Penrhys Masterplan Phase 1A

Green Infrastructure Statement

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the urbanists

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Contents

1. Introduction and Background

This Green Infrastructure (GI) Statement is prepared by The Urbanists Ltd, on behalf of Trivallis. It accompanies the full planning application for the proposed construction of 121 new homes in Penrhys village. The proposals are Phase 1A of the Penrhys masterplan.

The purpose of a GI Statement ('the Statement') is to demonstrate how GI has been incorporated to provide a positive multi-functional outcome, which is appropriate to each of the three areas of the site in question, and overall within the estate, and must also demonstrate how the Step-Wise approach has been applied to ecological considerations.

This GI demonstration of those 'outcomes', their 'appropriateness', and the required Step-Wise approach's multiple processes, will result in this statement's illustration of how GI has been effectively considered throughout the design of the scheme. As required, the consideration by this statement will be "*proportionate to the scale and nature of the development proposed*".

Planning Policy Wales Edition 12 provides the key legislative and national planning policy context for GI Statements. The Local Development Plan (LDP) and Supplementary Planning Guidance (SPG) for Rhondda Cynon Taf County Borough Council provide the policies regarding biodiversity. There is also further associated guidance in the Rhondda Cynon Taf Action for Nature Plan, and although this is not strictly a planning policy consideration, it does provide some further guidance on best practice.

The key outcomes of the GI considerations are reviewed with regard to the ecosystem concepts of: biodiversity value; ecosystem resilience; and ecosystem services. Together, these enable the scheme to evidence best practice and provide comparable considerations to other frameworks, including the Building with Nature Standards.

The Statement is informed by the documents and plans which accompany this planning application, and which are specified throughout (where relevant).

2. Policy and Legislative Context

Appendix 1 provides the key legislation, planning policy, and guidance that inform the requirements and the approach to the preparation of Green Infrastructure Statements. A summary of the key context is below:

- Environment (Wales) Act 2016
- Planning Policy Wales, Edition 12
- Future Wales, The National Plan 2040
- Technical Advice Note 5 - Nature Conservation and Planning (1996)
- Rhondda Cynon Taff Local Development Plan - Adopted March 2011
- DECCA Framework and Ecosystem Resilience
- Ecosystem Services Framework
- Ecosystems, Ecosystem Resilience (ER), and Ecosystem Services (ES)
- Step-Wise Approach

Section 4 analyses the proposed development through the context set by these documents, notably the Stepwise Approach and Ecosystem Services Framework.

3. Site Baseline

This section provides a summary of the existing conditions of the proposed development site and wider relevant context, based on survey efforts and desk study. This regards habitats and species, Ecological and GI features, and their varying values and spatial scales (site importance up to larger areas' importance). It also considers other information available and summarises their influence on the design and overall consideration in later sections of this statement.

3.1 Ecological Baseline Summary

The existing ecological value of the site area has been considered initially through Preliminary Ecological Appraisal and Extended UKHab Classification Survey, which were undertaken between July and September 2024. An Ecological Impact Assessment was then produced by SLR in August 2025 to follow the recommendations. The Assessment is based on the following key surveys carried out across the Phase 1A site:

- Preliminary Roost Assessment (PRA) of buildings for bats - A number of existing homes and trees on, or adjacent to the site were identified as having moderate to high suitability for roosting bats.
- Ground Level Tree Assessment (GLTA) for bats - There are no trees classified within Phase 1a with PRF-M or PRF-I suitability for roosting bats, which has been confirmed following surveys.
- Building Bat Emergence Surveys - Building B30 comprises a low-status, non-breeding summer day roost for a low number (2 individuals being recorded) of common pipistrelles. No bat roosts were identified in the remaining Phase 1A area. Building B33, which is adjacent to the Phase 1A area, also comprises low-status non-breeding summer day roosts for a low number (3 individuals being recorded) of common pipistrelle.
- Bat Activity Survey - Overall, relatively low bat activity was recorded in the vicinity of Phase 1a, with the majority of the calls coming from common pipistrelle bats. There are also a few less common species recorded, including bats of *Myotis spp.,* serotines, Nathusius' pipistrelles, and brown long-eared bats. Feeding buzzes and social calls from common pipistrelle and soprano pipistrelle bats were recorded in SM4 location 1, demonstrating bats are utilising habitat in close proximity to the Phase 1a site for

commuting, foraging, and socialising, e.g., for mate attraction. Bat activity was scattered across the Phase 1a application site, mainly concentrated on green spaces between areas of hard standing and buildings, and in the north of the Penrhys estate.

- Breeding Birds - No breeding populations recorded within the Phase 1a application site and adjacent areas comprised 1% or higher of the national breeding population. A total of 35 species were recorded within and adjacent to the Phase 1a application boundary during the survey. Ten of these were non-breeding or flying over the site only. No Schedule 1 birds were recorded within the Phase 1a application area during the survey. Following the Guidance for the Selection of Wildlife Sites in South Wales and the RCT LBAP, the site is not considered to meet the criteria of a Wildlife Site with regard to breeding bird populations on their own.
- Reptiles - Slow worms and common lizards were both recorded within the Penrhys Estate (Trivallis landholding survey area) during the reptile presence/likely absence survey. The population size is deemed to be exceptional for slow worms and good for reptiles. The Phase 1A site qualifies as a Key Reptile Site.
- Invertebrates - A total of 126 species were recorded from the Phase 1a site during the two surveys in 2025. The Phase 1a site provides invertebrate interest due to its structural complexity, floral richness, and early successional features. The invertebrate assemblage on site is of at least District nature conservation value and will be taken forward into assessment.
- CHEGD Funghi - A total of 72 CHEDG species (C:H:E:G:D= 25:6:11:13:7 = 72) were detected across the seven samples, with 24-36 species of CHEGD fungi present in each quadrant. No globally vulnerable species by IUCN were present within samples taken, but the soil resource did record up to 16 species of fairy clubs. The CHEDG species in the Phase 1a site is considered of District nature.

3.2 Arboricultural GI Baseline Summary

A Tree Survey has been undertaken of trees present across the Penrhys village. In respect of the Phase 1A area, a number of individual trees and tree groups are present; however, many typically have limited value, being categorised as U value or C value. Notable Category B trees present in the Phase 1A area include Leyland Cypress, Italian Alder, Lawson Cypress, and Silver Birch. There are a number of Category B trees immediately to the south of the Phase 1A site boundary, which include Wild Cherry,

Scots Pine, Norway Maple, Grey Alder, Rowan, Sycamore, Lime, Horse Chestnut and Corsican Pine.

