DECA Sealand – Solar PV

Preliminary Ecological Appraisal

Client:

Ground Control Limited

Report Reference:

RSE_10392_R1_V1_PEAR

Issue Date:

January 2026

RammSanderson

ECOLOGY
FLOOD RISK
ARBORICULTURE
HABITATS
TRAINING

CIEEM REGISTERED PRACTICE 2025-2026

PROJECT			
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Project:	DECA Sealand – Solar PV		
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DISCLOSURE:

*EXECUTIVE SUMMARY

i RammSanderson Ecology Ltd were commissioned by Ground Control Limited to undertake a Preliminary Ecological Appraisal to assess the potential ecological constraints to the proposed construction of a ground mounted solar PV system upon an unused sports field, located at DECA Sealand, Flintshire, Wales, CH5 2LS.

ii The land within the Scheme Boundary (hereafter referred to as the Site) is 3.2105 ha in size and comprised of modified grassland, developed land; sealed surface and built linear features in the form of a fence.

Table 1: Executive Summary

Ecological Feature	Potential to be affected by the Scheme	Further Surveys, Assessment or Mitigation Recommended?
Habitats	No – The habitats within the Site were common and widespread with no significant impacts anticipated by the Scheme.	No
Badger	No - Habitats suitable for foraging are not present on site. Additionally, no setts or signs were recorded by surveyors, with the Site bounded on all aspects by residential or commercial dwellings, limiting suitability.	No
Bats	No – There is no potential for roosting bats on site. Additionally, the habitat is not considered to have high value for foraging bats.	No
Great Crested Newt	No – No waterbodies suitable for breeding great crested newt were noted within the Site. Additionally, all waterbodies identified within the desk study lie beyond significant barriers to dispersal including roads and residential estates. As such the presence of great crested newt is considered highly unlikely.	No
Reptiles	No – No habitats suitable for reptiles were noted within the Site.	No
Birds	Given the limited suitability of habitats within the Survey Area to support nesting birds, it is unlikely that nesting bird species may be utilising the Site during the breeding season.	No
Other Notable Species	Yes - species such as hedgehog may potentially be present onsite.	No
Invasive Non-Native Species	No – No invasive non-native plant species were identified within the Site.	No

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1 INTRODUCTION

1.1 Terms of Reference

i RammSanderson Ecology Ltd (RS) were commissioned by Ground Control Limited to undertake a Preliminary Ecological Appraisal (PEAR) to assess the potential ecological constraints to the proposed construction of a ground mounted solar PV system on an unused sports field (hereafter referred to as the Scheme), located at DECA Sealand, Flintshire, Wales, CH5 2LS.

ii All land situated within the red line of the Scheme is hereafter referred to as the Site and is shown on Figure 1.

iii The PEA has been undertaken with reference to current good practice[1] and forms part of the technical information commissioned by Ground Control Limited in connection with the Scheme. The results of the PEA are presented in this PEA report (PEAR), which addresses relevant wildlife legislation and planning policy as summarised in Appendix 1. The PEAR is consistent with the requirements of British Standard 42020:2013 *Biodiversity. Code of Practice for Planning and Development*.

iv This PEAR is intended for advice in respect of Scheme design, site layout and / or site investigation. Further ecological surveys and / or ecological impact assessment (including detailed mitigation measures) may be required in connection with a planning application or to contribute to an Environmental Impact Assessment once the Scheme proposals have been finalised and any required surveys have been completed.

1.2 The Scheme

i The Scheme proposed for development consists of the construction of a ground mounted solar PV system on an unused sports field.

ii Vegetation clearance is anticipated to be required to facilitate sections of the proposed construction as outlined in plans provided (J251173-GCL-ZZ-ZZ-D-L-0102-P01-Layout).

1.3 The Site

i The Site is located off Green Lane East, Sealand CH5 2LS at Ordnance Survey national grid reference SJ 33788 70469 and is approximately 3.2105ha in size.

ii The Site comprises modified grassland and built linear features (fencing). The Site is bounded by the MOD Sealand compound to the south comprised mainly of developed land, with a mixture of urban housing and industrial estate further west and southwest. To the north and east the site is bounded by roads, with a rural landscape comprising a mixture of pasture, arable fields, woodland strips and hedgerows beyond to the wider north and east.

1.4 Scope of the Preliminary Ecological Appraisal

i This PEAR presents ecological information obtained during the following:

[1] CIEEM (2017). Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.

