St Christopher's School

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241682

Preliminary Ecological Appraisal (PEA)

SJ 33848 49261

26th September 2024

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Revision 1

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In line with Chartered Institute of Environmental and Ecological Management (CIEEM) recommendations the findings of this survey are deemed valid for 18 months from the date of the survey.

1. Summary

Purpose	Plans are being developed for the construction of a new school at St Christopher's School in Wrexham. A Preliminary Ecological Appraisal of the existing school site was commissioned to advise the plans for the site.
Results	The habitats on site were relatively common for the type of site and surroundings with the trees and unmanaged areas of grassland providing the areas with the highest ecological value. The ecological receptors identified on site include: o Terrestrial habitats suitable to provide shelter for amphibians, o Habitats suitable for badgers but no field signs on site, o Roosting potential for bats in three buildings and several trees on site, o Foraging and commuting habitat suitable for bats within the site, o Suitable habitat for a range of bird species to nest and forage on site, o Suitable habitat for hedgehogs on site and records of the species in the immediate surrounding area, o Habitats suitable to support reptiles on site but with limited connectivity into the surrounding area, o Montbretia, an invasive non-native plant species growing on site.
Recommendations	o Retain the trees and habitats with a high ecological value or include suitable landscaping to offset the lost habitats, o Implement a long-term site management plan to increase the value of the site for biodiversity, o Implement precautionary measures for amphibians and reptiles, o Implement precautionary measures for badgers, o Carry out further surveys to confirm the presence of absence of roosting bats in the buildings and trees on site, o Retain high value foraging and commuting habitats or carry out further surveys in advance of any works, o Avoid the nesting season or carry out surveys ahead of any site clearance, o Implement precautionary measures for hedgehogs, o Include measures in the site design to provide opportunities for the protected or notable species that are likely to be present.
Conclusions	If any future plans for the site are designed in a sensitive manner, retaining or replacing the habitats with a high ecological value, are preceded by further protected species surveys, where necessary, and include a suitable management plan, works on the site could be carried out in a manner that will have an overall benefit for biodiversity.

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2. Introduction

2.1. Purpose

2.1.1. Plans are being developed for the construction of a new school at St Christopher's School in Wrexham.

2.1.2. A Preliminary Ecological Appraisal (PEA) of the existing school site was commissioned to advise the plans for the site.

2.2. Site Description and Location

2.2.1. The site comprises St Christopher's School in Wrexham and the land associated with the school, which extends to 6.42 hectares (ha).



Figure 1: Showing the extent of the area covered by the survey.

2.2.2. The land immediately surrounding the site comprises Stockwell Grove to the west, Bryn-Y-Cabanau Road to the east and residential housing to the north and south.

2.2.3. The wider surrounding area comprises urban areas within the town of Wrexham to the north, east and west. To the south there is a narrow band of urban land (250m) with open countryside and the River Clywedog beyond.

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Figure 2: Showing the site in context with the wider surrounding area.

2.3. Proposals

2.3.1. There are currently no drawn up proposals for the site with this survey advising the proposals for the site. Therefore, no development plans have been included in Appendix IV of this report.

3. Methodology

3.1. Desk Study

3.1.1. A desk study was carried out in order to identify existing records of protected or notable species or habitats within 2km of the survey area.

3.1.2. Records of locally designated sites and existing records of protected species were requested from Cofnod.

3.1.3. The area within 500m of the site was searched for waterbodies using publicly accessible mapping including Ordnance Survey, Google Earth and the MAGIC website.

3.2. Field Study

3.2.1. A field survey of the site was undertaken by Steven Whitcher (MCIEEM) on the 10th September 2024. The Preliminary Ecological Appraisal (PEA) was carried out in accordance with the industry standard and mapped using UKHab 2.0 Classifications (*2023*).

3.2.2. The weather at the time of the survey was fine but cloudy with a light breeze (BWS-1) and a temperature of 15°C.

3.2.3. During the survey all habitats were noted, including dominant species, mapped and notable ecological features were target noted.

3.2.4. The survey also looked for evidence of protected or notable fauna species or invasive non-native plant species and followed specific survey guidelines, where applicable, including:

- Checking all buildings, trees and structures for bat roosting potential in line with the Bat Conservation Trust Good Practice Guidelines, 4th edition (*Collins 2023*), BTHK Bat Roosts in Trees (*BTHK 2018*) and BRHK Bat Roosts in Rock (*BRHK 2021*).
- Assessing all accessible ponds within 500m of the surveyed area using the Habitat Suitability Index (HSI) assessment criteria (*Oldham et al. 2000*).
- Assessing the habitats on site for their suitability to support protected or notable species, including but not limited to, badgers (*Harris et al 1989*), water voles (*Strachan et al 2011*), otters (*Channin, 2003*), crayfish, nesting birds (*BBS,BTO*), reptiles (*Froglife 1999*), hedgehogs and hazel dormice.

3.3. Limitations/Constraints

3.3.1. This survey was carried out to CIEEM methodologies and therefore provides an overview of the habitats present on the site with dominant, notable or indicator species within those habitats noted. As such the species lists included are intended to be sufficient to confidently assess habitat condition but are not intended to provide an exhaustive list of all species present.

3.3.2. The site is an active school and therefore access to some areas of the site was restricted, notably the interior of the buildings, and photography could only be carried out in certain areas of the school, away from the students. This is not considered a significant constraint to the findings of the survey.