3.3 Ecosystem Services Baseline Summary

The presence of existing properties, hardstanding and roads, and the nature of the site topography, means that the provision of ecosystem services is largely limited to the contributions from amenity areas. A locally and site-significant contribution to the following are likely:

- Supporting services - supporting healthy soils, nutrient cycling, and sustaining space for wildlife.
- Regulating services - contributing to clean air, flood management, erosion control, and carbon sequestration.
- Cultural - Providing some green backdrop to the built areas of site to the benefit of users' wellbeing, and contributing to the existing sense of place in the village, which can be significantly improved.

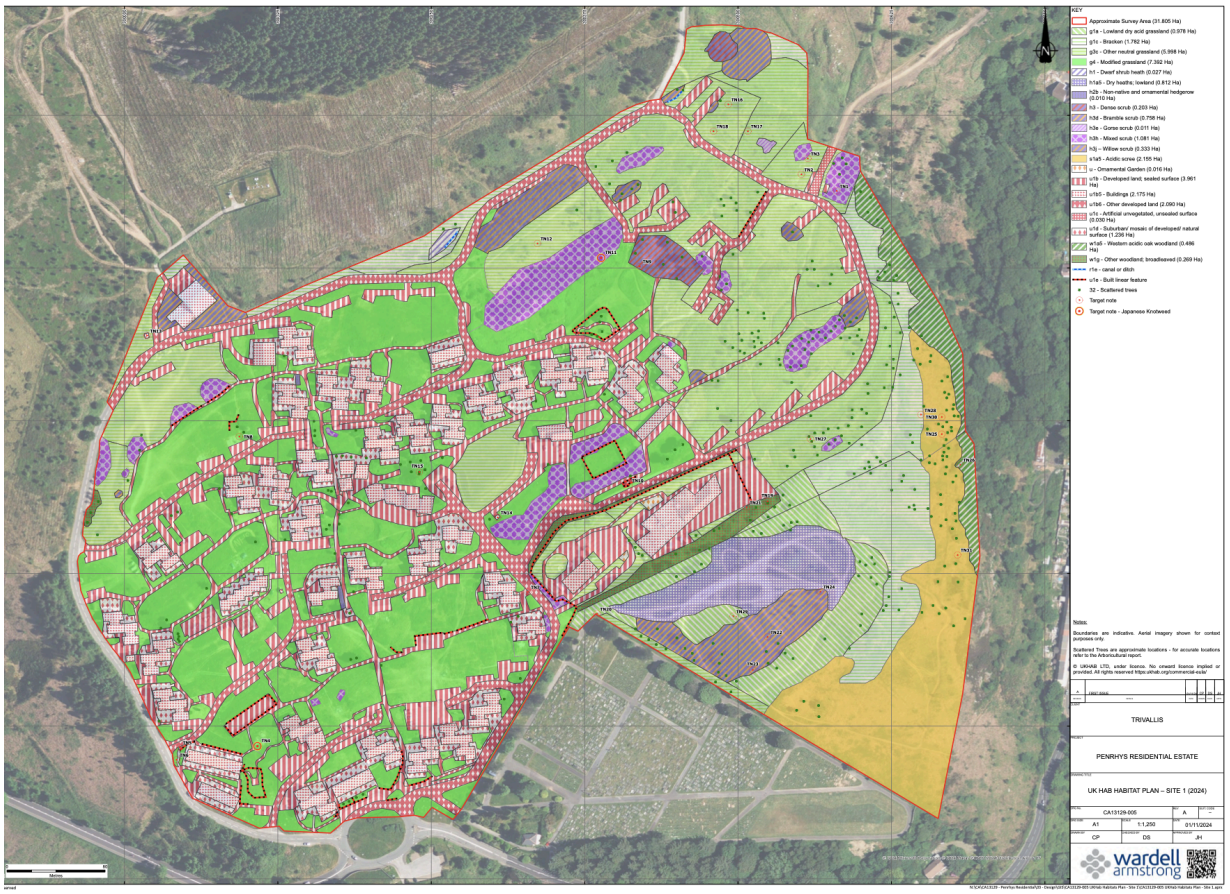
3.4 Landscape Baseline Summary

The following habitats and notable plant species within the Phase 1a site have been identified within the Phase 1A masterplan area:

- Other neutral grassland supporting LBAP species: *Orchidaceae* species (incidental sightings during other surveys across the wider site, including Phase 1a), including southern marsh orchid (*Dactylorhiza praetermissa)*, common spotted orchid *(Dactylorhiza fuchsia),* heath spotted orchid *(Dactylorhiza maculate)*;
- Modified grassland
- Trees – scrub/scattered;
- INNS - Himalayan cotoneaster (*Cotoneaster simonsii*).

The remaining habitats and features identified were not considered to have significant nature conservation value: buildings and hardstanding.

Figure 1: Extract of UK HAB Plan (refer to Ecological Impact Assessment for full scale)



4. Proposed Scheme of Development

The proposed scheme includes the demolition of 12 existing buildings and the delivery of 121 new homes, with associated access upgrades, parking, SuDS, and landscape and ecological enhancement. New homes will be a combination of two to four-bedroom homes and a single apartment block. The mix will be 71 market homes and 50 affordable homes.

4.1 Step-Wise Approach Summary

The following analysis summarises the development against the Step-Wise Approach, considering the following:

a) the proposed scheme's mitigation - avoidance, minimisation, mitigation or replacement, and compensation off or on site;
b) enhancement - by way of diversity, extent, condition, and connectivity;
c) proposed long-term management principles to secure green infrastructure and biodiversity net benefits; and
d) multifunctionality of the above, with regard to the Ecosystem Services the development is considered able to deliver.

The analysis is followed by further sections that provide greater detail to support the summary.