- A desk-study undertaken on 9th December 2025 to obtain records of designated sites, notable habitats[2] and protected and notable species[3] up to 1km of the Site (the area covered by the desk study is hereafter referred to as the Study Area); and,
- A walkover survey of accessible land within the Site (the area covered by the survey is hereafter referred to as the Survey Area) on 25th November 2025.

ii The purpose of the PEAR is to provide a high-level ecological appraisal of the Site, specifically to:

- Establish baseline conditions and determine the presence of Important Ecological Features (IEF)[4] (or those that could be present), as far as is possible;
- To identify potential ecological constraints to the Scheme and make initial recommendations to avoid impacts on IEFs, where possible;
- To identify requirements for mitigation, where possible, including mitigation measures that will be required and those that may be required (depending on results of further surveys or final scheme design);
- To establish any requirements for more detailed surveys; and,
- To identify any opportunities offered by the Scheme to deliver biodiversity enhancements.

iii The methodology followed for undertaking the field surveys are detailed in Appendix 2.

[2] Notable habitats are taken as principal habitats for the conservation of biodiversity listed under Section 41 of the Natural Environment and Rural Communities Act 2006; habitats listed under the North Merseyside Biodiversity Action Plan (BAP); hedgerows identified as being 'important' under the wildlife criteria of the Hedgerow Regulations 1997, ancient woodlands and veteran trees.
[3] Notable species are taken as principal species for the conservation of biodiversity listed under Section 41 of the Natural Environment and Rural Communities Act 2006; any species listed in an IUCN Red Data Book; and any other species listed under the North Merseyside BAP.
[4] Important Ecological Features are habitats, species, ecosystems and their functions and processes that are of conservation importance and could potentially be affected by the Scheme.

2 BASELINE CONDITIONS, CONSTRAINTS AND RECOMMENDATIONS

2.1 Surveyor Competence

i The walkover survey was carried out by Ewa Tomalak MSc and BSc (Hons) ACIEEM, and Ryan Docherty BSc (Hons). Ewa has 7 years of experience as a professional ecologist and is appropriately qualified and experienced to undertake this survey type.

2.2 Limitations to the Assessment

i General limitations to undertaking desk and field-based assessments are provided in Appendix 2. Specific limitations to the assessment are detailed below:

- The PEA survey was completed during the period of October to April which is generally considered less efficient than the survey being completed during the spring or summer, and it is possible that some plant species have been missed by the field survey. However, in view of the ecological character of the habitats recorded it is considered that the survey is adequate to make a robust assessment of habitats present and the site's likely nature conservation significance.

2.3 Designated Sites

2.3.1 Desk Study

i No designated statutory or non-statutory sites were identified within the Study Area.

2.3.2 Constraints and Recommendations

ii The Site does not fall within categories of any Impact Risk Zones (IRZs) to nearby statutory designated sites. As such, no further investigation is required.

iii No impacts to any statutory or non-statutory designated sites are anticipated due to a lack of connectivity, the locations of the designated sites will remain unchanged, and the work will stay within the site boundaries, which are surrounded by existing built development.

2.4 Habitats

2.4.1 Desk Study

i Table 2 summarises the records of notable habitats and protected or notable flora[5] (including veteran trees[6]) within the Study Area.

Table 2: Notable Habitats and Protected and Notable Flora within Study Area

Habitat/ Flora Feature	Reason for Conservation Interest	Location[7]
Deciduous woodland	Priority habitat, Local Biodiversity Action Plan	Closest parcel 0.5km NE; additional 3 parcels located NE and E.
National Forest Inventory 2020	Priority Habitat	0.6km S

[5] For this assessment 'flora' includes vascular and non-vascular plants, fungi and lichens.
[6] For this assessment, the definition of a veteran tree is taken from Annex 2 of the National Planning Policy Framework (glossary): "A tree which, because of its great age, size or condition is of exceptional value for wildlife, in the landscape, or culturally."
[7] Where features are situated outside of the Site boundary, the distance and direction are given at the closest point of the designated site from the Site

Habitat/ Flora Feature	Reason for Conservation Interest	Location[7]
Himalayan Balsam	Schedule 9, part 2 species	Three records; closest was 1.2km W.

2.4.2 Field Survey

ii Summary descriptions of the habitats within the Survey Area are provided below in Table 3 and shown on Figure 2.

iii Habitat types detailed are listed in order of the UKHabs Survey Handbook (UKHab Ltd, 2023). The species list provided in this report reflect only those taxa observed during the survey and are not an exhaustive list of all species that may be present, as the survey only provides a snapshot of the Site.