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3.3.3. The site survey was carried out during early September when vegetation levels remained high and foliage was still present on the trees. Therefore, some areas of the site were inaccessible and a ground level assessment of the canopy of the mature trees was not possible. This is considered a constraint to the findings of the survey.

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4. Results and Interpretation

4.1. Designated Sites

4.1.1. Cofnod returned records of one statutory and two non-statutory designated sites within the 2km search area, as outlined in Tables 1 & 2. None of the sites lie within or immediately adjacent to the surveyed site.

Table 1: Statutory sites within 2km

Site Name	Designation	Reason for Designation	Location
Sontley Marsh	Site of Special Scientific Interest (SSSI)	Habitats: Wetland, fen, grassland	950m south

Table 2: Non-statutory sites within 2km.

Site Name	Designation	Reason for Designation	Location
Erddig Estate	Local Wildlife Site (LWS)	Habitats: Woodland, marshes, grassland.	325m south
Gefeiliau Brook	LWS	Habitats: Woodland, marshes, grassland.	1.95km south

4.1.2. Due to the location of the sites changes to the school grounds are not considered likely to have an impact on the designated sites or their qualifying features.

4.2. Habitats

4.2.1. Cofnod returned several records of ancient woodland within the 2km search area, although no records within or immediately adjacent to the surveyed site. The closest records refer to areas of woodland in the Erddig Estate LWS to the south.

4.2.2. The habitats present within the surveyed area are outlined below and shown on the plan in Appendix I of this report. Appendix III includes species lists for each habitat.

4.2.3. g3c-10.32 Other neutral grassland – scattered scrub, scattered trees (2.57ha)

4.2.3.1. The eastern section of the site comprises an area of grassland that was previously utilised as an area of playing fields. The area is not currently used as part of the school facilities and therefore shows no signs of recent management.



Figure 3: Looking north across the grassland.



Figure 4: The southern end of the grassland.

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4.2.3.2. Due to the lack of management the grassland displays a long sward that includes a range of grass and forb species, including false oat grass (*Arrhenatherum elatius*), Yorkshire fog (*Holcus lanatus*), common knapweed (*Centaurea nigra*) and yarrow (*Achillea millefolium*), among other species.

4.2.3.3. To the south the grassland displays sections of old fencing separating areas with some of the fenced areas in current use by the school for composting (T8).

4.2.3.4. The long sward and unmanaged nature of the grassland provide opportunities for a range of species with faint animal paths present to the north of the area (T7).

4.2.3.5. Scattered scrub

4.2.3.5.1. Due to the lack of management the grassland displays areas of scrub, predominantly around the margins of the area. The scrub includes bramble (*Rubus fruticosus*), nettle (*Urtica dioica*) and ash (*Fraxinus excelsior*), among other species.

4.2.3.5.2. The areas of scrub increase the ecological value of the surrounding grassland due to the shelter they provide for fauna species and the opportunities the scrub provides for birds.

4.2.3.6. Scattered trees

4.2.3.6.1. Sixteen scattered trees are present around the boundaries of the grassland. The scattered trees are located to the north and east and include mature oak (*Quercus sp.*), sycamore (*Acer pseudoplatanus*) and lime (*Tilia sp.*) alongside less mature cherry (*Prunus sp.*) and silver birch (*Betula pendula*).



Figure 5: Areas of scrub within the grassland.



Figure 6: Scattered trees along the northern boundary.

4.2.3.6.2. The trees provide opportunities for a range of species and also benefit a range of ecosystem services and therefore the trees were assessed to have a high ecological value.

4.2.4. g3c-32 Other neutral grassland – scattered trees (0.177ha)

4.2.4.1. There are three small areas of other neutral grassland within the school grounds, the areas include a previous wildlife garden to the north and two small areas to the south of the playing fields.

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4.2.4.2. The area to the north comprises a strip of grassland and trees that were previously seeded as a wildlife area but have since become unused and remained unmanaged. The area displays a long grassland sward including a range of grass and forb species, including cock's foot (*Dactylis glomerata*), meadow grass (*Poa sp.*), lady's bedstraw (*Galium verum*) and scabious (*Scabiosa sp.*), among other species.

4.2.4.3. To the south of the site two small areas of grassland, a grassed mound and a fenced off and disused play area, are present with both areas showing no signs of current management. The grassland displays a range grass and forb species in line with the other areas of other neutral grassland on site.



Figure 7: The previous wildlife garden area.



Figure 8: A small fenced area of grassland.

4.2.4.4. The areas of grassland display little or no management and therefore provide opportunities for a range of fauna species. Therefore, the areas of grassland were considered to display a moderate ecological value.

4.2.4.5. Scattered trees

4.2.4.5.1. Nine scattered trees are present within the areas of grassland. The trees include cherry and ash, among other species.

4.2.4.5.2. The trees provide opportunities for a range of species and also benefit a range of ecosystem services and therefore the trees were assessed to have a high ecological value.

4.2.5. g4-32 Modified grassland – scattered trees (1.37ha)

4.2.5.1. Several areas of frequently mown modified grassland are present throughout the site, including playing fields to the east and areas of amenity grassland within the landscaping to the north and south.

4.2.5.2. The grassland all displays a short regularly managed sward that includes common grass and forb species, including perennial rye grass (*Lolium perenne*), meadow grass, ribwort plantain (*Plantago lanceolata*) and daisy (*Bellis perennis*).

4.2.5.3. The areas of grassland provide minimal opportunities for fauna species due to the lack of a significant sward and the frequent disturbance, and therefore the areas of grassland were considered to display a low ecological value.