4.1.1. Mitigation Hierarchy Summary

Avoidance	The Phase 1A site was previously fully utilised for housing, and the proposal is to reinstate the use and extent to ensure a viable development and future for the village. Subsequently, there will be a loss of modified grassland, neutral grassland, and mixed scrub. These areas are heavily modified or managed and have limited nature conservation value, although they do have value for protected species, which are addressed further below. A series of individual trees, including some Category B trees, that are located adjacent to the existing properties or existing pedestrian and highway network, will also need to be removed. The trees present in the Phase 1A area have been identified to have limited ecological value.
Minimisation	The principle of minimisation has been followed while delivering on the brief to deliver a sustainable number of new homes. On the western boundary of the Phase 1A area, grassland and broadleaf woodland will be retained and enhanced. In respect of tree loss, only those needed to deliver a sustainable layout are proposed for removal, and efforts will be made to retain existing species proposed for retention during the construction process. These trees include Category B and C specimens.
Mitigation	The 'Greenway' is a key part of the mitigation approach for Phase 1A. It will be a multi-purpose green corridor that will provide amenity, access, and drainage functions, but also include extensive tree planting, including feature planting, natural grassland, ornamental planting, and rain garden planting. The 'Greenway' is a key part of a wider landscape strategy/framework for the site, which will provide a multi-purpose landscape corridor for the benefit of residents, but also meet important drainage and ecological enhancement requirements. The western boundary of the Phase 1A areas is also to be retained and enhanced. This will also include the species types mentioned

	above, which reflect an improvement on the existing scrub and grassland habitat present. As part of the landscape design for Phase 1a, extensive tree planting is proposed that will exceed the 3:1 replacement ratio required in Planning Policy Wales. Species types are appropriate to the local area and designed to enhance the ecological value of tree species on the site. In respect of protected species, a sensitive lighting design is to be integrated into the development to minimise impacts on bat species foraging on the site, and the loss of bat roost features and the known roosts will be replaced with bat boxes included in adjacent woodland to the Phase 1A area. Bird boxes will also be provided as part of the design of new homes. For reptiles, the proposed landscape grassland will include some appropriate habitat re-provision, but enhancement of an adjacent piece of land in the ownership of Rhondda Cynon Taff County Borough Council is proposed. Refer below for further details.
Compensation on / off site	To compensate for the population of slow worms and common reptiles found on the site, translocation is proposed to a receptor site to the north-east of the existing village, which is in the ownership of Rhondda Cynon Taff County Borough Council. A Reptile Receptor Site Management Plan (RRSMP) will be developed, outlining in detail the measures listed below to create and maintain the receptor site to benefit reptiles translocated from the development site in the long term. These details are described in the Ecological Impact Assessment. The receptor site will be enhanced ideally a minimum of 6 months before translocation from Phase 1a commences.

4.1.2. DECCA Enhancements Summary

Diversity	The diversity of fauna within the site would be maintained by the proposed mitigation, including replacement of suitable nesting and roosting opportunities for birds and bats, and the provision of grassland habitat for reptiles. The diversity of the habitats present on the site would be improved through the proposed landscape planting, which will include a rich mix of natural grassland, ornamental planting, rain garden planting, and new tree planting (including feature trees), which will have greater ecological value than those present.
Extent	The extent of habitats present will be amended in order to deliver a sustainable layout, but the 'Greenway' proposal and the retention and enhancement of the western boundary of Phase 1A is deemed to be an appropriate landscape solution that will increase diversity and condition of habitats present in the Phase 1A site.
Condition	New habitats proposed in the Phase 1A area have been chosen for their amenity functions, but also for their wildlife benefits. The new habitat provided will be of improved condition to the present and subject to management to ensure that amenity and wildlife benefits are maintained in the long term. Site fauna, notably birds, bats, and reptiles, will also benefit from the improved habitat on the site. The improvement of the translocation site will also significantly improve its condition for ecology, notably slow worms and common reptiles.
Connectivity	The 'Greenway' is a key feature to help ensure connectivity of habitats between the land to the north of the Phase 1A site, which is natural habitat and not proposed for development, and future phases of the masterplan, which will be located to the south of the Phase 1A site. The retention and enhancement of the west of the Phase 1A site will provide a good interface with the natural habitat

	located to the west of the Phase 1A area and outside of the masterplan area. Opportunities for west/east connectivity are currently limited; however, tree planting, rain gardens, and ornamental shrub planting are proposed to provide west/east corridors that will be further strengthened when future phases of the Masterplan are delivered. This will include further multi-use north-south landscape corridors and west-east corridors. The proposals for bird and bat boxes and grassland proposed will ensure that birds, bats, and reptiles remain active in the Phase 1A area.

4.1.3. Long-term Management Summary

Grass Seeding	To allow flowering and the setting of seed - No mowing or other sward management between April and the end of flowering (approximately early-late August), except hand-pulling of any over-dominant 'weed' or sown species. To ensure no 'weed' species become established, and no grasses become dominant, in other Autumn and Winter months, mowing the sward to a height of approximately 30mm, as required. Any woody species present should be cut and spot-treated with a systemic herbicide (Glyphosate, or similar) only. To ensure that the species present can set their seed for the next year, the arisings of the first cut post-flowering should ideally be left in place for several days before removal. To ensure that soil conditions remain suitable, all arisings should be raked and removed from the area of cutting, to ensure low-fertility

	soil remains. These arisings could be piled within woodland understorey areas, as habitat piles suitable for sheltering reptiles.
Wetland Planting	Management as necessary to ensure a good diversity and condition, including the maintenance of habitat features to provide other drainage functions. This management supersedes other competing needs. Priority to keep compost moist but not waterlogged, ensure adequate light and warmth with regular checks for signs of stress like yellowing leaves, and adjust water accordingly.
Native and Ornamental, Species Rich Shrubs	Annual pruning of shrubby specimens or scrubby areas, as necessary. Annual removal of dead vegetation as necessary, and selective removal or other management (e.g., aggressive pruning, selective use of systemic herbicide) of overdominant or spreading species.
New Trees	The care and pruning of trees as required, with the replacement of specimens that fail to become established, or which already exist and are prominent or important to ecology in the site, and die. To ensure no disturbance or harm to nesting birds, all works are to take place outside the bird nesting season, or under suitable ecological supervision, and where it is established that no active nests are present. To ensure no disturbance or harm to bats, all works are to take place only on limbs or trees without suitable features for roosting bats. Where these are present or potentially present, suitable ecological advice should be sought before any works.
Bird and Bat Boxes	The maintenance of these or replacement with a similar alternative as necessary.

