible.

New orchards, even small ones, will enhance biodiversity, and can become an important community feature. Even small orchards will produce fruit that will be well received by the community (leaving some for wildlife), providing an opportunity for promoting the connections between people and nature, supported by interpretative materials where appropriate.

Further Information

- On planting and enhancing an orchard see NatureScot's Garden for orchards to help local wildlife guide and the Woodland Trust's [Orchards](#) guide
- For a wide range of advice, information and practical management guides see The People's Trust for Endangered Species [Traditional orchards](#) project



Measure 13:

Homes for Small Birds

Nests and nest boxes can be fixed to buildings, structures and trees, or incorporated in the wall of the building itself. Different species of bird nest in different sized and shaped boxes.

General Nest Box

The standard nest box, commonly constructed from wood, is suitable for multiple bird species dependent on the diameter of the nesting hole, or alternatively providing an open front rather than a hole as an entrance. For some species the standard box is larger (such as for starlings), or placed in groups to encourage breeding success (such as for sparrows).

Swift Brick and Box

A swift brick is a long rectangular hollow brick that replaces a standard brick in the wall under the eaves. The brick has a 'letter box' like slit for swifts to enter, and separate access for maintenance. A swift box is a wooden box of similar specification to the brick, but is fixed to the outside of the structure.

Swallow and House Martin Nests

Swallows and house martins use similar bowl shaped nests, with an open top for swallows or a side entrance for house martins. Made from plaster or concrete to reflect natural mud and grass nests, they are affixed under the eaves of a structure.



Benefits to Nature

These offer immediate nesting opportunities for a range of bird species, providing new niches that can support the species wider dispersal. General nest boxes can support a wide range of cavity nesting species of conservation interest, with careful sizing of the entrance hole or open front allowing for targeting of specific species. These are more likely to be successful if the targeted bird species are already present in the vicinity.

Swifts are in rapid decline and where conditions are suitable new nesting areas can help. The boxes are often utilised by house sparrows and starlings which are also of high conservation priority. House martin nests can also be used by other species like house sparrow, but swallow nests are likely to be used by swallows only.

Key Requirements

All types of bird box are available to buy or can be easily built (possibly with materials left over from construction). The larger the development the more boxes would be expected to be installed, and of a greater variety. To be successful there will need to be adequate foraging habitat available for the species provided for.

General nest boxes require a structure or tree of reasonable size to be securely mounted on, with a north east to north west aspect to avoid overheating from direct sunlight. They require some shelter from the prevailing weather and an unimpeded flight entrance. They should be placed at least 2 meters off the ground and avoiding access from predators (like cats), but allow access for maintenance and cleaning out.

House martin and swallow boxes require similar checks, but mounted under eaves or similar structure to provide shelter.

Swift bricks and boxes need to be sited at least two stories off the ground, with a wide open area in front to allow easy passage for their residents. A north east to north west aspect is preferred but overheating is less of an issue in Scotland and shaded south facing aspects are feasible.

Future Management

General nest boxes will need checking and cleaning annually (between October and January), to remove nests from the past year and any abandoned wasp or tree bumble bee nests. Any signs of damage or decay will need repairing or boxes replaced, and the mounting point to trees or structures checked to ensure it is secure and will remain so for the year ahead.

Swift bricks and boxes need annual cleaning, particularly if used by house sparrows and starlings that can bring in bits of plastic waste as nesting material, which swifts are especially likely to get trapped in. The mounting point of boxes require checking annually, and any decay repaired.

House martin and swallow nests don't usually need annual cleaning. They should still be inspected yearly in case other bird species have dragged in plastic waste or other debris that could trap swallows or martins, and the bowl and mounting on the building checked for decay.

Complementary Measures

General nest boxes can be incorporated into many other measures, including orchards (measure 3) and scrub and woodland (measure 4) when the trees are mature enough to support

their weight. They can also be placed within hedgerows (measure 7), providing additional shelter for more open boxes (the species that use these often being associated with hedgerows).

All of the boxes and nests can be placed on wildlife towers (measure 17) and incorporated into green walls and screens (measure 6), where the site and habitat are appropriate for the type of box. Similarly for living roofs (measure 5), where there are appropriate mounting points on the roof or its sides, although open fronted nest box may need more shelter.