Table 3: UKHabs Classification Habitats within Survey Area

Habitat	Description	Area (m^2) – rounded up/down to one decimal place	Proportion of site (%)	Ecological Importance & Outcome of Proposal	Photograph
Modified grassland g4	One parcels of modified grassland comprises the Site, cut to a short sward. Species throughout the field included a dominance of perennial rye grass, abundant creeping buttercup, frequent dandelion, plantain, red fescue, yorkshire fog, white clover, as well as rare occurrences of ragwort.	7950	100%	Limited ecological value. May offer foraging habitat for principal species including hedgehog. Portion to be lost within the Scheme.	
Built linear features u1e	Metal chain-link fence surrounds the majority of the Site, excluding an area of modified grassland on the southwest side of the Site which extends beyond the fence.	N/A	N/A	No ecological value. Not to be impacted by the Scheme	No fence photographs requested by client for security purposes.

2.4.3 Constraints and Recommendations

iv The habitat onsite was generally of limited botanical interest and poor species diversity, with the entire area comprising of modified grassland. The survey was undertaken outside of the main floristic season which is likely to result in fewer species being recorded. However, grasses could still be accurately identified vegetatively. The dominant grass species was perennial rye grass with frequent Yorkshire fog recorded. In order to qualify for a higher distinctiveness grassland there would need to be less than 30% cover of perennial rye grass and at least one other grass species recorded as abundant, in addition to 20% forb cover and/or 8 species or more per m2. It is accepted that the latter 2 criteria are likely to fluctuate seasonally, however the first 2 criteria are unlikely to change throughout the year from what was recorded on the survey. And as such no further surveys are considered necessary.

2.5 Badger

2.5.1 Desk Study

i There are three records of badgers within the Study Area within 1km of the Site boundary. The records do not clarify if they referred to a badger sett or signs of badger activity, although the closest recent recorded badger was deceased on Welsh Road approximately 50m north of the site. The other two records were located at the edge of the 1km buffer northwest of the site.

2.5.2 Field Survey

ii No badger setts or field signs were recorded in the Survey Area, and the grassland present was not considered to be a suitable foraging habitat for badgers.

2.5.3 Constraints and Recommendations

iii Owing to the constraints outlined above, badgers are considered likely absent from the Site and no further recommendations for further survey are required.

2.6 Bats

2.6.1 Desk Study

i There are four records of bats within the Study Area. The closest and most recent of these records is associated with common pipistrelle from 2013 approximately 810m from the Site boundary.

2.6.2 Field Survey

ii No potential for features and habitats to support roosting bats were identified within the Survey Area.

iii The habitat on site was considered suboptimal and of low value for foraging and commuting bats as there was little connectivity to more suitable areas, due to the absence of trees on site. Furthermore, the site is subject to light spill impacts from the adjacent a main road.

2.6.3 Constraints and Recommendations

iv No further recommendations pertaining to the foraging, commuting or tree roosting bats are required owing to a lack of suitable habitat, as well as the Scheme being expected to have minimal impact on bat species.

2.7 Great Crested Newt and Other Amphibians

2.7.1 Desk Study

i There are no recent records of great crested newts (GCN) within the Study Area. One record of other amphibians was returned within the Study Area. This is associated with common frog approximately 195m northwest from the Site boundary.

2.7.2 Field Survey

ii No habitats suitable for breeding phase GCN or other amphibians were noted within the Site boundaries. Furthermore, the habitats that are present have no connectivity to the wider landscape allowing for traversal of GCN or other amphibians to and/or from the Site.

2.7.3 Constraints and Recommendations

iii Owing to a lack of suitable breeding habitats within the Site with no connectivity to those within the wider landscape, it is considered that GCN and other amphibians are likely absent from the Site and no further consideration is required.

2.8 Common Species of Reptile

i 'Common species of reptile' refers to common lizard, slow worm, adder and grass snake. The Site is located outside of the known range of smooth snake and sand lizard and these species are not considered in this report.

2.8.1 Desk Study

ii There are no recent records of reptiles within the Study Area.

2.8.2 Field Survey

iii The habitats within the Survey Area were considered sub-optimal for common reptile species. No field signs or evidence of common reptile species was observed by surveyors within the Survey Area, with the site itself being isolated and lacking connectivity to surrounding habitats.