Figure 2: Extract of Planting Strategy

4.1.4. Ecosystem Services Summary

Cultural	The 'Greenway' will be an accessible natural greenspace that residents can use, and which will bring them closer to the natural landscape and the biodiversity present. The multi-functional nature of the space as an access route, but also as a play and communal destination, will increase the number of residents accessing the space and the time they spend in it. The benefits will be further expanded as part of future phases of the Penrhys masterplan. As part of the Phase 1A proposals and wider masterplan, there is also the opportunity to exhibit information on the site's biodiversity and how the design has responded to it, and the opportunities residents have to observe and benefit from it.
Regulating	The proposed SuDS drainage design will help to better manage and filter rainfall from within the site than the current arrangement. The proposed trees and non-SUDS related planting will also contribute to the management of rainfall through interception, slowing, and filtration, and provide cooling effects where present. Additionally, trees within the site would provide shade and provide cooling, and combined with other planting types, sequester and store carbon in both their masses and the site's soils. The above would all contribute to enhancing the site's climate change resilience.
Supporting	The 'Greenway' and retained and enhanced land in the west of the Phase 1A area would have increased habitat diversity, improving their ecological value and the support offered to site fauna. The provision of a sensitive lighting design and bird and bat boxes will provide further support to these species. As part of the 'Greenway' proposals, a large area of the site's topsoil will be left to cultivate naturally, improving its condition. The diversity of habitat types proposed will also support the improvement of soil quality across the Phase 1A area.

Provisioning	No purposeful provisioning services would be provided, but the amenity opportunities associated with the 'Greenway' would be considerable for existing and future residents.

4.2 Landscape GI Summary

The proposed Phase 1A proposals include the 'Greenway', which is a multi-purpose green corridor that will provide play, social, and maximise biodiversity enhancement opportunities in the Phase 1A housing area, while delivering a sustainable number of homes. The 'Greenway' will be expanded on in future phases of the masterplan, which will deliver west-east green routes through the village and further north-south corridors. The proposed landscape design will also increase tree planting numbers in the Phase 1A area and improve the species type, along with their ecological value. It will also enhance the diversity of habitats that are present.

4.3 Arboricultural Summary

Some tree loss is required to deliver the development, and while these consist of some Category B trees, the loss will be more than mitigated by replacement planting, which will exceed the 3:1 replacement ratio required by Planning Policy Wales. The species selected are appropriate to the local area and designed to enhance the ecological value provided by trees present on the site.

4.4 SuDS Summary

As part of the proposal, a scheme of SuDS is proposed, which will provide interception, water quality, flow reduction, amenity, and biodiversity benefits in line with the applicable standards. This will represent a significant improvement to the current drainage arrangement. Key features include a SuDS basin with associated turf seed mix and rain garden mix, which will each contribute to the green infrastructure present on the site.

4.5 Ecology Summary and Analysis

The proposed landscaping and other features would introduce a range of higher-quality habitats than are currently present on the site. This includes the grasslands, tree planting, and shrub planting present. The proposals have also had regard to fauna present on the site, with bird and bat boxes provided, an appropriate lighting design to be taken forward to ensure bat activity continues, appropriate placement of trees to encourage bat foraging, and inclusion of appropriate grassland and connection corridors to ensure the site remains viable for common reptiles and slow worms. The enhancement of the proposed translocation site also offers a significant opportunity to deliver net gain for common reptiles and slow worms.

4.6 Building with Nature Standards

The proposed scheme, as already set out in regard to the step-wise approach and wider ES values, is reviewed below with regard to the Building with Nature Standards, and how the scheme meets these standards, to more clearly demonstrate the multifunctional GI benefits from the proposal.

Building with Nature Standards Review

Standard	Assessment	Outcome
Core Standards		
Standard 1 Optimises Multifunctionality and Connectivity	Multifunctionality has been extensively considered in Phase 1A, with the 'Greenway' delivering a large multifunctional space that will provide space for nature and human activity (social and play). Connectivity was also considered, with provision made (where possible) for the Phase 1A landscape to connect to the natural habitat surrounding the village and connect internally through west-east street planting.	A multi-purpose and well-connected landscape for people and protected species.

Standard	Assessment	Outcome
	The 'Greenway' also starts a wider landscape framework that will be delivered across the village as part of the masterplan. This will deliver a connected landscape with higher-quality habitats present.	
Standard 2 Positively Responds to the Climate Emergency	The proposed landscape design will improve the quality of the habitats present on the site, and the ecological value proposed. Tree coverage will increase significantly as a result of the proposals, and soil quality will also be improved. This will have positive carbon sequestration outcomes. The proposed planting is also part of a comprehensive SuDS solution for the development, which will deliver a betterment in how rain and surface water are currently managed on the site.	A more diverse landscape environment that is better equipped to respond to the climate emergency and deliver climate resilience.
Standard 3 Maximises Environmental Net Gains	The provision of bird and bat boxes, a sensitive lighting design, and suitable placement of tree planting will ensure net gain for bird and bat species. The enhancement of grassland species in the site will ensure a suitable habitat for reptiles remains, and along with the enhancement of the translocation site, ensure a better gain for common lizards and reptiles on the site. The increase in habitat diversity and quality of species will also enhance the	Provision for key fauna to be protected and thrive, and enhancement of the ecological value of the site habitat.

Standard	Assessment	Outcome
	ecological value of the site's habitat.	
Standard 4 Champions a Context Driven Approach	A key aspect of the landscape design is the use of local habitat types and embracing the 'Ffridd' habitat that characterises the landscape around the village. This lends itself to a simple, authentic, and maintainable landscape that is appropriate to its context.	A landscape that is appropriate to the local area, its exposed location and weather conditions, and sets the tone for future phases of the Penrhys masterplan.
Standard 5 Creates Distinctive Places	The landscape design has been central to the design process, with the 'Greenway' providing the 'green heart' of the Phase 1A area. The landscape design of the area will work with the architectural and street design approach to create a high-quality living area that can set the standard for future phases of the regeneration masterplan. It will also offer striking views of the wider village and valley top landscape.	A bespoke local design that responds to site levels, and provides a multi-purpose green corridor where residents can socialise, observe natural habitat and species, and take in views of the wider village and valley landscape.
Standard 6 Secures Effective Place-keeping	The 'Ffridd' habitat approach ensures that maintenance of the Phase 1A landscape will be manageable and ensure the habitat remains in good condition post implementation.	The landscape management will be subject to a minimal management strategy, allowing the local species to flourish.

Standard	Assessment	Outcome
Wellbeing Standards		
Standard 7 Brings Nature Closer to People	The multi-purpose nature of the 'Greenway' will ensure local people have the opportunity to engage with nature, taking in the diverse natural habitats and species present from the amenity and play areas provided. The new homes will also offer views to the retained natural habitat surrounding the site, where bird, bat, and other mammal activity will continue.	Improved interface with the site's ecology and access to better natural habitats for health and well-being purposes.
Standard 8 Supports Equitable and Inclusive Places	The 'Greenway' includes accessible steps and a ramped access to ensure ease of access for all future residents and visitors. This will provide access to the residential streets and future phases of the Penrhys masterplan.	Inclusive connections through the Phase 1A area to future phases of the Penrhys masterplan.
Water Standards		
Standard 9 Delivers Climate Resilient Water Management	The inclusion of SuDS (rain gardens and planted basins, etc) as detailed in the drainage strategy will better manage surface water on site, ensuring that the landscape takes a critical role in intercepting and using water sustainably.	A significant improvement to the sustainability of the existing site drainage, increasing the resilience of the site's water management capacity.

