

10 BIODIVERSITY

10.1 Introduction

10.1.1 This Chapter, prepared by Phlorum, reports the likely significant effects of the Proposed Development in terms of Biodiversity in the context of the Site and surrounding area. In particular it considers the likely significant effects the Proposed Development will have on habitats and their associated species.

10.1.2 This Chapter (and its associated appendices) is not intended to be read as a standalone assessment and reference should be made to the front end of this ES (Chapters 1 – 6), as well as the final chapters, ‘Summary of Residual and Cumulative Effects’ and ‘Conclusions’ (Chapters 21 - 22).

10.2 Legislation, Policy and Guidance

10.2.1 The relevant legislation, policy and guidance are listed below, with details provided in Appendix 10.1.

Legislative Framework

10.2.2 The applicable legislative framework is summarised as follows:

- Birds Directive;
- Habitats Directive;
- Conservation of Habitats and Species Regulations 2017 (as amended);
- Natural Environment and Rural Communities (NERC) Act, 2006;
- The Conservation of Habitats and Species Regulations 2017 (as amended);
- The Countryside and Rights of Way (CROW) Act 2000;
- Protection of Badgers Act 1992;
- The Environment (Wales) Act 2016;
- The Hedgerow Regulations, 1997; and
- The Wildlife and Countryside Act, 1981 (as amended).

Planning Policy

10.2.3 The applicable planning policy is summarised as follows:

- Cardiff Local Development Plan 2006 – 2026 (Adopted January 2016);

- Future Wales: The National Plan 2040 (February 2021); and
- Planning Policy Wales (Edition 11, February 2021).

Guidance

10.2.4 The applicable guidance is summarised as follows:

- Cardiff Supplementary Planning Guidance: Ecology and Biodiversity Technical Note (November 2017);
- Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland: Terrestrial, Freshwater, Coastal and Marine (2019);
- Species and Habitats of Principle Importance for Conservation - formerly Biodiversity Action Plans (BAP); and
- Technical Advice Note (TAN) 5: Nature Conservation and Planning (2009).

10.3 Assessment Methodology and Significance Criteria

Scope of the Assessment

10.3.1 This chapter will include findings from the Preliminary Ecological Appraisal Report (PEAR) and Preliminary Roost Assessment (PRA) which focus on the Site and discuss what impacts the Proposed Development will have on the local biodiversity and discuss the Site's potential for ecological enhancement and biodiversity gain. The chapter will also address what impacts the Proposed Development will have away from the Site as it states the findings of a Habitat Regulations Assessment (HRA) which focuses on the internationally recognised Severn Estuary. In addition, mitigations, recommendations and justifications for why certain habitats or species are not considered for further discussion, will be addressed.

Effects Not Considered within the Scope

10.3.2 This Chapter on biodiversity will not be discussing the effects the urban setting of the Proposed Development will have as this is largely already reflected within the Site's condition prior to any development.

10.3.3 A Biodiversity Net Gain (BNG) assessment is under preparation for the hybrid application and will be included in the final submission once the entire landscaping for the illustrative masterplan has been finalised.

Extent of the Study Area

10.3.4 The PEAR has been carried out across the Site boundary of the hybrid planning application, provided in February 2021 which extended over approximately 22 hectares (ha).

10.3.5 The BNG report will be based on the latest outline of the Atlantic Wharf, Butetown Masterplan area which is currently 13.5 ha.

Consultation Undertaken to Date

10.3.6 Table 10.1 provides a summary of the consultation activities undertaken in support of the preparation of this Chapter.

Table 10.1: Summary of Consultation Undertaken to Date			
Organisation	Individual(s)	Meeting Date and other forms of Consultation	Summary of Outcome of Discussion
Cardiff Council	Matthew Harris (Ecologist)	15 th June 2021	Telephone discussion and follow up email summary from Paul Carter: Matthew is happy for the initial submission of the PEA, but will require the EclA and HRA, based on the phase 2 results, as soon as is practical, in order to progress with determination. Matthew wants to see the mitigation for the species that may be impacted, incorporated into the design, in the form of bat boxes etc. The principal ecological concerns are bats, which were known to be using the building in 2018, and otters, which are thought to be using the wharf periodically. Matthew stated that the determination will be guided by whether he feels the mitigation will satisfy NRW.
Cardiff Council	Matthew Harris (Ecologist)	1 st July 2021	Paul Carter emailed Matthew to advise the first bat activity survey had been carried out and asked for a telephone call to discuss the next steps.
Cardiff Council	Matthew Harris (Ecologist)	14 th July 2021	Stephen Moore emailed to ask for a telephone call to discuss the project.

Table 10.1: Summary of Consultation Undertaken to Date			
Organisation	Individual(s)	Meeting Date and other forms of Consultation	Summary of Outcome of Discussion
Natural Resources Wales	Paige Minahan (Planning)	14 th July 2021	Scoping Response via email document: PEAR and bat surveys should be carried out, impacts on protected should be addressed, a European Protected Species (EPS) licence should be sought where necessary and a HRA should be included.
Cardiff Council	Matthew Harris (Ecologist)	20 th July 2021	Matthew emailed to advise he had been off sick and will call in the near future.
Cardiff Council	Matthew Harris (Ecologist)	4 th August 2021	Stephen Moore emailed to ask if Matthew has any availability to discuss the project.
Cardiff Council	Matthew Harris (Ecologist)	19 th August 2021	Stephen Moore emailed to ask if Matthew or any other appropriate individual has any availability to discuss the project (awaiting response at time of finalising this chapter for the PAC submission).

Assessment Methodology

10.3.7 The method of baseline data collection and assessment has been agreed with Cardiff Council and is in accordance with current guidance and industry best practice. This Chapter has been written in line with Guidelines for Ecological Impact Assessment in the UK (CIEEM, 2018) and full details for each element are provided in Appendix 10.2.

Preliminary Ecological Appraisal Report (PEAR)

10.3.8 A PEAR survey (Appendix 10.3) was carried out by a suitably qualified ecologist, Stephen Moore who has over eight years professional experience of undertaking ecological surveys.

10.3.9 A desktop study involved conducting database searches for statutory and non-statutory designated sites, legally protected species and features of interest within a 2 kilometre (km) radius of the Site. The database and map search was based on available information provided by the following sources:

- South East Wales Biodiversity Records Centre (SEWBREC, 2021);
- Multi-Agency Geographical Information for the Countryside (MAGIC, 2021);
- Ordnance Survey mapping;
- aerial photography; and
- Wales Ancient Tree Inventory.