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Figure 9: The playing fields.



Figure 10: Amenity grassland in the landscaping.

4.2.5.4. Scattered trees

4.2.5.4.1. Seventy-five scattered trees are present within the areas of grassland around the school. The trees include a range of native and ornamental species of varying ages, including rowan (*Sorbus aucuparia*), field maple (*Acer campestre*) and yew (*Taxus baccata*).



Figure 11: Trees within the areas of grassland.



Figure 12: Further trees in the landscaped areas.

4.2.5.4.2. The trees, both the native and ornamental, provide opportunities for a range of species and also benefit a range of ecosystem services and therefore the trees were all assessed to have a high ecological value.

4.2.6. u1-828 Built up areas and gardens - Vegetated garden (0.058ha)

4.2.6.1. Two small garden areas are present within the school, one to the west associated with an outdoor learning area, and the other towards the centre of the school associated with a secure outdoor play area.

4.2.6.2. The area of garden to the west comprises area of lawn, trees, flower beds and planters used as an outdoor learning area. The flower beds include a range of species typical in ornamental gardens, including montbretia (*Crocosmia x crocosmiiflora*) (T3) an invasive non-native species.

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4.2.6.3. The area towards the centre of the school predominantly comprised lawns and areas of hard standing, providing a secure play area for the students.

4.2.6.4. The vegetated gardens provide some opportunities for fauna species, although the areas are subjected to regular disturbance. Therefore, the areas were considered to display a low ecological value, although the trees present were considered to display a high ecological value, in line with the other trees on site.

4.2.7. u1b Developed land, sealed surface (1.037ha)

4.2.7.1. The site includes large areas of sealed surface providing access, parking and all-weather play areas. The sealed surfaces are dominated by tarmac, although there are areas of astroturf present within the play areas.



Figure 13: Areas of tarmac access and parking.



Figure 14: Astroturf within the play areas.

4.2.7.2. The sealed surface habitats provide little or no value for fauna species and were therefore considered to display negligible ecological value.

4.2.8. u1b5 Buildings (0.64ha)

4.2.8.1. There are thirteen buildings within the site, making up the school buildings and services or storage buildings located within the school grounds.



Figure 15: The main school entrance.



Figure 16: The school buildings.

4.2.8.2. The buildings on site are covered in more detail in section 4.3.3 below.

4.2.9. u1c Artificial unvegetated, unsealed surface (0.16ha)

4.2.9.1. An area of artificial unvegetated, unsealed surface is present in the centre of the site. The area comprises a stone play area that shows signs of minimal management and therefore some vegetation is beginning to show, although there is no established vegetation cover present.



Figure 17: The areas of artificial unvegetated, unsealed surface.

4.2.9.2. The area displays no established vegetation cover and is regularly disturbed, therefore the area was considered to display negligible ecological value.

4.2.10. w1g Other broadleaved woodland (0.41ha)

4.2.10.1. To the southeast of the site an area of woodland borders the disused playing fields. The woodland displays signs of previous disturbance, with paths and informal classroom areas present throughout the woodland.

4.2.10.2. The woodland displays a range of habitats with mature trees in some areas creating a high canopy with minimal understory and some areas more indicative of younger woodland, with a lower canopy and scrub dominated understory.



Figure 18: Areas of more mature woodland.



Figure 19: Areas of younger woodland with a scrub understory.

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4.2.10.3. The woodland canopy is dominated by broadleaved tree species, including horse chestnut (*Aesculus hipporcastanum*), Lombardy poplar (*Populus nigra var. italica*) and cherry. The shrub and understory layers vary throughout the woodland and include a range of woodland and scrub species, including hazel (*Corylus avellana*), rowan, wood avens (*Geum urbanum*) and bramble.

4.2.10.4. The woodland provides opportunities for a range of fauna species, despite the previous disturbance, and the trees provide a benefit for a range of ecosystem services. Therefore, the area of woodland was considered to display a high ecological value.

4.2.11. u1e – Built linear features (2,724m)

4.2.11.1. There are abundant built linear features around the site, including a range of fencing providing security for the school, and occasional areas of wall.

4.2.11.2. The built linear features generally display no value for fauna species and in some areas create a barrier to animal movements. Therefore, the built linear features were considered to display negligible ecological value.

4.2.12. w1-33 – Woodland and forest – line of trees (312m)

4.2.12.1. To the east of the site a line of mature trees, including lime, sycamore, ash and poplar (*Populus sp.*), is present around the area of disused playing fields.



Figure 20: Looking north along the line of trees.



Figure 21: The southern side of the line of trees.

4.2.12.2. The trees are predominantly mature, creating an established linear feature, and are functionally linked to the woodland to the south of the area. Therefore, the line of trees was considered to display a high ecological value.

4.3. Fauna

4.3.1. Amphibians

4.3.1.1. Cofnod returned occasional records of amphibian species within the 2km search area, including records of great crested newt (*Triturus cristatus*), although no records within or immediately adjacent to the surveyed site. The closest amphibian records refer to the presence of common toad (*Bufo bufo*) 550m to the south with the closest records of great crested newt located 1.2km to the southwest.

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4.3.1.2. No ponds were identified within the surveyed area or anywhere within 500m of the site on maps of the area.