Standard	Assessment	Outcome
Standard 10 Brings Water Closer to People	The rain gardens and planted basin will be a key part of the site's landscape design and will be highly visible in the street scene and the 'Greenway'. Residents and visitors will therefore have a clear visual understanding of how surface water is being managed on the site.	The integration of the SuDS design into the Phase 1A landscape will bring residents close to surface water management.
Wildlife Standards		
Standard 11 Delivers Wildlife Enhancement	The analysis of the scheme against the stepwise approach and ecosystem services summary identifies how the site will deliver wildlife enhancement through diversifying habitats and increasing their ecological value, and delivering enhancement for site fauna. Bird and bat boxes, sensitive lighting design to maintain bat activity, provision of grassland for reptiles and other species, and translocation of reptiles and enhancement of land adjacent to Penrhys village.	A number of habitat and species-based enhancements will be maintained for the long term.
Standard 12 Underpins Nature's Recovery	As outlined against Standard 11, the approach to enhance and diversify the habitats present on the site, and provide mitigation and enhancement for fauna present, aligns with the requirement for new development to contribute to nature recovery.	The proposals will align with nature recovery priorities and lay the foundation for future phases of the Penrhys masterplan to follow.

Figure 3: Draft Penrhys Masterplan

5. Assessment

The scheme aims to provide a considered and significant enhancement, in line with the step-wise approach. The mitigation hierarchy, which is to be considered at each stage with enhancement demonstrated, is evidenced by the design journey set out in the Design and Access Statement. This is further explored, and the multifunctional aspects of that approach are illustrated, specifically in regard to the different areas of contribution, as set out above in Section 4 of this statement. **It is concluded that the proposed scheme will produce a significantly integrated enhancement of different habitats and the relative opportunities they present, and therefore a biodiversity and ecosystem resilience enhancement, while also producing some additional ecosystem service benefits which are themselves a betterment over the current site.**

The accompanying Ecological Appraisal has set out a formal consideration of: the site's baseline; how the potential impacts from the proposed development have been avoided, minimised, mitigated, or compensated for; and what enhancements are proposed/or recommended for inclusion. It therefore illustrates how a net benefit for biodiversity, with increases in ecological resilience within the site and wider area, should be achieved.

The proposed scheme should produce an integrated enhancement of an improved variety and diversity of habitats and the relative opportunities they present, and therefore a biodiversity and ecosystem resilience enhancement, while also producing some additional ecosystem service benefits which are themselves a betterment over the current site.

The scheme is considered likely not to harm any significant existing green infrastructure assets, while being likely to provide a good example of multifunctional spaces for people and wildlife. It should therefore be considered to accord with local policy..

5.1 Rhondda Cynon Taf Local Development Plan and SPG

In terms of the priorities of the local policies and Supplementary Planning Guidance, the focus on protecting natural environments, of varying significance, is ensured throughout the proposed development's scheme of design. Specifically these are LDP policies CS10, AW2, AW7, AW8, AW10, AW14 and NSA16, as well as Nature Conservation SPG.

5.2 Legislative and policy consideration

A suitable net benefit for biodiversity and ecological resilience has been demonstrated through the application of the step-wise approach. Additionally, as part of the review of the site and proposed design conception, suitable multi-functional benefits for both wildlife and people have also been considered within the framework of ecosystem services. The proposed development has therefore adequately provided an enhancement of the services as part of the proposal, and adhered to good practice as part of this.

Appropriate regard has been given as part of the design process to Section 6 duties of local authorities, and Section 7 habitats that may be near the site, and have the potential to be impacted by the proposed development.

The scheme is therefore evidenced as complying with not only the requirement of Planning Policy Wales Chapter 6, but also other chapters of Planning Policy Wales and the Future Wakes national policy, Local Policy, plus relevant legislation regarding or associated with aspects of green infrastructure. The proposed development also accords with the statutory duties of a local planning authority, with regard to the Environment (Wales) Act 2016.

6. Conclusion

This Green Infrastructure Statement is considered to be proportionate to the scale and type of development proposed, and the comprehensive scheme of overall enhancement that is proposed. The statement sets out the measured baseline, the predicted impacts from the proposal, and how these are managed within the design, and examines these via the mechanism of the step-wise approach, DECCA and ES frameworks. It also shows how the scheme complies with the relevant local policy context and any other aspects of PPW 12 beyond the GI Statement requirement. The scheme is considered to be an appropriate design, regarding GI, in the context of the site and local context or nearby/adjacent habitats of importance, and wider GI networks.

7. Appendix 1: Relevant Policy, Legislation and Guidance

7.1. Legislation

7.1.1. Environment (Wales) Act 2016

The act introduced an enhanced duty for public authorities in the exercise of their functions - the biodiversity and resilience of ecosystems duty (referred to as the section 6 duty).

Section 6 sets out the biodiversity and resilience of ecosystems duty of all public authorities in Wales, to seek to maintain and enhance biodiversity in their functions, and so promote resilience of ecosystems. Section 7 (Part 1) species and habitats of 'principal importance' for the purpose of maintaining and enhancing biodiversity, and which Welsh Ministers must encourage others to do.

7.2. National and Local Policy

7.2.1. Planning Policy Wales, Edition 12

Planning Policy Wales (PPW) is the principal planning policy document of the Welsh Government and informs all planning decisions and appeals. The current version of which is PPW Edition 12.

Chapter 6 of PPW 12 explains that a GI Statement should be submitted with all planning applications, and also explains the general standards that any statement should seek to meet.

It explains that GI comprises the:

"*network of natural and semi-natural features, green spaces, rivers and lakes that intersperse and connect places…*"

"…At the landscape scale green infrastructure can comprise entire ecosystems such as wetlands, waterways, peatlands and mountain ranges or be connected networks of

mosaic habitats, including grasslands. At a local scale, it might comprise parks, fields, ponds, natural green spaces, public rights of way, allotments, cemeteries and gardens or may be designed or managed features such as sustainable drainage systems. At smaller scales, individual urban interventions such as street trees, hedgerows, roadside verges, and green roofs/walls can all contribute to green infrastructure networks" (par.6.2.1).