10.3.10 The desktop study also involved the review of the following previous reports which were carried out for the Arena and Hotel elements of the Proposed Development:

- Preliminary Ecological Appraisal Report (Mott MacDonald, 2020); and
- Bat Survey Report (Mott MacDonald, 2020).

10.3.11 The PEAR survey comprised a walkover inspection of the land and habitats present. The survey followed standard Phase 1 survey methodology (JNCC, 2010) and covered all accessible parts of the Site, including boundary features. Habitats and potential for protected species were described and mapped.

10.3.12 The potential presence for protected species is categorised as **Negligible, Low, Moderate, High** or **Present**, based on the findings of the field survey and on the evaluation of existing data.

Preliminary Roost Assessment (PRA)

10.3.13 The external PRA inspection (Appendix 10.3) of the Cardiff County Hall building for bats from ground level was carried out in accordance with good practice guidelines (Collins, 2016). An internal inspection of the upper levels of the building was carried out by a suitably qualified ecologist, Paul Carter who holds a Bat Level 1 licence 2020-44978-CLS-CLS.

Biodiversity Net Gain (BNG)

10.3.14 The BNG assessment will determine if net benefit for biodiversity can be secured through habitat creation and/or long term management arrangements to enhance existing habitats, to improve biodiversity and the resilience of ecosystems. Through understanding local context, the BNG will identify features to enhance biodiversity.

10.3.15 As outlined in paragraph 10.3.3, a BNG assessment is being prepared and will be submitted in support of the hybrid planning application. Based on initial assessment, it is anticipated that biodiversity net gain could be achieved for both the Arena Quarter

element of the development and the masterplan. This is due to the ecological enhancements expected as a result of proposed native planting replacing non-native planting and removal of invasive species, that has been incorporated into the Proposed Development.

Habitats Regulations Assessment (HRA)

10.3.16 The HRA (Appendix 10.4) has focused on the Severn Estuary as it is a designated RAMSAR, Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC), Special Protection Area (SPA) and European Marine Site (EMS) under the National Site Network (NSN). The Proposed Development has been used to inform the potential effects on the Severn Estuary's qualifying features.

Significance Criteria

10.3.17 The following paragraphs will explain the significance of the Proposed Development's ecological impacts and their subsequent effects on habitats and protected species which may be present. The following terms have been defined, below:

- ecological impact - actions resulting in change to an ecological feature e.g. loss of pond/hedgerow or trees, during the construction phase/activities; and
- ecological effect – this is the outcome of the ecological impact on an ecological feature, e.g. effect on hedgehog from loss of hedge, and effect on birds/bats due to loss of trees.
- avoidance - seek options that avoid harm to the ecological features on Site, and surrounding areas;
- mitigation - negative effects should be avoided or minimised through mitigation measures, either through the design of the project, or subsequent measures that can be guaranteed;
- compensation - where there are significant residual negative ecological effects, despite the mitigation proposed, these should be offset by appropriate compensatory measures;
- enhancement – seek to provide net benefits for biodiversity over and above requirements for avoidance, mitigation or compensation;

10.3.18 Once an ecological impact is identified it needs to be characterised. This is done by using a range of characteristics, including the following:

- positive or negative;
- extent;
- magnitude;
- duration;
- frequency and timing; and
- reversibility

10.3.19 This Chapter only needs to describe those characteristics relevant to understanding the ecological effect of the impacts and determining its significance.

10.3.20 The positive and negative effects from the impacts should be determined according to whether the change is in accordance with nature conservation objectives and policy:

- **positive** – a change that improves the environment quality of the Site; and
- **negative** – a change which reduces the environmental quality of the Site.

10.3.21 Extent refers to the area over which the impact/effect may occur under a normal condition. These have been categorised into the regional extents including **international, national, local and immediate vicinity.**

10.3.22 Magnitude refers to ‘size’, ‘amount’ of the impact. Where possible this should be quantified, e.g. number of trees lost, the area of habitat lost/changed, and percentage decline in a species population.

10.3.23 Duration is the time over which the impact is expected to last prior to recovery or replacement of the resource or feature. Duration should be defined in relation to ecological feature/species (such as the lifecycle of a species) as well as human timeframes.

10.3.24 It is important to note that the duration of a construction activity may differ from the duration of the resulting effect, e.g. if a short-term construction activity causes disturbance to birds during their breeding period, then there may be long-term effects from failure to reproduce that season.

10.3.25 Frequency is the number of times an activity occurs that will influence the resulting effect. Plus the timing of the activity, such as during species breeding season.

Types of impact

- 10.3.26 Development activities may have a range of positive and negative effects upon ecological features during the construction and operational phases and a distinction is often made between **direct** and **indirect** impacts. Direct impacts occur where the changes to an ecological feature are directly attributable to an action such as the loss of grassland for the construction of new buildings. Indirect impacts arise as a ‘knock-on’ effect such as disturbance of bat activity as a result of a change in human use of a site.
- 10.3.27 Direct and indirect impacts can then be sub-divided into temporary or permanent impacts (i.e. loss of land in contrast to the temporary use of land for storage of materials). These impacts may also be either temporary or long lasting. The impacts may also be cumulative.
- 10.3.28 All impacts are assigned a confidence level, as defined within the CIEEM Guidelines (e.g. **certain, likely, probably, unlikely**).
- 10.3.29 Impacts have been divided into construction and operation stages and the following sections are based on the assessment of the magnitude and significance of impacts before mitigation.

10.4 Baseline Conditions

Preliminary Ecological Appraisal Report

Designated and Non Designated Sites

- 10.4.1 The closest statutory designated site is the Cardiff Bay Wetlands and Hamadryad Park Local Nature Reserve (LNR) which is located 0.91km to the southwest. Beyond this is the Severn Estuary which is a designated RAMSAR, SSSI, SAC, SPA, and EMS which is located 1.3km to the southeast at its closest point. The closest non-statutory designated site is the River Taff Site of Importance for Nature Conservation (SINC) which is located 0.5km to the west at its closest point.