4.3.1.3. The site displays areas of suitable refugia for amphibian species, notably the areas of unmanaged grassland and scrub, with the frequently disturbed and highly managed areas of the site provide negligible opportunities for the species. Occasional areas of higher value habitat are also present, including piles of rocks within the disused playing fields (T10) and a decorative drystone wall within the landscaping to the north (T4).



Figure 22: Piles of rocks in the grassland (T10).



Figure 23: The decorative drystone wall (T4).

4.3.1.4. No terrestrial amphibians were identified during the site survey and due to the lack of suitable aquatic habitat and presence of public highways and barriers to movement in the surrounding area it is considered unlikely that amphibians will be present on site or impacted by any development. Precautionary measures implemented during site works will reduce the likely impacts.

4.3.2. Badgers

4.3.2.1. [redacted].

4.3.2.2. No badger setts or other badger field signs were identified within the surveyed site. Occasional faint animal paths were identified to the north of the disused playing fields (T7) although it was considered likely that these were created by domestic pets from the surrounding residential housing.

4.3.2.3. If precautionary measures are implemented during any construction works to prevent badgers becoming trapped any development on the site is considered unlikely to have an impact on the species.

4.3.3. Bats

4.3.3.1. Cofnod returned abundant records of bat species within the 2km search area, although no records within or immediately adjacent to the surveyed site. The closest records refer to the presence of common pipistrelle (*Pipistrellus pipistrellus*) at Beechley Road in

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Wrexham, 300m to the north and an unidentified bat species on Whitegate Road in Wrexham, 450m to the northeast.

4.3.3.2. Thirteen buildings were identified within the surveyed site, as shown in Figure 24.



Figure 24: The buildings present on site, including reference.

4.3.3.3. Table 3 includes a brief description of each building alongside results from an external Preliminary Roost Assessment (PRA) of the buildings.

Table 3: PRA results for the buildings on site.

Building Reference	Description	PRA Findings	Suitability
B1	The main school building. Predominantly single storey brick construction with flat roofs although some pitched/sloping roofs are present. Mix of metal and uPVC windows with wood or uPVC fascia boards.	Brickwork and roofs generally in a good condition although occasional voids are present around the fascias/eaves and under the edge of the roof covering.	Low
B2	Prefabricated garage with a sloping corrugated roof.	Voids around doors and under the edge of roof sheets.	Low
B3	Prefabricated garage with a low, pitched corrugated roof.	Minor voids under edge of roof sheets.	Low
B4	Timber single storey classroom with a sloping felt roof.	No significant voids identified.	Negligible
B5	Prefabricated classroom unit with a flat roof.	No significant voids identified.	Negligible

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B6	Prefabricated classroom unit with a flat roof.	No significant voids identified.	Negligible
B7	Prefabricated classroom unit with a flat roof.	No significant voids identified.	Negligible
B8	Prefabricated classroom unit with a flat roof.	No significant voids identified.	Negligible
B9	Prefabricated classroom unit with a flat roof.	No significant voids identified.	Negligible
B10	Prefabricated classroom unit with a flat roof.	No significant voids identified.	Negligible
B11	Wooden animal cages associated with animal care area.	No significant voids identified.	Negligible
B12	Wooden animal cages associated with animal care area.	No significant voids identified.	Negligible
B13	Storage shed with pitched felt roof.	No significant voids identified.	Negligible



Figure 25: Building B2.



Figure 26: Building B11.

4.3.3.4. Due to the low potential for roosting bats to be present in buildings B1, B2 and B3 any works affecting these buildings may have an impact on roosting bats, if they are present in the buildings. Works affecting the other buildings on site are considered unlikely to have an impact on roosting bats.

4.3.3.5. In addition to the permanent buildings occasional storage containers were identified around the school grounds, used for general storage. The containers were all considered to provide negligible potential to support roosting bats and therefore the removal of the containers from the site is considered unlikely to have an impact on roosting bats.

4.3.3.6. Several trees that provide potential for roosting bats were identified within the surveyed site (T5 & T9) with further Potential Roost Features (PRF) considered likely to be present due to the presence of foliage on the trees at the time of the survey, which prevented an inspection of some areas of the trees. The areas considered likely to display PRF were the mature trees around the disused playing fields to the east of the surveyed site (T6).

4.3.3.7. T5 comprises a knot hole located on the west side of a mature ash tree at a height of approximately 5m. A thorough assessment of the PRF was not possible and therefore the tree

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was assessed to provide FAR (Further Assessment Required) suitability to support roosting bats.

4.3.3.8. T9 comprises a large north facing cavity in the stem of a mature poplar at a height of approximately 4m. A thorough assessment of the PRF was not possible and therefore the tree was also assessed to provide FAR suitability to support roosting bats.



Figure 27: The knot hole in the ash tree (T5).



Figure 28: The cavity in the poplar (T9).

4.3.3.9. Any works impacting on the trees associated with T5 and T9, or any of the more mature trees on site, may impact on roosting bats if they are present in the trees.

4.3.3.10. The site was considered to provide a moderate value foraging and commuting habitat for bats due to the habitats present on site, notably the tree lines and woodland to the east, and the connectivity of the site into the wider landscape. A thorough assessment of the foraging and commuting activity on site was not carried out as part of the survey.

4.3.3.11. Any works that impact on the layout of the site, change vegetation levels, remove linear features or change light levels around the site may have an impact on foraging or commuting bats.

4.3.4. Birds

4.3.4.1. Cofnod returned abundant records of bird species within the 2km search area, although no records within or immediately adjacent to the surveyed site. The closest records refer to the presence several species within grid square SJ3349, which includes the site, with the locations stated as Wrexham centre, Percy Road and Erddig Road allotments.