Nature Notes

Birds can be fussy when choosing whether a nest box is suitable to nest in or not, and this is difficult to predict so placing as many boxes as possible can help. The more types of bird box placed in a development, the more species that will be supported. Most bird species which utilise nest boxes feed on a large number of invertebrates (especially when feeding chicks), and therefore play an important role in 'pest' control. Access to suitable foraging habitat is therefore essential.

Further Information

- On making general nest boxes with a hole or open fronted see the RSPB's [RSPB's Our ultimate guide to nest boxes](#) and Scottish Wildlife Trust's [Build a nest box for birds](#)
- For a range of advice on swift bricks and boxes see the Tayside Biodiversity Partnership [Swifts](#) page, and the RSPB's [Create a high home for swifts](#)
- On making a house martin nest see Conservation UK & Ireland's [Placing House martin bowls and supporting them in development](#)



Measure 2:

Wildflower Meadow

A wildflower meadow consists of a variety of wild grasses and wildflowers growing generally on unimproved and ungrazed land in conditions suitable for less vigorous and more easily outcompeted species. Meadows can be large, enhancing the biodiversity value of a public greenspace, or small, occupying a small corner of a garden or established as part of another measure (such as a bee bank or buffer strip to a swale). They include a range of different forms:

- Short flowering lawn – in place of the common monoculture grass lawn using seed mixes or wildflower turves favouring low growing and ground hugging species, which require less cutting than amenity grass.
- Wet meadow – in areas with damp or wet conditions that may periodically flood, meadow species can thrive so long as water flows do not improve the nutrient poor conditions.
- Hedgerow borders – seed mixes specifically for hedgerows can tolerate a degree of shading, supplementing the range of wildflowers already present when the cutting regime allows for the growth of woody species through the hedge.
- Woodland and shrub understorey – wildflower seeding or using plug plants to enhance existing ground cover, with management of the woody plants to ensure it does not become too shaded.

- Verges beside roads and paths – creating linear meadows where shading, fertile soils and small plots do not constrain.
- Pollinator meadow – using a mix favouring high nectar value species that would not naturally be together nor found within the local area, possibly including non-invasive garden species.
- Beetle banks – incorporated within the meadow these low mounds, seeded with tussock forming native grasses that are cut irregularly, provide important overwintering habitat for invertebrates, small mammals and reptiles.

Benefits to Nature

Wildflower meadows benefit a large number of species. The vegetation supports a diverse range of invertebrate species that depend on these

as their food plants (for example caterpillars of moths and butterflies), and their flowers support a number of pollinator species. Small mammals (especially hedgehogs and bats), birds and other invertebrates will be supported by the seeds and fruits produced by the plants and presence of prey species. Areas of long grass allowed to die back are valuable for nesting and shelter, and areas of bare ground can be basking areas for reptiles and many invertebrates. Birds of prey, including owls, will also forage across meadows to feed on small mammals.

With appropriate management other plant species will colonise wildflower meadows over time, and these areas can become important reserves for rare plants. The larger the meadow that is created, the more functionally diverse the habitat that will be established. Meadows can also provide corridors or steppingstones that facilitate species movement across the site and

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Measure 21:

Biodiverse Sustainable Drainage System Ponds

Sustainable Drainage System (SuDS) ponds are designed primarily to aid water management (its quantity and quality), but can be designed and planted to enhance their wildlife and amenity value. The pond is connected to the development's rainwater drainage system, with either an emergency overflow or a slow release system for water to leave. They can be planted with aquatic and emergent plants and bordered with wet grassland vegetation. The SuDS pond should not be directly connected in hydrological terms to existing wetland features if there may be water pollution issues, such as from road runoff.

Benefits to Nature

Ponds are a major feature in the landscape for biodiversity, supporting a large range of species, but their number has been steadily declining as a result of land use changes. SuDS ponds have greater biodiversity than swales or detention basins, provide an important habitat for all Scottish amphibian species, and will also support a wide range of aquatic and semiaquatic species which are a key food source for many bird species (especially for their young). Many wildfowl including species like moorhen can also benefit from these ponds.