Habitats

- 10.4.2 The Site is located within an urban setting and comprises of buildings including Cardiff County Hall and carparks with areas of vegetation and standing water within the area surveyed.
- 10.4.3 The main habitats recorded within the Site are described as follows:

- 10.4.4 A number of buildings were identified across the Site which ranged from small security buildings to a large retail outlet (the Red Dragon Centre).
- 10.4.5 Poor semi-improved amenity grassland was observed around the Site, typically along roads or bounding car parks.
- 10.4.6 Carparks, footpaths, courtyards, roads and other forms of hardstanding were observed around the Site.
- 10.4.7 Introduced shrubs such as Cotoneaster (*Cotoneaster horizontalis*), Wilsons honeysuckle (*Lonicera nitida*) smoketree (*Cotinus coggygria*) and cherry laurel (*Prunus laurocerasus*) were observed around the Site which predominantly act as dividing hedges between plots or areas of carparks.
- 10.4.8 Scattered trees were observed around the Site and typically observed bounding carparks or plots of amenity grassland. Species include but are not limited to London plane (*Platanusx hispanica*), Scots pine (*Pinus sylvestris*), Rowan (*Sorbus aucuparia*) and pedunculate oak (*Quercus robur*).
- 10.4.9 Areas of scrub were identified around the Site and were typically observed on the boundary of car parks or unmanaged areas and vacant plots. Species include but are not limited to elder (*Sambucus nigra*), alder (*Alnus glutinosa*), bramble (*Rubus fruticosus*) and gorse (*Ulex europaeus*).
- 10.4.10 Waterbodies were identified towards the northeastern and southern areas of the Site which were areas of the Bute East Dock and potentially connected areas of the Roath Basin, respectively.
- 10.4.11 A small pocket of woodland was identified in Silurian Park which is located towards the northwestern area of the Site. Species include but are not limited to hazel (*Corylus avellana*), field maple (*Acer campestre*), ash (*Fraxinus excelsior*) and holm oak (*Quercus ilex*).
- 10.4.12 Additional details are shown on the PEAR in Appendix 10.3 and the target notes are as follows:
- TN1: Cotoneaster (invasive plant species);
 - TN2: Bird's nest;
 - TN2: Small mammal hole;
 - TN4: Moorhen nest;

- TN5: Missing ridge tiles (roosting feature); and
- TN6: Lifted tiles (potential roosting feature).

Protected Species

- 10.4.13 Through consultations with the Cardiff Council Ecologist, it has been determined that bats are present within Cardiff County Hall building. The building is located towards the northeastern area of the Site and does not fall within the Arena and Hotel boundary. It is understood that the Cardiff County Hall building will not be demolished until Phase 4 of development which is anticipated to start in 2026.
- 10.4.14 During the PEAR, a Preliminary Roost Assessment (PRA) was undertaken on the building and features including lifted tiles and missing tiles were observed. The data search showed records of bats including common pipistrelle (*Pipistrellus Pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), Nathusius's Pipistrelle (*Pipistrellus nathusii*), Daubenton's (*Myotis daubentoni*), and noctule (*Nyctalus noctula*) occurring within the 2km search area in the past seven years.
- 10.4.15 The Cardiff County Hall building is considered to have **moderate** potential for roosting bats and to date, one bat activity survey has been carried out on 30th June 2021 which indicated that bats are likely to be roosting within the building.
- 10.4.16 Some of the trees were identified as having **low** roosting potential.
- 10.4.17 Several Red or Amber listed Birds of Conservation Concern (BoCC), and notable bird species were identified by the data search that may utilise habitats within the Site. Species include but are not limited to redwing (*Turdus iliacus*), peregrine (*Falco peregrinus*) and kestrel (*Falco tinnunculus*). During the survey it was noted that the onsite waterbody, trees, scrub and buildings provided suitable habitat for nesting birds. Great black back gulls (*Larus marinus*) were noted to be nesting on the roof of Cardiff County Hall. A bird's nest was observed within the trees on the roundabout near the Cardiff County Hall building and two moorhen (*Gallinula chloropus*) nests were observed within the Bute East Dock basin. Overall, it is considered that the Site had breeding birds **present**.
- 10.4.18 The data search showed two records of otter (*Lutra lutra*) within 2km of the Site within the past ten years. The area surveyed offers aquatic habitat and limited vegetation of a type that would support breeding otter. The presence of water means it could be suitable for commuting otters however it is unlikely given the urban environment.

Overall, it is considered that the Site offers **negligible** potential to support breeding otter and **low** potential to support commuting otter.

- 10.4.19 The data search showed six records of hedgehogs (*Erinaceus europaeus*) within 2km of the Site within the past five years. No direct evidence of hedgehogs was seen on the Site, however the presence of dense scrub could have provided the hibernation and foraging areas for this species. Overall, the Site offers **low** potential for hedgehogs.
- 10.4.20 The data search showed records of slow worm (*Anguis fragilis*) and common lizard (*Zootoca vivipara*) within 2km of the Site within the past seven years. During the survey no suitable habitats for reptiles were observed. Overall, the site has been assessed as having **negligible** potential to support reptiles. No further surveys or recommendations for mitigation in relation to this species are required. Therefore, this species will not be mentioned any further in this Chapter.
- 10.4.21 The data search did not show any record of great crested newt within 2km of the Site. Four standing water bodies were recorded as being present within 500 metres(m) of the Site with some of them being stocked with fish and having waterfowl present. During the survey, limited features were seen that could support foraging newts. The urban environment would not be suitable for this species. It is considered that the Site offers **negligible** potential for breeding newts and **negligible** potential for foraging and commuting newts. No further surveys or recommendations for mitigation in relation to this species are required. Therefore, this species will not be mentioned any further in this Chapter.
- 10.4.22 The data search showed one record of dormice (*Muscardinus avellanarius*) within 2km of the Site from 2005. The Site does not contain the type or density of vegetation that would be suitable for supporting either breeding or commuting dormice. Overall, it is considered that the Site offers **negligible** potential to support breeding dormice. No further surveys or recommendations for mitigation in relation to this species are required. Therefore, this species will not be mentioned any further in this Chapter.
- 10.4.23 The data search did not show records of water vole within the 2km search area. The Site does not contain the aquatic habitat and vegetation types that would support breeding, foraging or commuting water vole. Overall, it is considered that the Site offers **negligible** potential to support breeding water voles and **negligible** potential to support commuting and foraging water voles. No further surveys or

recommendations for mitigation in relation to this species are required. Therefore, this species will not be mentioned any further in this Chapter.

10.4.24 Invasive plant species including *Cotoneaster horizontalis* and *Cotoneaster simonsii* which are listed in Schedule 9 of the Wildlife and Countryside Act 1981 are present on the Site.