4.3.4.2. The site provides opportunities for a range of bird species of nesting and foraging although a generally low level of bird activity was noted on the site during the survey. No active nests were identified because the survey was carried out at the end of the nesting season.

4.3.4.3. Works on the site are likely to have an impact on bird species, through the loss of nesting and foraging habitats. Works during the nesting season, which is March to September each year, may also impact on nesting birds that utilise the buildings and vegetation on site.

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4.3.5. Hedgehogs

4.3.5.1. Cofnod returned abundant records of hedgehog (*Erinaceus europaeus*) within the 2km search area, including records of the species along Stockwell Grove, immediately to the west of the surveyed site.

4.3.5.2. The site provides opportunities for hedgehogs to seek shelter in the unmanaged grassland, scrub and woodland with the areas of grassland providing foraging opportunities for the species. No hedgehog field signs were identified during the site survey.

4.3.5.3. Works on site may impact hedgehogs if areas of suitable shelter are disturbed, particularly during the peak hibernation period. Changes to fencing on the site may also create barriers to the movement of the species across the site and restrict foraging activity.

4.3.6. Invertebrates

4.3.6.1. Cofnod returned abundant records of invertebrate species within the 2km search area, although no records specific to the surveyed site. The closest records refer to the presence of harlequin ladybirds (*Harmonia axyridis*) 50m to the northeast and several species, including common carder bee (*Bombus pascuorum*) and holly blue (*Celastrina argiolus*) in gardens 50m to the south.

4.3.6.2. The site provides opportunities for invertebrate species although none of the habitats present were considered high value invertebrate habitats considered likely to support notable invertebrate communities.

4.3.6.3. Any works impacting the less disturbed habitats on the site are likely to have an impact on invertebrate communities although due to the lower value habitats present the overall impact is considered unlikely to be significant.

4.3.7. Otters

4.3.7.1. Cofnod returned occasional records of otter (*Lutra lutra*) within the 2km search area, although no records within or immediately adjacent to the surveyed site. The closest records refer to the presence of the species along the River Clywedog 600m to the east.

4.3.7.2. No aquatic habitats suitable to support otters were identified within or in close proximity to the site and therefore it was considered unlikely that otters utilise the habitats on site or that the species will be impacted by any future works on site.

4.3.8. Reptiles

4.3.8.1. Cofnod returned occasional records of reptile species within the 2km search area, although no records within or immediately adjacent to the surveyed site. The closest records refer to the presence of grass snake (*Natrix helvetica*) 265m to the south.

4.3.8.2. The site provides opportunities for reptiles species, notably within the less disturbed habitats present to the east of the site, with the pile of rocks (T10) and compost heaps (T8) present in the area providing areas of suitable refugia for reptile species. No reptile species were encountered during the site survey.

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4.3.8.3. The site has limited connectivity to areas of suitable reptile habitat in the surrounding area due to the urban nature of the surrounding land. Therefore, considering the previous use of the site it is considered unlikely that the site supports a significant population of reptiles.

4.3.8.4. Any works carried out on the site may have an impact on individual reptiles, if they are present on site, although precautionary measures implemented during the site clearance will reduce the likely impacts.

4.3.9. Water Voles

4.3.9.1. Cofnod returned two records of water vole (*Arvicola amphibius*) within the 2km search area, one 850m to the northeast and one 1.75km to the southwest.

4.3.9.2. No aquatic habitats suitable to support water voles were identified within or in close proximity to the site and therefore it was considered unlikely that water voles utilise the habitats on site or that the species will be impacted by any future works on site.

4.4. Invasive Non-Native Plant Species

4.4.1. Montbretia, an invasive non-native plant species, was identified growing in one of the raised beds in the vegetated gardens on site (T3).



Figure 29: Montbretia present in the vegetated gardens on site (T3).

4.4.2. Montbretia spreads through corms present underneath the plant and therefore any works that impact on the plant or the soil immediately surrounding the plant have the potential to spread the plant to other areas.

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5. Recommendations

5.1. Designated Sites

5.1.1. No designated sites will be impacted by future works on the site and therefore there are no recommendations relating to designated sites.

5.2. Habitats

5.2.1. It is recommended that any development on site aims to retain the habitats with a high ecological value, most notably the woodland, trees and unmanaged areas of grassland. Where habitats of a high ecological value are to be removed it is recommended that the site plans include suitable areas to offset the losses.

5.2.2. Any trees removed during the development should be replaced on a 1:3 basis, with any trees planted being locally appropriate native species.

5.2.3. It is recommended that the long-term management of the site includes areas subjected to less intensive management, to encourage biodiversity. Where possible these areas should also be subjected to minimal levels of disturbance.

5.3. Fauna

5.3.1. Amphibians and reptiles

5.3.1.1. Due to the low potential for amphibians and reptiles to be present on site it is not recommended that further surveys are carried out prior to the works commencing, although it is recommended that precautionary working methods are implemented during all phases of the development. The measures should include the following, as a minimum:

- All personnel working on the site should be briefed on the potential presence of amphibians and reptiles, how to identify the species and what to do if amphibians or reptiles are encountered,
- Site clearance should be carried out with care, particularly in the areas of the site that are less intensively managed. Vegetation clearance should be phased, removing vegetation to now lower than 150mm and then allowing time for animals to move away. The final clearance should then work towards the site boundaries in a careful manner,
- Any areas of potential refugia, including rocks or other debris and compost heaps, should be carefully moved by hand to allow the area to be inspected for amphibians or reptiles,
- Materials used on site should be placed on pallets or batons and loose aggregates should be delivered in bags or compacted when stockpiled, to prevent animals seeking refuge in the materials.