2.8.3 Constraints and Recommendations

iv The grassland habitat on Site is considered unlikely to support a distinct reptile population due to its small size and significant barriers to dispersal, in addition to no potential for severance on existing population links or commuting reptiles into the wider landscape. The Scheme is also not expected to have an impact on any potential reptile populations.

v No further surveys or mitigation is recommended pertaining to reptiles and are likely absent from Site.

2.9 Birds

2.9.1 Desk Study

i There are recent records for 43 notable[8] bird species within the Study Area.

2.9.2 Field Survey

ii The habitats within the Site were not considered suitable for nesting birds. No nests were noted during the survey.

2.9.3 Constraints and Recommendations

iii No further surveys or mitigation is recommended pertaining to nesting birds and are likely absent from Site.

2.10 Terrestrial Invertebrates

2.10.1 Desk Study

i There is 1 recent record of terrestrial invertebrates within the Study Area associated with latticed heath moth.

2.10.2 Field Survey

ii The habitats observed by surveyors were considered unsuitable for terrestrial invertebrates.

[8] Notable bird species are taken as those listed: on Annex I of the EC Birds Directive (2009/147/EC); on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended); as Species of Principal Importance (SPI) for the Conservation of Biodiversity in England listed in Section 41 of the Natural Environment and Rural Communities Act 2006; as Red or Amber in the Birds of Conservation Concern (BoCC) 4 (Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015). Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man. British Birds 108, 708-746); bird species or groups listed under the North Merseyside BAP.

2.10.3 Constraints and Recommendations

iii Due to the lack of available optimal habitat on Site, it is considered that key terrestrial invertebrate species are likely absent from Site and no further investigation is required.

2.11 Other Notable Species

2.11.1 Desk Study

i There are 48 recent records of other notable species[9] within the Study Area. The closest / most relevant of these records is associated with European hedgehog which is approximately 5m south from the Site boundary.

2.11.2 Field Survey

ii The modified grassland within the Survey Area was noted by surveyors for its suitability for notable species including hedgehog , offering some value for foraging. Traversal of small mammals through the surrounding fence is possible, with areas of cropland northeast of the Site providing some degree of connectivity, though they are separated by roads.

2.11.3 Constraints and Recommendations

iii It is anticipated that the species noted above may be impacted by the Scheme, with the largest impacts being to hedgehog entering the Site.

iv No further survey is required; however, it is recommended that should open ground works take place, they be performed under a PMW for mammals to prevent potential disturbance and/or injury to notable species including hedgehog.

2.12 Invasive Non-Native Species

2.12.1 Desk Study

i There are 6 records of invasive non-native flora and fauna species[10] within the Study Area. The closest / most relevant of these records is associated with Himalayan Balsam from 2015 which is approximately 1.16km west of the site boundary.

2.12.2 Field Survey

ii No non-native invasive floral or faunal species were identified during the field survey.

2.12.3 Constraints and Recommendations

iii Due to their absence on Site, no mitigation strategies are required for invasive non-native species.

[9] Notable species are taken as principal species for the conservation of biodiversity listed under Section 41 of the Natural Environment and Rural Communities Act 2006; any species listed in an IUCN Red Data Book; and any other species listed under the Nottinghamshire BAP that are not referred to in previous sections of the report.

[10] Invasive non-native species which are listed on Schedule 9 on the Wildlife and Countryside Act 1981 (as amended).

3 BIODIVERSITY IMPACT ASSESSMENT

i A Biodiversity Impact Assessment (BIA) based on the current Scheme details has been undertaken. This involves making a comparison between the biodiversity value of habitats present within the Site prior to development (i.e. the 'baseline') and the predicted biodiversity value of habitats following the completion of the Scheme (i.e. 'post development'). The comparison is undertaken in terms of 'biodiversity units', with a 'biodiversity metric' providing the mechanism to allow biodiversity values to be calculated and compared. The Scheme is required to achieve 10% biodiversity net gain (BNG) under national legislation (see Appendix 1).

ii The baseline biodiversity value of the Site is as follows:

- 6.42 habitat biodiversity units.

iii Post development, the Scheme would result in the following:

- A gain of 0.26 habitat biodiversity units by uplifting a 0.25ha area of poor modified grassland into poor other neutral grassland. This equates to a 4.01% gain.

iv The methodology for undertaking the assessment is provided in Appendix 2. Full details on the assessment calculations are provided in Appendix 3 and plans can be found in Section 6.

v In Wales, the use of a 'biodiversity metric' to calculate Biodiversity Net Gain (BNG) is instead implemented as Net Benefit for Biodiversity (NBB). This approach is qualitative in nature and does not follow England's mandatory 10% gain of biodiversity units.

vi NBB recommendations are site specific; with an emphasis on ecosystem enhancement, resilience and connectivity to ensure better biodiversity post-development. Natural Resources Wales (NRW) has developed a framework to evaluate these factors, referred to as DECCA: Diversity, Extent, Condition, Connectivity and Aspects of ecosystem resilience.