10.4.25 The Severn Estuary contains Annex I habitats of estuary, subtidal sandbanks, intertidal mud and sand, Atlantic salt meadow / salt marshes and reefs. Annex II fish species include river lamprey (*Lampetra fluviatilis*), sea lamprey (*Petromyzon marinus*) and twaite shad (*Alosa fallax*). Annex I bird species include Bewick's swan (*Cygnus columbianus bewickii*) and internationally important populations of regularly occurring migratory bird species, European white-fronted goose (*Anser albifrons albifrons*) Dunlin (*Calidris alpina alpina*) Redshank (*Tringa tetanus*) Shelduck (*Tadorna tadorna*) and Gadwall (*Anas strepera*).

10.4.26 Whilst comparing the qualifying bird species with a data search with SEWBREC, a total of 1,1538 records for birds were returned. Five of these were for the Annex I species, Bewick's Swan which were last seen in 1987 on Cardiff Flats. No Bewick's Swan have been observed on Site. The only qualifying bird species which is classed as 'Internationally Important populations of regularly occurring migratory bird' which was identified by the 2km data search was the European white-fronted goose which was last seen in 1995 almost 2km away, in Cardiff Bay. None of the remaining internationally important populations of regularly occurring migratory bird species were returned in the data search and it is unlikely that they will in the future.

10.4.27 No fish species were returned by the data search from SEWBREC.

10.4.28 It is considered that the Arena and Hotel boundary does not fall within the Severn Estuary SSSI Impact Risk Zone (IRZ) however the southern area of the masterplan boundary is within the IRZ.

Sensitive Receptors

10.4.29 The following sensitive receptors have been identified and will be discussed in greater detail:

- habitats;
- Severn Estuary;

- bats;
- birds;
- hedgehogs; and
- otters

Limitations

10.4.30 Ecological surveys are limited by factors that affect presence of plants and animals such as seasonality. Whilst every effort has been made to provide a comprehensive description of the Site, no investigation can ensure the complete characterisation of the environment.

10.4.31 As the Site covers a large urban area, not all areas of the Site were accessible at the time of the PEAR survey. Some areas were not accessed during the PEAR survey due to fenced off areas, dense vegetation, areas next to high speed roads and areas which appeared to be private i.e. narrow walkways around the back of buildings. These areas are mapped in Figure 10.1 (Appendix 10.5).

10.4.32 The PEAR does not constitute a full botanical survey, or a Phase 2 pre-construction survey that would include accurate GIS mapping for invasive or protected plant species. This survey provides a preliminary view of the likelihood of protected species occurring on the Site based on the suitability of the habitat, known distribution of the species in the local area and any direct evidence on the Site. It is therefore used as a tool to recommend further protected species surveys (or other species of significant nature conservation interest) if on the basis of the preliminary assessment or during subsequent surveys, it is considered reasonably likely that protected species may be present.

10.4.33 The PEAR also does not constitute a full invasive species survey. All surveys are subject to the conditions on site at the time of the survey. Site surveys are non-intrusive and rely on the visual identification of aboveground growth. If parts of a site are inaccessible then these areas can often not be surveyed, unless they can be viewed from other areas. If any aboveground growth is being managed or has been disturbed or covered, or the below ground growth is dormant, then it may be impossible to identify invasive plants in these areas during the non-intrusive survey.

10.4.34 It is however considered that the PEAR survey has been sufficiently rigorous to assess the ecological value of the Site.

10.4.35 It is important to note that, even where data is held, a lack of records for a defined geographical area does not necessarily mean that there is a lack of ecological interest; the area may be simply under-recorded.

10.5 Assessment of Effects

Design Solutions and Assumptions

10.5.1 It is understood that a CEMP will accompany the hybrid planning application for the enabling works, with subsequent CEMPs developed to cover each phase of construction and these will address the prevention of pollution from entering the watercourse and subsequently Severn Estuary.

10.5.2 In order to demolish the Cardiff County Hall building during the fourth phase, it is assumed that a European Protected Species Mitigation (EPSM) Licence for bats will need to be obtained from NRW before the works can proceed.

Assessment of Effects

Effects of Site Construction

10.5.3 Impacts related to Site preparation and construction will be spread over the phases and will differ in activity, location and effects. A range of impacts, with potential adverse ecological effects, are associated with construction works. These are listed in Table 10.3.

Table 10.3 Construction Phase Impacts	
	Nature of Impact
Landtake	Habitat loss – a direct impact. The severity of the effect is directly related to the relative amount of habitat lost, the conservation value of that habitat, whether it is a temporary or permanent loss, and whether the habitat can be restored or recreated. The Proposed Development will involve clearance of the amenity grassland, scrub, introduced shrubs and scattered trees. This impact will be permanent and direct.
Noise	Noise associated with construction impacting sensitive species (e.g. breeding birds). The impacts will be seasonally dependent, and would be temporary and indirect.
Dust	Dust arising from construction activities leading to damage to vegetation. This would be a temporary direct impact. Dust entering the waterbody on Site could have a permanent and direct impact.
Lighting	Construction lighting could lead to behavioural changes in sensitive species including birds and bats, if present in adjacent trees and hedges. This could also

Table 10.3 Construction Phase Impacts	
	Nature of Impact
	apply to the construction of the new Arena which will be very close to the Cardiff County Hall building. The impacts will be seasonally dependent. This would be a temporary indirect impact.

Effects of Operation

10.5.4 Potential adverse ecological effects impacts involved with the use of the properties are outlined in Table 10.4.

Table 10.4 Operational Phase Impacts	
	Nature of Impact
Landtake	Habitat loss resulting from changed land use will have a permanent and direct impact.
Noise	Noise associated with human activities impacting sensitive species (e.g. breeding birds, bats, badger). The impacts will be seasonally dependent, and this would be a temporary and indirect impact.
Lighting	On-site lighting could lead to behavioural changes in sensitive species including birds and bats. The impacts will be seasonally dependent. This would be a permanent and direct impact.

Evaluation of Impacts on Habitats

10.5.5 Construction: The majority of habitat will be cleared over the five phases of the Proposed Development. The loss of habitat is assessed as being **direct** and the impact is assessed as being within the **immediate vicinity, permanent, of moderate** magnitude and **significant**.

10.5.6 Operational: The change of baseline habitat will be a **direct** but temporary loss in areas as habitat is removed and replaced i.e. invasive shrub replaced with a native shrub. During the operational phase the impact will reduce over time as new planting becomes established. Increased human activity including vehicles can also potentially impact the habitats. The magnitude of these impacts has been assessed as within the **immediate vicinity, permanent, of low** magnitude (in the long-term) and **not significant**.