It further advises that:

"*proposals should be informed by the priorities identified in green infrastructure assessments and locally based planning guidance*" (par.6.2.5).

It also sets out how proposed development should be assessed within, or potentially impacting upon, designated sites, including non-statutory designated sites. It introduces the 'Step-Wise approach' which is expected to be applied to such consideration and therefore should be evidenced in any GI statement. This approach regards the resilience of ecosystems (ER) and therefore their ability to continue to deliver value from GI, when under pressure or differing demand.

It explains that, in terms of protection for non-statutory designated sites, which includes Site of Nature Conservation Interest (SINCs), development can be appropriate where adherence to the Step-Wise approach is demonstrated (including a net benefit for biodiversity) and there is no reduction in overall conservation value of the designated area or feature.

The PPW Chapter 6 update also covers trees, woodland, and hedgerows, and sets out the expectations to retain and protect such assets, where they are capable of making a significant contribution to an area. Where loss occurs, replacement will be required in line with the standards and ratios set out, and any permanent removal is only appropriate where there would be significant and clearly defined public benefit. Compensatory planting is required to be proportionate to the proposed loss as identified through an assessment of green infrastructure value by way of three specific aspects of biodiversity, landscape (amenity) and carbon capture values.

7.2.2. Future Wales: The National Plan 2040

Future Wales (FW) - The National Plan 2040 was adopted in February 2021 as the national development framework (NDF) setting the direction of development in Wales to 2040. The NDF provides a strategy to address key national priorities through the planning system, including developing a vibrant economy, developing strong ecosystems, achieving decarbonisation and climate resilience and improving the health and wellbeing of communities.

Policy 9 of FW focuses on 'Resilient Ecological Networks and Green Infrastructure', and sets out that planning authorities should identify areas of importance and opportunities for Green Infrastructure, for safeguarding and enhancement.

Given that FW strategy and national priorities can be in part addressed through Green Infrastructure, any GI Statement would be expected to align with those and support the delivery of it, where possible.

7.2.3. Technical Advice Note 5 - Nature Conservation and Planning (1996)

TAN5 provides national guidance on how the land use planning system should contribute to protecting and enhancing biodiversity and geological conservation. The guidance indicates that biodiversity conservation and enhancement is an integral part of planning for sustainable development. The guidance advocates a collaborative approach where LPAs, developers and key stakeholders in conservation should work together to deliver sustainable development.

7.2.4. Rhondda Cynon Taf Local Development Plan - Adopted March 2011

Local Development Plan policies and Supplementary Planning Guidance (SPGs) considered as potentially relevant to the proposed development are as follows:

Local Development Plan Policies:

- CS10: Minerals:

Favours proposals that promote the sustainable use of minerals. The safeguarding of known resources, including unnecessarily sterilising them or hindering their future extraction.

- AW2: Sustainable Locations:

Development proposals will only be supported in sustainable locations. These sites can be identified as having good access to key services and facilities, support the roles of key settlements and are well connected to existing infrastructure and deliver improvements to services where necessary.

- AW7: Protection and Enhancement of the Built Environment:

Development proposals which impact upon sites of architectural/ historical merit will only be permitted where it can be demonstrated that the proposal would enhance or preserve the character and appearance of the site.

- AW8 Protection and Enhancement of the Natural Environment:

This policy directs the council to protect, conserve, enhance and manage natural heritage, in consideration of all development proposals.

- AW10 Environmental Protection and Public Health:

Development impacting health or local amenity because of pollution, contamination or risks to the environment will need to demonstrate measures can be taken to overcome significant adverse impacts.

- AW14 Safeguarding of Minerals:

Minerals shall be safeguarded from any development which would adversely affect their extraction.

- NSA16: Redevelopment of Vacant/ Redundant Industrial Sites:

Proposals for the conversion or re-development of redundant and/ or vacant industrial sites will be supported where the development is compatible with other uses in the locality and there are no significant adverse impacts on the nearby amenities.

7.2.5. Supplementary Planning Guidance: Nature Conservation (March 2011)

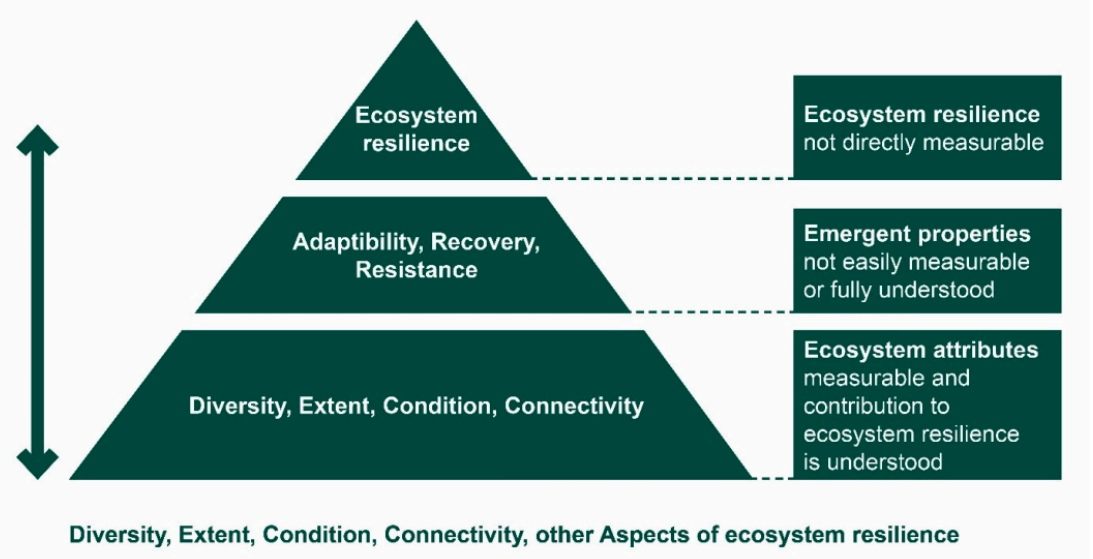
The SPG sets out how development proposals should conserve or enhance ecology and biodiversity, linking it to TAN5 and LDP Policy AW8. The approach advocated through this guidance is now also covered by the national requirements for the consideration of development to follow the step-wise approach, for Green Infrastructure Statements, requirement for net benefit for biodiversity, building ecosystem resilience, and Sustainable Drainage Systems.