Other benefits include managing water flows and improving water quality by encouraging pollutant dilution and filtration, pest control and people's health and wellbeing.

Key Requirements

SuDS ponds are most applicable for larger developments, with space to accommodate an area of emergent edge and wet grassland and of sufficient area that will retain water through a spell of dry weather. For small developments shedding runoff to adjacent landscaped areas with a rain garden may be more appropriate.



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Measure 18:

Wildlife Friendly Lighting

Some of the biodiversity measures enhancing wildlife will themselves benefit from additional measures to safeguard the animals supported.

Well planned wildlife friendly lighting will minimise its use and seek to avoid lighting natural habitats (especially woodland, grassland, ponds and bat foraging territories), with light shields or buffer zones of bushes, hedges and green screens used to keep light from these sensitive environments. Lighting duration can also be limited to necessary times (through use of sensors and timers), and LED bulbs specified that utilise light wavelengths that are less disruptive to wildlife (especially bats) and less attractive to night time invertebrates.

Benefits to Nature

Artificial lighting, whether from outdoor lights or cast from lights within buildings, can negatively impact a large number of species either through attracting species or displacing natural movement to their detriment. Nocturnal mammals and bats in particular are known to be affected by artificial light that disrupts movement and foraging behaviour. Ongoing research on nocturnal insects such as moths has shown artificial lighting, including modern LED lights are affecting foraging behaviour and predation of a number of different invertebrate groups.

Key Requirements

The consideration of wildlife friendly lighting is appropriate for most development, but particularly those larger developments incorporating external lights. Where lighting is necessary, lights should be shielded away from

important habitat areas. This requires assessing lighting from both external and internal light sources, and modelling the fall of lighting on to any areas supporting biodiversity.

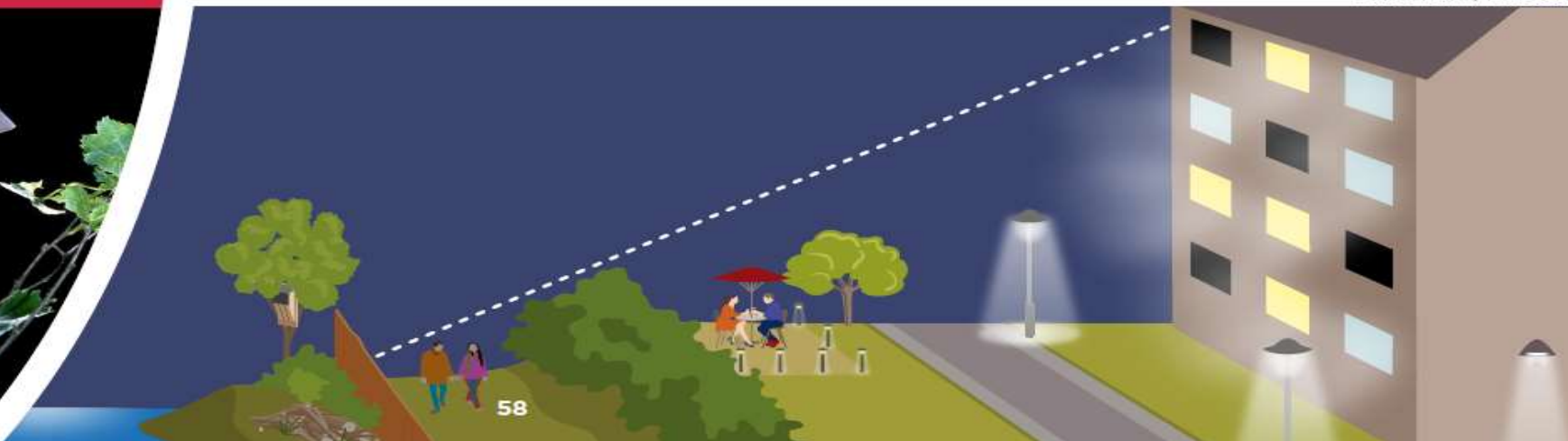
Plan the placement of screens, barriers, light shields and LED lights with wildlife friendly wave lengths, and consider the placement of lights in buildings and fittings and shades that will lesson light cast out of windows. Sensors to dim or switch off external and internal lights when not necessary can be considered where security concerns allow.