5.3.1.2. In the event that individual common amphibians and reptiles are encountered during the works they should be allowed to move away of their own accord or carefully moved to areas of suitable habitat outside the development footprint.

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5.3.1.3. In the event that large numbers (5+) of common amphibians or reptiles are encountered or any great crested newts are encountered all works should cease and further advice should be sought immediately.

5.3.1.4. It is recommended that the plans for the site consider the potential presence of amphibians and reptiles in the area and include the creation of habitat suitable to support the species in the landscaping of the site.

5.3.2. Badgers

5.3.2.1. It is recommended that any excavations created on the site have at least one sloping side to allow badgers, or other mammals, to escape. Open pipe ends should be capped between shifts to prevent inquisitive animals entering the pipes and becoming trapped.

5.3.3. Bats

5.3.3.1. It is recommended that no works commence on buildings B1, B2 and B3 or any of the trees on site, notably the more mature trees, prior to further bat surveys being carried out, in line with the Bat Conservation Trust (BCT) Good Practice Guidelines (*2023*).

5.3.3.2. Due to the low potential for bats to be present in buildings B1, B2 and B3 it is recommended that a further survey of these buildings is carried out during the peak season for bats, which is May to August. The survey should comprise a thorough inspection of the buildings, including an internal inspection, followed by a single bat activity survey carried out with sufficient surveyors and Night Vision Aids (NVA) to cover the areas of potential around the buildings. The number of surveyors required will depend on the impact of the works.

5.3.3.3. It is recommended that no works commence on the removal of trees from the site prior to a further ground level assessment of the trees being carried out during the winter, when no foliage is present on the trees.

5.3.3.4. Following the ground level assessment, it is recommended that further surveys of any trees impacted by the works are carried out, commencing with a thorough aerial inspection of the trees to accurately assess the PRF present.

5.3.3.5. It is recommended that additional recommendations relating to the need for a Natural Resources Wales (NRW) licence to cover the proposed works on site is made on completion of the bat surveys.

5.3.3.6. It is recommended that the proposals for the site consider the foraging and commuting potential provided by the site and avoid the removal of suitable areas of habitat, notably the grassland, trees and woodland to the east of the site. If the works require the removal of these areas of habitat it is recommended that the works are preceded by further bat surveys, to accurately assess the activity present on site and the likely impacts.

5.3.3.7. It is recommended that the designs for the site include areas of roosting potential for bats, in the form of bat bricks included in the buildings and bat boxes erected on trees around the site.

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5.3.4. Birds

5.3.4.1. It is recommended that any site clearance works avoid the nesting season, which extends from March to September each year, where possible. Any works commencing during the nesting season must be immediately preceded by a thorough nesting bird survey carried out by a suitable experienced surveyor. Any nests identified must remain undisturbed, including a suitable buffer around the nest, until the young have fledged.

5.3.4.2. It is recommended that the designs of the site aim to retain areas of suitable nesting or foraging habitat and that the landscaping for the site includes areas of habitat suitable for a range of bird species to nest and forage. This should be achieved through the planting of native fruit and berry bearing species and through nest boxes of various designs including in the building and landscaped areas of the site.

5.3.5. Hedgehogs

5.3.5.1. It is recommended that any site clearance, particularly the clearance of dense areas of vegetation, is carried out with care, allowing an inspection of the area underneath for hedgehogs, and avoids the peak hibernation period for the species, which is December to February.

5.3.5.2. It is recommended that the site design includes areas of suitable habitat for hedgehogs, for foraging and shelter. Any new boundaries created on the site should be designed in the manner that allows hedgehogs continued access around the site.

5.4. Invasive Non-Native Plant Species

5.4.1. It is recommended that the montbretia present on site is cleared under strict control conditions, to prevent the spread of the species to elsewhere on site, or off site.

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6. Conclusions

6.1. If any future plans for the site are designed in a sensitive manner, retaining or replacing the habitats with a high ecological value, are preceded by further protected species surveys, where necessary, and include a suitable management plan, works on the site could be carried out in a manner that will have an overall benefit for biodiversity.

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Appendix I: Habitat Map

St Christopher's School

Habitats

- u1b Developed land, sealed surface
- u1b5 Buildings
- g4-32 Modified grassland - scattered trees
- u1c Artificial unvegetated, unsealed surface
- g3c-10,32 Other neutral grassland - scattered scrub, scattered trees
- g3c-32 Other neutral grassland - scattered trees
- u1-828 Built up areas and gardens - vegetated garden
- w1g Other broadleaved woodland

Linear Habitats

- u1e Built linear features
- w1-33 Woodland and forest - line of trees
- \+ Scattered trees

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0 40 80 m



Appendix II: Target Notes

St Christopher's School

Site boundary

Target Notes

- T1 - Animal care centre
- T2 - Garden area, used for teaching gardening/outdoor skills
- T3 - Montbretia
- T4 - Decorative wall providing potential refugia
- T5 - Tree with bat potential
- T6 - Tree with bat potential
- T7 - Animal paths in grassland
- T8 - Compost area for school
- T9 - Tree with bat potential
- T10 - Piles of rocks providing potential refugia

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0 40 80 m

Appendix II: Target Notes

T1	An animal care centre, part of the active school site.	
T2	A garden area used for outdoor learning, including garden based growing and building.	
T3	Montbretia plants in the raised beds in the garden area.	
T4	A decorative drystone wall that may provide suitable refugia for amphibians and reptiles.	
T5	An ash tree with the potential to support roosting bats.	
T6	Mature trees that may provide suitable roosting opportunities for bats.	
T7	Faint animal paths within the areas of grassland.	