7.3. Frameworks, Approaches, and Best Practice Guidance

7.3.1. DECCA Framework and Ecosystem Resilience

This DECCA framework (see Figure 3 below) sets out 5 key considerations of habitats and species which lead to Ecosystem Resilience (ER). The first four are the attributes of Diversity, Extent, Condition and Connectivity of species (genetics and populations) and/or habitats. There is also the fifth combined aspect of Adaptability, recovery and resistance, which is an emergent combined property resulting from the other four attributes (see Figure 3 below), and which together decide the level of ecosystem resilience..

Figure 3: Extract from Natural Resource Wales - *Ecosystem Resilience in a Nutshell 1: What is ecosystem resilience?* [1]



ER is not itself directly measurable because of the extremely large number of influencing factors. The DECCA framework is a useful 'proxy method' of feasible and viable assessment of ER, using just a few measurable attributes, to enable us to approximately consider it more easily in practice.

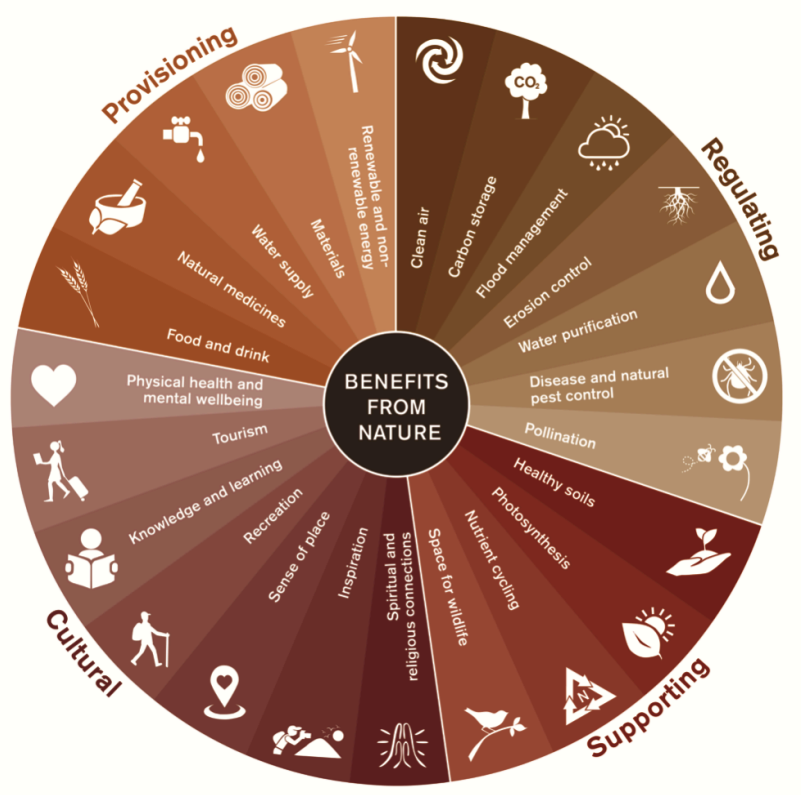
7.3.2. Ecosystem Services Framework

Ecosystem Services (ES) are a framework which can be utilised as an effective means by which to understand the flow of benefits from Green Infrastructure to humans, and therefore more directly consider what is valuable to people and communities. They add a human layer to the understanding of the multi-functionality of GI, which allows a greater consideration of how this can be maximised and for who.

[1]https://cdn.cyfoethnaturiol.cymru/media/696279/ecosystem-resilience-in-a-nutshell-1-what-is-ecosystem-resilience.pdf

We experience ES as Cultural, Regulating, Provisioning, and Supporting services; as a common, and widely accepted, standard of division (see Figure 4 below). Cultural services are non-material benefits to society that help deliver various cultural advancements. Regulating services are those that help moderate natural phenomena to the benefit of people. Provisioning services are those that deliver a material benefit to people, via the extraction of resources. Finally, Supporting services are those that ensure the continued production and maintenance of those other services; these can be thought of as those services which help deliver ER and other ES forms.

Figure 4: Ecosystem Services (source: Nature Scot)



7.3.3. Ecosystems, Ecosystem Resilience (ER), and Ecosystem Services (ES)

As the Natural Resource Wales 'State of Natural Resources Report (SoNRR)'[2] sets out, ER is important for the continuing delivery and therefore sustainability of ES. Both concepts are inherently linked to the structure of an ecosystem (its 'Processes' and resultant 'Functions'). ER being an important emergent property of an ecosystem's

[2] https://naturalresources.wales/media/679405/chapter-4-resilience-final-for-publication.pdf

physical and biological structure, and ES being a resultant beneficial outcome for people.

Ecosystems are fundamentally formed of those living biotic (animals and plants, etc.) and non-living abiotic components (soil, rock, rivers, climate, etc.). These living and non-living components influence the processes and functions of ecosystems, and these in turn influence resultant ER and what ES benefits can be realised. Biodiversity of a single or multiple habitat(s) is a manifestation of biotic components of an ecosystem. It is largely more fragile and therefore at risk of development impacts than the abiotic components (although these are also important, and can also be at risk). Because of this, a Net Benefit for Biodiversity is an important outcome for development, where the enhancement looks to both reverse ecological decline, or should at least means biodiversity loss is compensated for if calculations of biodiversity value are inaccurate.