A plan with a clear statement recording the lighting actions taken is required so that future site managers can maintain and keep these features in place, and consider mitigating any changed or new lighting in the future. An overall site plan showing areas that are badly effected by light should identify future priorities for mitigation.

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Annex B:

List of invasive non-native species (INNS) of plant

B.1. Non-native plants are a mainstay of many amenity plantings undertaken alongside development, and can be of great benefit to wildlife. However a small proportion of these have the potential to become invasive, resulting in significant harm to nature. The following Table provides a list of plant species that are commonly considered to be invasive and should be avoided. If they are found to be present on site you are encouraged to remove them, and any invasive plant material or contaminated soils disposed of appropriately.

B.2. Further information and guidance on INNS can be found on the NatureScot website.

Terrestrial INNS plant list

Species

Pirri-Pirri Burs
Garden Lady's-mantle
Few-flowered Leek
Three Cornered Garlic
Great Brome
Giant Reed
Michaelmas-daisy

Butterfly-bush
Hottentot Fig
Pampas Grass
Cotoneaster
Alpine Buttonweed
Montbretia

Purple Dewplant
Giant Knotweed
Japanese Knotweed
Hybrid Knotweed
Prickly Heath
Shallon
Brazilian Giant Rhubarb
Giant Rhubarb
Giant Hogweed
Spanish Bluebell
Garden Bluebell
Himalayan Balsam
Small Balsam

Latin Name

Acaena (all genus)
Alchemilla mollis
Allium paradoxum
Allium triquetrum
Anisantha diandra
Arundo donax
Aster laevis x novi-belgii, *Aster lanceolatus*, *Aster novae-angliae*,
Aster novi-belgii, *Aster novi-belgii x lanceolatus*
Buddleja davidii
Carpobrotus edulis
Cortaderia richardii, *Cortaderia selloana*
Cotoneaster (all genus)
Cotula alpina
Crocasmia x crocosmiiflora, *Crocasmia aurea x pottsii*,
Crocasmia paniculata, *Crocasmia pottsii*
Disphyma crassifolium
Fallopia sachalinensis
Fallopia japonica
Fallopia japonica x Fallopia sachalinensis
Gaultheria mucronata
Gaultheria shallon
Gunnera manicata
Gunnera tinctoria
Heracleum mantegazzianum
Hyacinthoides hispanica
Hyacinthoides non-scripta x hispanica
Impatiens glandulifera
Impatiens parviflora



Variegated Yellow Archangel *Lamium galeobdolon* © NNS



Skunk Cabbage *Lysichiton americanus* © NNS



Piri Piri Burr *Acaena novae zelandiae* © NNS

Yellow Archangel
 Variegated Yellow Archangel
 Japanese Honeysuckle
 Russell Lupin
 Nootka Lupin
 Skunk Cabbage
 Monkey Flower (and all hybrids)
 False Virginia Creeper
 Virginia Creeper
 Lesser Knotweed
 Himalayan Knotweed
 White Butterbur
 Giant Butterbur
 Black Pine
 Laurel
 Evergreen Oak
 Yellow Azalea
 Rhododendron
 Japanese Rose
 Salmonberry
 Perfoliate Alexanders
 Snowberry
 Pick-a-back-plant
 Lesser Periwinkle

Lamiastrum galeobdolon
Lamiastrum galeobdolon subsp argentatum
Lonicera japonica
Lupinus arboreus x polyphyllus
Lupinus nootkatensis
Lysichiton americanus
Mimulus cupreus, Mimulus guttatus, Mimulus guttatus
Parthenocissus inserta
Parthenocissus quinquefolia
Persicaria campanulata
Persicaria wallichii
Petasites albus
Petasites japonicus
Pinus nigra
Prunus laurocerasus, Prunus lusitanica
Quercus ilex
Rhododendron luteum
Rhododendron ponticum (and all hybrids)
Rosa rugosa
Rubus spectabilis
Smyrniolum perfoliatum
Symphoricarpos albus
Tolmiea menziesii
Vinca minor