Evaluation of Impacts on The Severn Estuary

10.5.7 Construction: Pollutants including chemical spills, suspended solids and materials which can alter the chemistry of water, will be present on Site and without mitigation

can enter watercourses and subsequently the Severn Estuary. The magnitude of impact on the Severn Estuary's qualifying features has been assessed as **international, direct, temporary, of moderate** magnitude and **significant**.

- 10.5.8 Operational: Although there is likely to be increased human activity, the risk of water pollution is likely to return to baseline conditions once the Site is operational. The magnitude of these effects has been assessed as **international, direct, temporary, low** and **not significant**.

Evaluation of Impacts on Bats

- 10.5.9 Construction: Bat roosts which are likely present within the Cardiff County Hall building will be **directly** impacted upon the building's demolition as will any trees with bat roosting features. In addition, noise and lighting may have **direct** and **indirect** impact on any foraging and commuting bats present during construction. The magnitude of impact has been assessed as **local, permanent, of high** magnitude and **significant**. There will be loss in commuting and foraging habitat through the removal of introduced shrubs which are serving as linear features. However, the Site is close to extensive areas of similar habitat. Any impacts due to disturbance will be **local temporary, of moderate** magnitude and **significant**.

- 10.5.10 Operational: Areas of foraging habitat will be lost to the development and the scheme is likely to increase lighting levels. This has the potential to reduce foraging behaviour and increase susceptibility to predation. All species of bat in the UK are fully protected under The Conservation of Habitats and Species Regulations 2017 (as amended) which protects bats and their roosts from disturbance amongst other things. Although there is no case law to date, the legislation may also be interpreted such that, in certain circumstances, important foraging areas and/or commuting routes can be regarded as being afforded de facto protection, for example, where it can be proven that the continued usage of such areas is crucial to maintaining the integrity and long-term viability of a bat roost. However, due to the small and discrete nature of the foraging habitat, it is considered unlikely that it provides such a feature. Overall, any increase in disturbance caused by operational lighting will be **local, permanent, of low** magnitude and **not significant**.

Evaluation of Impacts on Birds

- 10.5.11 Construction: It is considered that breeding birds are using on-site habitat. **Direct** impacts on breeding bird populations will therefore be due to removal of the

vegetation, and also disturbance through increased noise levels and vehicle movements during the construction phase. Depending on the timing of works, this may cause the potential direct loss of active nests and breeding birds. However, the potential number of birds disturbed will be relatively low in terms of the wider populations of any affected species. Any impacts due to disturbance will be **local, permanent, of moderate** magnitude and **significant**.

- 10.5.12 Operational: **Direct** disturbance during the operational phase is likely to be caused from increased human activity at the Site which may lead to an increase in noise levels. In addition, increased lighting levels as a result of the Proposed Development have the potential to disturb birds. Overall, any increase in disturbance caused by operational noise/lighting will be **local, permanent, of moderate** magnitude and **not significant**.

Evaluation of Impacts on Hedgehogs

- 10.5.13 Construction: It is considered that the habitats on Site provide suitable habitat for hedgehogs and any **direct** impacts on their population will be due to removal of the vegetation, and also disturbance through increased noise levels and vehicle movements during the construction phase. However, the potential number of hedgehogs disturbed will be relatively low in terms of the wider populations of any affected species. Any impacts due to disturbance will be **local, temporary, of moderate** magnitude and **not significant**.

- 10.5.14 Operational: **Direct** disturbance during the operational phase is likely to be caused from increased human activity at the Site which may lead to an increase in noise levels. In addition, increased lighting levels as a result of the Proposed Development have the potential to disturb hedgehogs. Overall, any increase in disturbance caused by operational noise/lighting will be **local, permanent, of moderate** magnitude and **not significant**.

Evaluation of Impacts on Otters

- 10.5.15 Construction: It is considered that the Bute East Dock provides commuting habitat for otters and any **direct** impacts on their population will be due to construction activity on the basin and also disturbance through increased noise levels and vehicle movements during the construction phase. However, the potential number of otters disturbed will be relatively low in terms of the wider populations of any affected

species. Any impacts due to disturbance will be **local, temporary, of moderate magnitude and not significant.**

10.5.16 Operational: **Direct** disturbance during the operational phase is likely to be caused from increased human activity at the Site which may lead to an increase in noise levels. In addition, increased lighting levels as a result of the Proposed Development have the potential to disturb otters. Overall, any increase in disturbance caused by operational noise/lighting will be **local, permanent, of moderate magnitude and not significant.**

10.5.17 Table 10.5 summarises the significance of effects of the Proposed Development during the construction period.

Receptor	Extent	Potential Impact (without mitigation)	Magnitude	Significance (without mitigation)
Baseline Habitats	Immediate Vicinity	Loss of habitats	Moderate	Significant
Severn Estuary	International	Water pollution	Moderate	Significant
Bats	Local	Loss of habitat, noise and light disturbance	Moderate – High	Significant
Birds	Local	Loss of habitat and noise and lighting disturbance	Moderate	Significant
Hedgehogs	Local	Loss of habitat and noise and lighting disturbance	Moderate	Not significant
Otters	Local	Loss of habitat and noise and lighting disturbance	Moderate	Not significant

10.5.18 Table 10.6 summarises the significance of effects of the Proposed Development during the operational period.

Receptor	Extent	Potential Impact (without mitigation)	Magnitude	Significance (without mitigation)
Baseline Habitats	Immediate Vicinity	Change of baseline habitat and increased human activity	Low	Not Significant

Table 10.6: Significance of Effects for Operational period				
Receptor	Extent	Potential Impact (without mitigation)	Magnitude	Significance (without mitigation)
Severn Estuary	International	Water pollution through increased human activity	Low	Not Significant
Bats	Local	Lighting and noise from increase of human activity	Low	Not Significant
Birds	Local	Noise and lighting disturbance	Moderate	Not Significant
Hedgehogs	Local	Noise, lighting and increase of human activity	Moderate	Not significant
Otters	Local	Noise, lighting and increase of human activity	Moderate	Not significant

10.6 Mitigation

10.6.1 This section details mitigation measures necessary to reduce any adverse effects upon ecological receptors, identified in the previous sections.

10.6.2 Some mitigation measures detailed below have already been built into the design of the Proposed Development in order to reduce any direct impacts upon protected habitats and species.

General Measures

10.6.3 The general mitigation measures identified below should be included within the final design and undertaken for the construction phase of the Proposed Development:

- A suitably qualified ecologist should be available during construction work to respond to any protected species or other ecological issues that may arise. They will liaise with relevant specialists, undertake preconstruction checks, and provide advice and supervise mitigation where required; all Site workers will receive a 'Toolbox Talk' where the ecologist will brief personnel on the ecological sensitivities of the Site;
- access routes will be clearly marked, and machinery will be confined to these areas for the duration of the works; and
- all materials will be stored in a designated area and stored safely and securely for the duration of the works.