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T8	Compost heaps used by the school and providing a potential habitat for reptiles.	
T9	A poplar tree with the potential to support roosting bats.	
T10	A pile of rocks in the grassland, providing potential refugia.	

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Appendix III: **Species Lists**

g3c-10,32 Other neutral grassland – scattered scrub, scattered trees	
Species Present	DAFOR Assessment
Perennial rye grass (*Lolium perenne*)	O
False oat grass (*Arrhenatherum elatius*)	F
Fescue (*Festuca sp.*)	F
Yorkshire fog (*Holcus lanatus*)	F
Bent (*Agrostis sp.*)	O
Cocks foot (*Dactylis glomerata*)	O
Meadow grass (*Poa sp.*)	F
Dandelion (*Taraxacum officinale*)	O
Common ragwort (*Senecio jacobaea*)	O
Ribwort plantain (*Plantago lanceolata*)	F
Nettle (*Urtica dioica*)	O
Hawkbit (*Leontodon sp.*)	O
Creeping buttercup (*Ranunculus repens*)	F
Yarrow (*Achillea millefolium*)	O
Common knapweed (*Centaurea nigra*)	O
Wood avens (*Geum urbanum*)	R
Scattered scrub	
Rosebay willowherb (*Chamaenerion angustifolium*)	O
Bramble (*Rubus fruticosus*)	F
Nettle (*Urtica dioica*)	F
Hedge bindweed (*Calystegia sepium*)	O
Willow (*Salix sp.*)	O
Blackthorn (*Prunus spinosa*)	F
Ash (*Fraxinus excelsior*)	O
Buddleia (*Buddleja davidii*)	O
Herb Robert (*Geranium robertianum*)	O
Sycamore (*Acer pseudoplatanus*)	O
Rowan (*Sorbus aucuparia*)	R
Hogweed (*Heracleum sphondylium*)	O
Scattered trees	
Lime (*Tilia sp.*)	F
Sycamore (*Acer pseudoplatanus*)	F
Ash (*Fraxinus excelsior*)	O
Oak (*Quercus sp.*)	R
Silver birch (*Betula pendula*)	R
Cherry (*Prunus sp.*)	R
Poplar (*Populus sp.*)	R

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g3c-32 Other neutral grassland – scattered trees	
Species Present	DAFOR Assessment
Cocks foot (*Dactylis glomerata*)	A
False oat grass (*Arrhenatherum elatius*)	A
Bent (*Agrostis sp.*)	F
Fescue (*Festuca sp.*)	F
Meadow grass (*Poa sp.*)	F
Lady's bedstraw (*Galium verum*)	F
Hedge woundwort (*Stachys sylvatica*)	O
Wood avens (*Geum urbanum*)	O
Flowering currant (*Ribes sanguineum*)	R
Common knapweed (*Centaurea nigra*)	F
Ribwort plantain (*Plantago lanceolata*)	F
Scabious (*Scabiosa sp.*)	R
Meadow vetchling (*Lathyrus pratensis*)	R
Common ragwort (*Senecio jacobaea*)	O
Scattered trees	
Ash (*Fraxinus excelsior*)	O
Cherry (*Prunus sp.*)	O
Apple (*Malus x domestica*)	O
Oak (*Quercus sp.*)	O

g4-32 Modified grassland – scattered trees	
Species Present	DAFOR Assessment
Perennial rye grass (*Lolium perenne*)	F
Meadow grass (*Poa sp.*)	F
Ribwort plantain (*Plantago lanceolata*)	F
Daisy (*Bellis perennis*)	F
Dandelion (*Taraxacum officinale*)	F
White clover (*Trifolium repens*)	F
Herb Robert (*Geranium robertianum*)	O
Yarrow (*Achillea millefolium*)	O
Creeping buttercup (*Ranunculus repens*)	O
Scattered trees	
Cherry (*Prunus sp.*)	
Silver birch (*Betula pendula*)	
Willow (*Salix sp.*)	
Rowan (*Sorbus aucuparia*)	
Sycamore (*Acer pseudoplatanus*)	
Oak (*Quercus sp.*)	
Leyland cypress (*Cupressus x leylandii*)	
Field maple (*Acer campestre*)	

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Apple (*Malus x domestica*)	
Spruce (*Picea sp.*)	
Alder (*Alnus glutinosa*)	
Yew (*Taxus baccata*)	
Lime (*Tilia sp.*)	
Norway maple (*Acer platanoides*)	
Beech (*Fagus sylvatica*)	

w1g Other broadleaved woodland	
Species Present	DAFOR Assessment
Cherry (*Prunus sp.*)	F
Lombardy poplar (*Populus nigra var italica*)	F
Ash (*Fraxinus excelsior*)	O
Silver birch (*Betula pendula*)	O
Sycamore (*Acer pseudoplatanus*)	F
Horse chestnut (*Aesculus hippocastanum*)	F
Hazel (*Corylus avellana*)	F
Willow (*Salix sp.*)	F
Rowan (*Sorbus aucuparia*)	F
Bramble (*Rubus fruticosus*)	A
Nettle (*Urtica dioica*)	F
Herb Robert (*Geranium robertianum*)	F
Cocks foot (*Dactylis glomerata*)	F
Wood avens (*Geum urbanum*)	F
Rosebay willowherb (*Chamaenerion angustifolium*)	R
Ivy (*Hedera helix*)	F

w1-33 Woodland and forest – line of trees	
Species Present	DAFOR Assessment
Lime (*Tilia sp.*)	F
Sycamore (*Acer pseudoplatanus*)	F
Ash (*Fraxinus excelsior*)	O
Oak (*Quercus sp.*)	R
Silver birch (*Betula pendula*)	R
Poplar (*Populus sp.*)	O