Parrot's Feather *Myriophyllum aquaticum* © NNS



Water Fern *Azolla filiculoides* © NNS



Water Hyacinth *Eichhornia crassipes* © NNS



Water Primrose *Ludwigia grandiflora* © NNS

Aquatic INNS plant list

Species

Water Fern
Carolina Water-shield
New Zealand Pygmyweed
Large-flowered Waterweed
Water Hyacinth
Elodea
Floating Pennywort
Curly Waterweed
American Spongeplant
Water Primrose
Floating Primrose Willow
Water Primrose
Parrot's-feather
Fringed Waterlily
Water Lettuce
Duck-potato
Giant Salvinia
Common Cord-grass
Water Soldier
Water Chestnut

Latin Name

Azolla filiculoides
Cabomba caroliniana
Crassula helmsii
Egeria densa
Eichhornia crassipes
Elodea (all species)
Hydrocotyle ranunculoides
Lagarosiphon major
Limnobium spongia
Ludwigia grandiflora
Ludwigia peploides
Ludwigia uruguayensis
Myriophyllum aquaticum
Nymphoides peltata
Pistia stratiotes
Sagittaria latifolia
Salvinia molesta
Spartina anglica
Stratiotes aloides
Trapa natans

Annex C:

Example template for demonstrating delivery of positive effects

C.1. This template is suggested for use by larger and more significant local development applications, to show how appropriate measures have been included to deliver positive effects for biodiversity (in the absence of other structured reports providing this evidence). The information set out under the Mitigation and Enhancement columns should present a clear distinction between those actions and measures mitigating the impact of the development, and those delivering enhanced biodiversity.



Delivering positive effects

The site	Brief description of development site (those aspects relevant to delivering positive effects), including existing land use, land cover, habitats and key species Confirm the type (desk based or field survey), level and timing of study undertaken
The proposed development	Brief description of the development (those aspects relevant to delivering positive effects), identifying its main components (for example, the type / form of buildings and structures, public and private greenspace, infrastructure such as access, etc.) List of key plan drawings, elevations and other documents setting out proposed biodiversity measures and future management
Relevant strategies, plans & documents informing measures	Summary of any biodiversity requirements or considerations relevant to the site or development, identified in the Local Development Plan and other documents (for example, Green Network Strategy, Forestry and Woodland Strategy, Open Space Strategy, etc.) Note of any local nature designated sites, LBAP priority habitats or species relevant to the site or development (these may be on-site, adjacent to, or in the vicinity of the development site)
Stakeholder engagement	Summary of any engagement with local authority ecologist, local environmental records centre / local biodiversity action partnership, and key findings Summary of any engagement with local wildlife and community groups and other NGOs, and key findings



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Actions considered	Mitigation: Measures included as mitigation to avoid and minimise impacts	Enhancement: Measures included to enhance biodiversity (or explanation for not applying)
Protection and enhancement of existing habitats on or adjacent to the site	Summary of key mitigation (and its location) to address the development's impacts on existing habitats on, or adjacent to, the site	Locate and identify any enhancement to existing habitats on, or adjacent to, the site, describing the specific measures to be undertaken
Creation of new habitat on the site	Locate and identify any new habitat to be created to mitigate habitats lost	Locate and identify any new habitat, its extent and timescale to become established Confirm the source of plant species and means of their establishment
Protection and enhancement of connectivity through the site and with its surroundings	Locate and identify mitigation of the development's impacts on established wildlife corridors and connectivity within the site and with surrounding habitat (including measures to reduce risks to movement)	Locate and identify enhancement of established wildlife corridors within the site and / or with surrounding habitat, and the species supported Locate and identify measures to connect existing and / or new habitats within the site and / or with surrounding habitat, and the species supported
Protection and enhancement of existing species on or adjacent to the site	Summary of key mitigation (and its location) to address the development's impact on existing species on, or adjacent to, the site (identifying any requirements for protected species)	Locate and identify any enhancement of existing species on or adjacent to the site, describing the specific measures to be undertaken

Thank You for Listening !!!!



Any Questions?



Please get in touch: stuart.bence@nature.scot