Specific Measures

10.6.4 Specific mitigation measures detailed below will need to be employed in relation to protected species and habitats.

Specific Measures for Habitats

10.6.5 Construction: In order to minimise impacts on habitats at the Site, fencing should be installed around the footprint of the phased work area prior to construction commencing in order to restrict machinery and material storage from the surrounding land. A fence should be installed in line with the root protection zone of any retained trees so that none of the trees are compromised during the works. In addition, all invasive species should be removed from Site, where possible and supervised by an invasive weed specialist. Providing these precautionary methods are undertaken construction will only impact the necessary habitats for that certain phase and the development will have no direct or indirect impact on areas of retained trees and habitat.

10.6.6 Operational: As seen in the proposed landscaping planting plan available at the time of assessment 'CAR-URB-RX-ZZ-DR-L-90-0001', the Proposed Development for the Hotel and Arena will compensate for losses to the habitats and will serve to enhance and improve biodiversity post construction. Although an increase in human activity is anticipated as the construction phases are completed, compensatory planting and the long term management of the Site will off-set the impacts of any loss of habitat.

Long-term management prescriptions could be included within the BREEAM management plan document for the Site to ensure long-term management of the Site post construction works and minimise the long term impact of the development on the Site and the surrounding area's biodiversity. *Specific Measures for Severn Estuary*

10.6.7 Construction: It is understood a CEMP will be submitted with the hybrid planning application for the enabling works, which will include mitigations for polluted water entering the surface water sewer and ultimately the Severn Estuary. The CEMP will include but not be limited to:

- tool box talks;
- prevention of spillage of chemicals and Control of Substances Hazardous to Health (COSHH);
- prevention of contaminated surface water runoff entering the watercourse; and

- prevention of water pollution during any works on Bute East Dock.

10.6.8 Operational: It is anticipated that surface water run-off from the Proposed Development will be directed into the Bute East Dock. For the Site, surface water run-off will be directed to both the Bute East Dock and pre-existing surface water sewers which are adjacent to the western Site boundary, and further drainage will be managed by SuDS. Foul discharge will connect into the Welsh Water sewer network. In addition, any abstractions, discharges, or exemptions will be subject to licencing requirements and approval through NRW before commencement.

Specific Measures for Bats

- 10.6.9 Construction: The Cardiff County Hall building where bats are likely present, will be demolished in the fourth phase of development which is expected to start in 2029. Prior to the building's demolition, further bat activity surveys will be carried out in an effort to determine the species of bat which is present, and also the type of roost. The results of the remaining bat surveys will also be used to inform specific mitigation and enhancement measures for this species group. Trees that are to be lost will be removed under ecological supervision but this does not require a licence as their potential is low. Although the Arena and Hotel construction are in close proximity to Cardiff County Hall, it is not proposed that further survey of the building will be of value prior to those works as the proposed mitigations are to limit the impact of activities of the construction site on any bats potentially present rather than to remove bat roosts. It is not anticipated that construction will take place at night therefore the impact will be minimal.
- 10.6.10 As a roost is likely to be impacted by the works, and avoidance is not possible, it may be necessary to obtain a European Protected Species Mitigation (EPSM) Licence before the works can proceed and to complete any necessary mitigation. Such a licence would need to be obtained from NRW once full planning permission is in place. The application will require the drafting of a detailed mitigation strategy including timing and construction methods in addition to the mitigation measures proposed. If a bat roost is found for a common bat species and the roost is of low conservation value, then a Low Impact Class Licence may be obtained for the Site instead.
- 10.6.11 The current Site is moderately lit at night and therefore the development should serve to maintain the Site's value for foraging bats and to minimise indirect impacts from lighting associated with the construction of new buildings, in particular the Arena and

Hotel. This can be achieved by following accepted best practice (Institute of Ecology and Environmental Management 2006, Institute of Lighting Professionals 2018, Bat Conservation Trust, 2014):

- The level of artificial lighting including flood lighting should be kept to a minimum, particularly around the Site boundaries where there is vegetation;
- LED lights are a preferred option to low pressure sodium lights or high pressure sodium or mercury lamps, and lights should be directed low with minimal light spillage;
- Ideally vegetation around the Site boundaries should be kept dark, preferably at bat emergence (0-1 hour after sunset) and during peak bat activity periods (e.g. 1.5 hours after sunset and 1.5 hours before sunrise); and
- artificial lighting should not directly illuminate any potential bat commuting areas such as boundary features or hedges. Similarly, any newly planted linear features or buffer areas around the Site boundary should not be directly lit.

10.6.12 If any bats or bat roosts are discovered during the construction phase, all work must stop until a suitably qualified ecologist has provided instruction on how to proceed.

10.6.13 Operational: To compensate for the tree/shrub area lost due to the Proposed Development, the landscape works shall introduce areas of native planting at a range of heights to include shrubs, trees and also wildflowers. The inclusion of ornamental flowers and rain gardens are also included in the landscaping proposals.

10.6.14 In addition, the buildings and vehicle parking within the Site should be lit in a way that does not impact on the wildlife in the area more than absolutely necessary. Vegetation should remain unlit as often as possible during the bat season. The points mentioned in the above lighting plan should also be considered for the operational phase as well as:

- Provided LED lights and downlighting is used, the lux levels of artificial lighting are expected to be low and similar to moonlight. The use of LED lights and downlighting, will help to ensure that the boundaries are kept dark. LED lights in the 'warm white' range of under 2700 Kelvins and over 550nm peak wavelength have been shown to have a minimal impact on bat behaviour. The use of this type of light, in conjunction with a cowl or hood, should reduce light nuisance and reduce impacts on bat foraging and commuting behaviour.

10.6.15 In addition, bat boxes should be erected on the buildings in a range of locations to provide a mixture of potential Sites for different roosts. The locations of the boxes should be decided by an ecologist after the development has been completed. The bat boxes should be left undisturbed unless checked by a licenced ecologist. If they are shown to be unused then their locations should be assessed and they may be relocated.