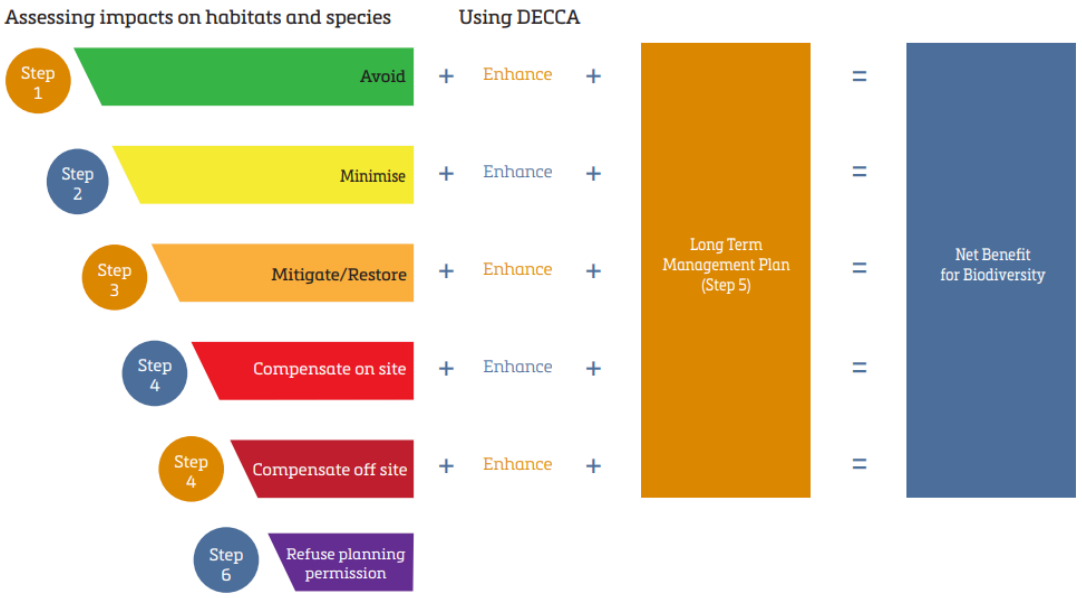
Under the Environment (Wales) Act, public bodies should seek to maintain and enhance biodiversity and the resilience of ecosystems. Multifunctional GI is set out as a means to maximise benefits for those more fragile abiotic components, by way of those statutory aims. ES to demonstrate that multifunctionality is therefore additionally important. Within the Planning Policy Wales Ed. 12 Chapter 6 content, the specifics of a GI approach are further prescribed, and the components of a nature-based focus and requirements are established. Together these aims, considerations of frameworks, and requirements of policy, contribute to an explicit need to deliver good-quality design that incorporates beneficial GI.

7.3.4. Step-Wise Approach

PPW 12 Chapter 6 requires the Step-Wise approach to be demonstrated within proposed development designs. This approach sets out the procedure of initially following the ‘Mitigation hierarchy’ stages, to sequentially (as required): avoid, minimise, or mitigate/restore impact to habitats and species, or compensate on-site and as a last resort compensate off-site. At each of these stages, a proportional enhancement must be proposed that demonstrates the DECC[A] attributes. A long-term management strategy is additionally required, that would ensure those measures proposed are deliverable; and would actually result in the level of Net Benefit for Biodiversity (NBB) and ER attributes that are described; as well as any resultant ES benefits gained.

Should the Mitigation hierarchy not be possible to follow (i.e. no stages of the hierarchy are possible) then planning permission should be refused. Should suitable enhancements relative to each stage of the hierarchy, and/or no suitable long-term management plan be possible, then a NBB is consequently unlikely to be possible and planning permission is, again, likely to be refused.

Figure 5: Step-Wise Approach - Extract from PPW Chapter 6.



7.3.5. Building with Nature (BwN) Standards

The Building with Nature Standards are focused on guiding and assessing multifunctional benefits of GI, such that maximum value is gained. An ES framework of assessment can serve to assist in considering the attainment of the frameworks 'Values'.

BwN are a set of privately developed standards, for which the general principles are freely available, but accreditation for development comes with a fee. PPW Chapter 6 sets out that these principles should be regarded, especially if no Green Infrastructure Assessment has been undertaken for an authority area.

Should there be no up-to-date GI Assessment for the local authority area, the assessment of proposed development against these standards can also serve to

evidence compliance with the more general requirements of PPW Chapter 6.

These BwN standards set out several main criteria, and sub-criteria, by which to assess green infrastructure, including:

- CORE Standards
    - Standard 1 Optimises Multifunctionality and Connectivity
    - Standard 2 Positively Responds to the Climate Emergency
    - Standard 3 Maximises Environmental Net Gains
    - Standard 4 Champions a Context Driven Approach
    - Standard 5 Creates Distinctive Places
    - Standard 6 Secures Effective Place-keeping
- WELLBEING Standards
    - Standard 7 Brings Nature Closer to People
    - Standard 8 Supports Equitable and Inclusive Places
- WATER Standards
    - Standard 9 Delivers Climate Resilient Water Management
    - Standard 10 Brings Water Closer to People
- WILDLIFE Standards
    - Standard 11 Delivers Wildlife Enhancement
    - Standard 12 Underpins Nature's Recovery

Importantly the core standards set a foundation for high-quality GI which are supported by the other standards. There is no weighting of any one criteria, and principles within each need to be demonstrated to evidence high-quality GI.

These standards are complementary to the step-wise approach, DECCA framework, and any management strategy required, which focuses on ER and other aspects of

habitats and species (e.g. arboricultural values). Indeed, the Wildlife standard can be considered with regard to the Step-wise approach. In their vast majority, these standards can be considered as an illustration of ES enhancement, and a means of guidance for maximising the ES benefit when designing schemes. The ES framework integrates with these standards, and this statement will utilise a consideration of ES values to do so.

7.3.6. Rhondda Cynon Taf - Action for Nature Plan

The Rhondda Cynon Taf (RCT) Action for Nature Plan has been created in partnership with many different organisations, combining science and local expertise to come up with a set of actions that everyone can take to protect and enhance wildlife in the county. The plan has a technical section with actions and advice for particular habitats and species that are of real importance to RCT.

Woodland, Scrub and Hedgerow Actions

Ancient woodlands are sites that have been wooded since, at least, 1600 when the first maps were produced. As RCT is full of trees, there are a number of secondary woodlands, approximately less than 100 years of age. This section of the Action for Nature Plan highlights 12 key actions for the protection of woodlands in development.

Grassland

Climate, soils and topography all tend to favour the growing of grass for animals to graze and the growing of hay as winter feed. In large parts of Britain wildflower rich habitats are no longer popular due to artificial fertilisers, herbicides and mechanised farming. In RCT there is still a wide variety of important biodiversity grassland habitat and the action plan describes the main types, how to protect and maintain them and opportunities to raise awareness about the loss of them.

Urban Actions

Urban habitats create important areas for some species, such as hedgehogs, bats, housemartins and swifts. RCT sees most people living in an urban environment and for most people this is their first introduction to local wildlife. Many of the actions set out in the plan are more strategic and technical actions to support wildlife across the urban areas.

Reptiles

Reptile species found in RCT are widely distributed, while reptiles have declined in other areas of Britain. The reptiles found in RCT are a clear indicator of the importance of the wealth and diversity of habitats in RCT, and it is important to protect them and their habitats as a result.

Swifts

Swift population has halved in the UK over the past 20 years, unlike other birds they don't seem to have suffered as a result of climate change, as their arrival dates have not changed, it is possible that a lack of nesting sites is a factor. Traditionally swifts nest in old chapels or school buildings, as a lot of these have been demolished or renovated this has resulted in loss of nesting sites.