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Appendix IV: **Development Plans**

There are currently no proposals for the site.

Appendix V: Planning Policy and Species Legislation Summary

1. Planning Policy

1.1. Planning Policy Wales (PPW) sets out the land use planning policies of the Welsh Government. The primary objective of PPW is to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales. Section 6.4 relates to biodiversity and ecological networks.

1.2. Paragraph 6.4.3 states:

'The planning system has a key role to play in helping to reverse the decline in biodiversity and increase the resilience of ecosystems, at various scales, by ensuring appropriate mechanisms are in place to both protect against loss and secure enhancement.'

1.3. Paragraph 6.4.11 states:

'Planning authorities must follow a step-wise approach to maintain and enhance biodiversity, build resilient ecological networks and deliver net benefits for biodiversity by ensuring that any adverse environmental effects are firstly avoided, then minimised, mitigated, and as a last resort compensated for. Enhancement must be secured by delivering a biodiversity benefit primarily on site or immediately adjacent to the site, over and above that required to mitigate or compensate for any negative impact.'

2. Legislation Summary

Site	Legislation
Locally Designated Sites	Locally designated sites are not covered by any statutory legislation but are protected by local development plans.
Statutory Sites	Statutory sites are protected in different ways depending on the reason for the sites designated with sites being covered by legislation including the Wildlife and Countryside Act 1981 and the Habitats Directive.
Species and Habitats or Principal Importance	Species and habitats of principal importance are covered by the Natural Environment & Rural Communities Act 2006.

Species	Legislation	Offences include
Badgers	Protection of Badgers Act 1992	○ Wilfully kill, injure, take, possess or cruelly ill-treat a Badger, or attempt to do so; ○ To intentionally or recklessly interfere with a sett (this includes disturbing Badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it).
Bats	Conservation of Habitats and Species Regulations 2017 (as amended) Wildlife and Countryside Act 1981	○ Deliberately kill, injure or capture a bat; ○ Deliberately disturb bats; ○ Damage or destroy a breeding site or resting place of a bat. ○ Obstruct access to any structure or place which any bat uses for shelter or protection; or ○ Disturb any bat while occupying a structure or place which it uses for that purpose.
Birds	Wildlife and Countryside Act 1981	○ Intentionally kill, injure, or take any wild bird; ○ Intentionally take, damage or destroy a nest of any such bird whilst it is in use or being built; or ○ Intentionally take or destroy an egg of any such bird.

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Crayfish	Wildlife and Countryside Act 1981	○ Obstruct access to any structure or place which a crayfish uses for shelter or protection; or ○ Disturb a crayfish while occupying a place which it uses for that purpose.
Great Crested Newts	Conservation of Habitats and Species Regulations 2017 (as amended) Wildlife and Countryside Act 1981	○ Intentionally or deliberately capture, injure, kill, or disturb the species; ○ Intentionally or recklessly damage, destroy or disturb a GCN in a place of shelter or protection, or obstruct access to such a place; or ○ Damage or destroy a breeding site or resting place.
Hazel Dormice	Conservation of Habitats and Species Regulations 2017 (as amended) Wildlife and Countryside Act 1981	○ Deliberately capture, injure or kill a dormouse; ○ Deliberately disturb dormice; ○ Damage or destroy a breeding site or resting place of a dormouse ○ Obstruct access to any structure or place which a dormouse uses for shelter or protection; or ○ Disturb a dormouse while occupying a structure or place which it uses for shelter or protection
Otters	Conservation of Habitats and Species Regulations 2017 (as amended) Wildlife and Countryside Act 1981	○ Deliberately capture, injure or kill any wild otter; ○ Deliberately disturb wild otters; ○ Damage or destroy a breeding site or resting place of an otters. ○ Disturb an otters while it is occupying a structure or place which it uses for shelter or protection; or ○ Obstruct access to such a place.
Red Squirrels	Wildlife and Countryside Act 1981	○ Kill, injure or take a red squirrel; ○ Damage, destroy or obstruct access to any structure or place which a red squirrel uses for shelter or protection; or ○ Disturb a red squirrel while it is occupying a structure or place which is used for that purpose.
Reptiles (non EPS)	Wildlife and Countryside Act 1981	○ Intentionally kill or injure a reptile.
Water Voles	Wildlife and Countryside Act 1981 Natural Environment & Rural Communities (NERC) Act 2006	○ Intentionally capture, kill or injure water voles; ○ Intentionally or recklessly damage, destroy or block access to their places of shelter or protection; or ○ Disturb water voles while occupying a place of shelter used for that purpose.

Local authorities therefore have a duty to consider protected species as a material consideration when assessing planning applications. The ODPM Government Circular 06/2005 states: '*It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision.*'