Specific Measure for Birds

10.6.16 Construction: The clearance of vegetation is required to facilitate the works. In order to avoid any disturbance to nesting birds which may be present in the vegetation, construction activities should be timed to occur outside the breeding bird season. The breeding season is taken to run between March and August inclusive therefore works should be undertaken between September and February. If any vegetation clearance or tree felling is to occur on potential nests within the breeding season it is recommended that any works is carried out under an ecological watching brief. Replanting of the Site with native trees and shrubs will provide nesting habitats and foraging opportunities. Additional nesting opportunities will come from nest boxes on the Site.

10.6.17 Operational: Shrub pruning, as required should be undertaken outside the breeding bird season as detailed above. Lighting should also be devised to limit light spill onto boundary features. This is detailed in paragraphs 10.6.11 & 10.6.14.

Specific Mitigation for Hedgehogs

10.6.18 Construction: A precautionary approach to Site clearance is recommended to minimise any adverse impacts on these species.

10.6.19 Operational: The increased planting across the Site will provide an increase of suitable habitats for hedgehogs.

Specific Mitigation for Otters

10.6.20 Construction: It is recommended that throughout each phase of construction, all on-site contractors must be made aware of the potential presence of otters in the locality and a toolbox talk should be given by a qualified ecologist immediately prior to the start of construction works to discuss the potential for otters to pass through the Site and to provide information on legislation and the ecology of this species. All trenches should be covered at night or if this is not possible, ramps must be installed into the

trenches to enable otters to escape should they enter the excavations. All materials must be stored safely, and lids securely fitted, particular waste and other potential food sources.

10.6.21 Operational: Lighting should also be devised to limit light spill onto boundary features. This is detailed in paragraphs 10.6.11 & 10.6.14.

10.6.22 Table 10.7 summarises the effect of mitigation on the potential impacts during the construction and operational stages of development for the Arena and Hotel only.

Table 10.7: Summary of Mitigation Effects for The Arena and Hotel					
Receptor	Potential Impact	Magnitude & Significance (without mitigation)	Mitigation	Magnitude & Significance (with mitigation)	Residual Effect
Baseline Habitats	Construction: Loss of habitats Operational: Change of habitat and increase in human activity	Moderate and Significant	Construction: Fencing to protect retained trees and habitat. Removal of invasive species were possible. Operational: Introduction of native planting will create ecological enhancement, contribute to achieving BNG and appropriate maintenance through a management plan.	Negligible and Not Significant	Positive
Severn Estuary	Construction: Water pollution Operational: Water pollution	Moderate and Significant	Construction: Detailed CEMP which addresses prevention of contaminants entering water course. Operational: Controlled direction of surface water runoff, SuDS and requirement of licence for foul discharge.	Small and Not Significant	No Likely Change
Bats	Construction: Loss of habitat, noise	Moderate and Significant	Construction: Bat surveys, mitigation strategy prior to	Moderate and Not Significant	No Likely Change

Table 10.7: Summary of Mitigation Effects for The Arena and Hotel					
Receptor	Potential Impact	Magnitude & Significance (without mitigation)	Mitigation	Magnitude & Significance (with mitigation)	Residual Effect
	and light disturbance Operational: Permanent loss of foraging habitat and increase in human activity		demolition of buildings identified as having bat roost potential and lighting strategy. Operational: Lighting scheme and areas of habitat enhancement.		
Birds	Construction: Temporary Loss of habitat and noise and lighting disturbance Operational: Permanent noise and lighting disturbance	Moderate and Significant	Construction: Vegetation clearance outside of breeding season or with an ecological watching brief. Operational: Vegetation maintenance is outside of breeding season and increased native planting has improved foraging and breeding habitats.	Minimal and Not Significant	Positive
Hedgehogs	Construction: Loss of habitat and noise and lighting disturbance Operational: Noise and lighting disturbance and increase in human activity	Moderate and Not Significant	Construction: Precautionary approach to vegetation clearance. Operational: Areas of habitat enhancement.	Moderate and Not Significant	Negative
Otters	Construction: Loss of habitat	Moderate and Not Significant	Construction: Toolbox talks, covering trenches,	Minimal and Not Significant	No likely change

Table 10.7: Summary of Mitigation Effects for The Arena and Hotel					
Receptor	Potential Impact	Magnitude & Significance (without mitigation)	Mitigation	Magnitude & Significance (with mitigation)	Residual Effect
	and noise and lighting disturbance Operational: Noise and lighting disturbance and increase in human activity		placement of ramps and secure containers. Operational: Lighting scheme.		

10.6.23 Table 10.8 summarises the effect of mitigation on the potential impacts during the construction and operational stages of development for the Atlantic Wharf, Butetown Masterplan outline elements of the hybrid planning application.

Table 10.8: Summary of Mitigation Effects for The Hybrid Planning Application					
Receptor	Potential Impact	Magnitude & Significance (without mitigation)	Mitigation	Magnitude & Significance (with mitigation)	Residual Effect
Baseline Habitats	Construction: Loss of habitats Operational: Change of habitat and increase in human activity	Moderate and Significant	Construction: Fencing to protect retained trees and habitat. Removal of invasive species were possible. Operational: Introduction of native planting will create ecological enhancement, achieving BNG and appropriate maintenance through a management plan.	Negligible and Not Significant	Positive



Table 10.8: Summary of Mitigation Effects for The Hybrid Planning Application					
Receptor	Potential Impact	Magnitude & Significance (without mitigation)	Mitigation	Magnitude & Significance (with mitigation)	Residual Effect
Severn Estuary	Construction: Water pollution Operational: Water pollution	Moderate and Significant	Construction: Detailed CEMP which addresses prevention of contaminants entering water course. Operational: Controlled direction of surface water runoff, SuDS and requirement of licence for foul discharge.	Small and Not Significant	No Likely Change
Bats	Construction: Loss of habitat, noise and light disturbance Operational: Temporary loss of foraging habitat before landscaping develops and increase in human activity	High and Significant	Construction: Bat surveys, mitigation and lighting strategy and likely to require a licence. Operational: Lighting scheme, habitat enhancement and installation of bat boxes.	Moderate and Significant	Positive
Birds	Construction: Temporary Loss of habitat and noise and lighting disturbance Operational: Permanent noise and lighting	Moderate and Significant	Construction: Vegetation clearance outside of breeding season. Operational: Vegetation maintenance is outside of breeding season, habitat enhancement and installation of bird boxes.	Minimal and Not Significant	Positive

Table 10.8: Summary of Mitigation Effects for The Hybrid Planning Application					
Receptor	Potential Impact	Magnitude & Significance (without mitigation)	Mitigation	Magnitude & Significance (with mitigation)	Residual Effect
	disturbance and increase in human activity				
Hedgehogs	Construction: Loss of habitat and noise and lighting disturbance Operational: Noise and lighting disturbance and increase in human activity	Moderate and Not Significant	Construction: Precautionary approach to vegetation clearance. Operational: Habitat enhancement.	Minimal and Not Significant	Positive
Otters	Construction: Loss of habitat and noise and lighting disturbance Operational: Noise and lighting disturbance and increase in human activity	Moderate and Not Significant	Construction: Toolbox talks, covering trenches, placement of ramps and secure containers. Operational: Lighting scheme.	Minimal and Not Significant	No likely change

10.7 Residual Effects

Arena and Hotel

Habitats

10.7.1 The construction of two large buildings within the area will reduce the capacity for further habitats and greatly increase human activity however the replacement of non-native plant species with native species and further planting will contribute to ecological enhancements which will be maintained with an appropriate management plan. Overall, these will have a **positive** effect on the within the Arena and Hotel area of the Site in terms of habitats.

Severn Estuary

10.7.2 It is assumed that the CEMP will be robust and followed closely during all phases of construction and the pollution of any pathways to the Severn Estuary will be avoided. This is a large-scale project however minimal pollution into the Severn Estuary, controlled direction of surface runoff, SuDS and licence for foul discharge will have **no likely change** and therefor will not impact the estuary or its qualifying habitats and species.

Bats

10.7.3 Construction of the Arena is close to the Cardiff County Hall building and has the potential to disrupt the roost. Foraging habitat will be lost however measures during the operational and construction phase include a lighting strategy, habitat enhancement, increased linear features and installation of bat boxes which will potentially provide increased roosting features and foraging habitats. Overall, it is considered that the Arena and hotel construction will have **no likely change** to this species group.

Birds

10.7.4 Clearing the Arena and Hotel area of most of its existing vegetation will remove any habitats suitable for breeding and foraging birds however the habitat enhancement will include native species and installation of bird nesting boxes which will naturally be out of reach of humans. Overall, it is considered that there will be a **positive** effect to this group in the long term.

Hedgehogs

10.7.5 Clearing the Arena and Hotel area of most of its existing vegetation will remove any habitats suitable for hedgehogs and the increase of lighting and human activity within the area alone is likely to impact them. Consideration is given to the habitat enhancement through native planting is however it is considered that there will be an overall **negative** effect to this group in the long term.

Otters

10.7.6 Otters are unlikely to be using the majority of the Site and both the construction and operational phase will cause **no likely change** to this species.

Atlantic Wharf, Butetown Masterplan

Habitats

10.7.7 The removal of invasive species where possible and ecological enhancements through native planting with an appropriate management plan will have an overall **positive** effect on the Site in terms of habitats. Hardstanding and buildings will continue to be the dominant habitat on the Site however the replacement of non-native plant species will increase biodiversity and be beneficial for a diverse range of species.

Severn Estuary

10.7.8 It is assumed that the CEMP will be robust and followed closely during all phases of construction and the pollution of any pathways to the Severn Estuary will be avoided. This is a large-scale project however the controlled direction of surface water run-off, Suds and licence for foul discharge will have **no likely change** to the Severn Estuary and therefore will not impact the estuary or its qualifying habitats and species.

Bats

10.7.9 The unavoidable demolition of the Cardiff County Hall building will impact the potential bat roost within the building. Mitigations during the operational and construction phase include, a lighting strategy, habitat enhancement, increased linear features and installation of bat boxes which will be likely to provide increased roosting features and overall foraging habitats. Despite the roost disruption it is considered that these mitigations and ecological enhancement will have an overall **positive** effect on this group.

Birds

10.7.10 Clearing the Site of most of its vegetation will remove most habitats suitable for breeding and foraging birds however the habitat enhancement with inclusion of native species and installation of bird nesting boxes will have an overall **positive** effect in the long term.

Hedgehogs

10.7.11 Clearing the Site of most of its vegetation will remove most habitats suitable for hedgehogs however the habitat enhancement with inclusion of native species and installation will have an overall **positive** effect in the long term for this species.

Otters

10.7.12 Otters are unlikely to be using the majority of the Site and both the construction and operational phase will cause **no likely change** to this species.

10.8 Assessment of Cumulative Effects

10.8.1 Baseline conditions across the Site indicate relatively **low** species diversity within the entire Proposed Development footprint.

10.8.2 The Proposed Development will involve clearing of the majority of the Site over the phases of development, however the Site will remain an urban environment with hardstanding and buildings as the main habitats. Despite the unavoidable building demolition and potential disruption to its roosting bats, the ecological enhancements of the Site are considered to have a **positive** effect on bats. Human activity and lighting are likely to increase across the Site which generally have **negative** effects on habitats and associated species. The mitigation measures including and not limited to the incorporation of native planting and ecological enhancements across the Site will have a **positive** effect.

10.8.3 With consideration to the above, it is considered that the Proposed Development will have an overall **positive** ecological impact.

10.9 Conclusion

10.9.1 An Ecological impact Assessment has been carried out by suitably qualified ecologists across the Site which has included a Preliminary Ecological Appraisal, Preliminary Roost Assessment and Habitat Regulations Assessment.

- 10.9.2 A BNG is under preparation for the hybrid application and will be included in the final submission once the entire landscaping for the masterplan has been finalised.
- 10.9.3 Baseline conditions identified hardstanding, building, scrub, introduced shrubs, scattered trees, broad leaved woodland and standing water habitats on Site.
- 10.9.4 Species which are likely to be affected by the Proposed Development include bats, birds, hedgehogs and otters.
- 10.9.5 Consultation with Cardiff Council's Ecologist have determined that bats are likely to be present within the Cardiff County Hall building. A licence is likely required for the building's demolition at construction of Phase 4 of the Proposed Development.
- 10.9.6 The Severn Estuary is a designated RAMSAR, Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC), Special Protection Area (SPA) and European Marine Site (EMS) under the National Site Network (NSN). The impact of the Proposed Development was used to inform the effects on the Severn Estuary's qualifying features, including the Annex I habitats, Annex II fish and Annex I birds. It is therefore determined that the Proposed Development will not have a significant effect.
- 10.9.7 The Proposed Development includes ecological enhancement through the removal of invasive plant species, planting of native species and inclusion of ornamental planting, raingardens, installation of bird and bat boxes and an appropriate management plan which will minimise the long term impact of the development on the Site and the surrounding area's biodiversity.
- 10.9.8 Overall, the cumulative effects of Proposed Development are considered to have positive ecological impacts.