Table 4: DECCA Framework

Framework Principal	Principal Target
D - Diversity	Improve species diversity through planting of the grassland, and structural diversity by the inclusion of bee banks, boxes and bug piles.
E - Extent	Maintaining and increasing areas of semi-natural habitats to promote resilience.
C - Condition	Improving grassland condition by ensuring varied sward height by leaving grass long around the edges of the field, as well as the natural sward length created by the proposed solar panels limiting mowing capability. Additionally, species count per square metre will be aided by aforementioned planting strategies.
C - Connectivity	Planting low shrubs along the east and west sides of the site may offer improved connectivity for insects, and/or leaving grass long around the field margin. As the species targets are flying, there is already good connectivity to wider habitats.
A – Aspects (Adaptability, Recovery, Resistance)	Sympathetic mowing and allowing sward height to increase improves resilience to drought conditions by retaining higher levels of humidity as well as keeping soil at a lower temperature. The proposed solar panels will offer shading across roughly 50% of the site which will aid in this target also.

vii As the existing habitats on site are of low ecological significance, there are expected to be minimal impacts to biodiversity. As such, there are several strategies within the DECCA framework that could be considered suitable to maintain and enhance biodiversity on Site which are outlined in the following Section.

4 RECOMMENDATIONS

i This section highlights opportunities for providing ecological enhancements, based on the current Scheme details.

4.1.2 Habitat Enhancement

ii An area of 0.25ha at the south of the site, below and adjacent to the access road, is being targeted for habitat enhancement, see Figure 8. The modified grassland can be enhanced for wildlife through the sowing of a seed mix, such a N5 Long Season Meadow Mix or similar (Available on Naturescape). This seed mixture is tolerant of close mowing to a height of about 5cm throughout most of the year and provides low growing perennial flowers. Planting should also include night scented plants such as evening primrose, night-scented catchfly, and night-scented stock to attract insects and encourage foraging bats.

iii The installation of one or more bee banks made from clay and sandy soil along the edges of the field would boost local pollinators. For best efficiency these should be horseshoe shaped and south-facing in full sunlight.

iv Alternatively, the provision of bee boxes for solitary bees (such as masonry bees) on the fenceline and log piles partially buried where appropriate throughout the site could provide more suitable habitats for local invertebrates. These log piles should be positioned in a variety of light levels e.g. shade under proposed solar panels versus full sunlight, to provide a maximum variety of microclimates for different invertebrates.

4.1.3 Habitat Protection

v A sympathetic mowing regime should be implemented in the areas around the solar array (not in-between) to preserve grass height as well as protect terrestrial invertebrates such as caterpillars. This entails high cuts between the proposed solar panels, performed annually as an end of season (August onward) cut where feasible. A 1m strip is to be left uncut around the perimeter of the field, connecting to the southern enhanced area.

4.1.4 Species Support

vi To support the population of protected insects identified in the desk study as being present within 1km of the Survey Area, such as the Latticed Heath, Blood-vein and Garden Tiger moths;, planting the aforementioned seed mix which includes Common Sorrel and Bird's Foot Trefoil are recommended to provide a suitable food supply for their caterpillars.

vii To provide nectar sources for invertebrates throughout the year, flowering plants such as clover and Prunella can be planted between the proposed solar panels. These species are tolerant to mowing which makes them ideal for this site.

5 SUMMARY

i This PEAR is based on an ecological survey and desk study undertaken 25/11/2025 and 09/12/2025, to assess the ecological constraints to the Scheme and to provide advice in respect of Scheme design, site layout and / or site investigation.

ii No further surveys are considered necessary to support a planning application.

5.2 Re-Survey of Site

i Due to the mobility of animals and the potential for colonisation of the Site, it is recommended that an updated ecological survey be undertaken prior to the redevelopment of this Site should this not occur within 18 months of the date of the field survey.

6 FIGURES

Figure 1: Site Location and Context

Figure 2: UKHabs Plan

Figure 3: Waterbody Plan

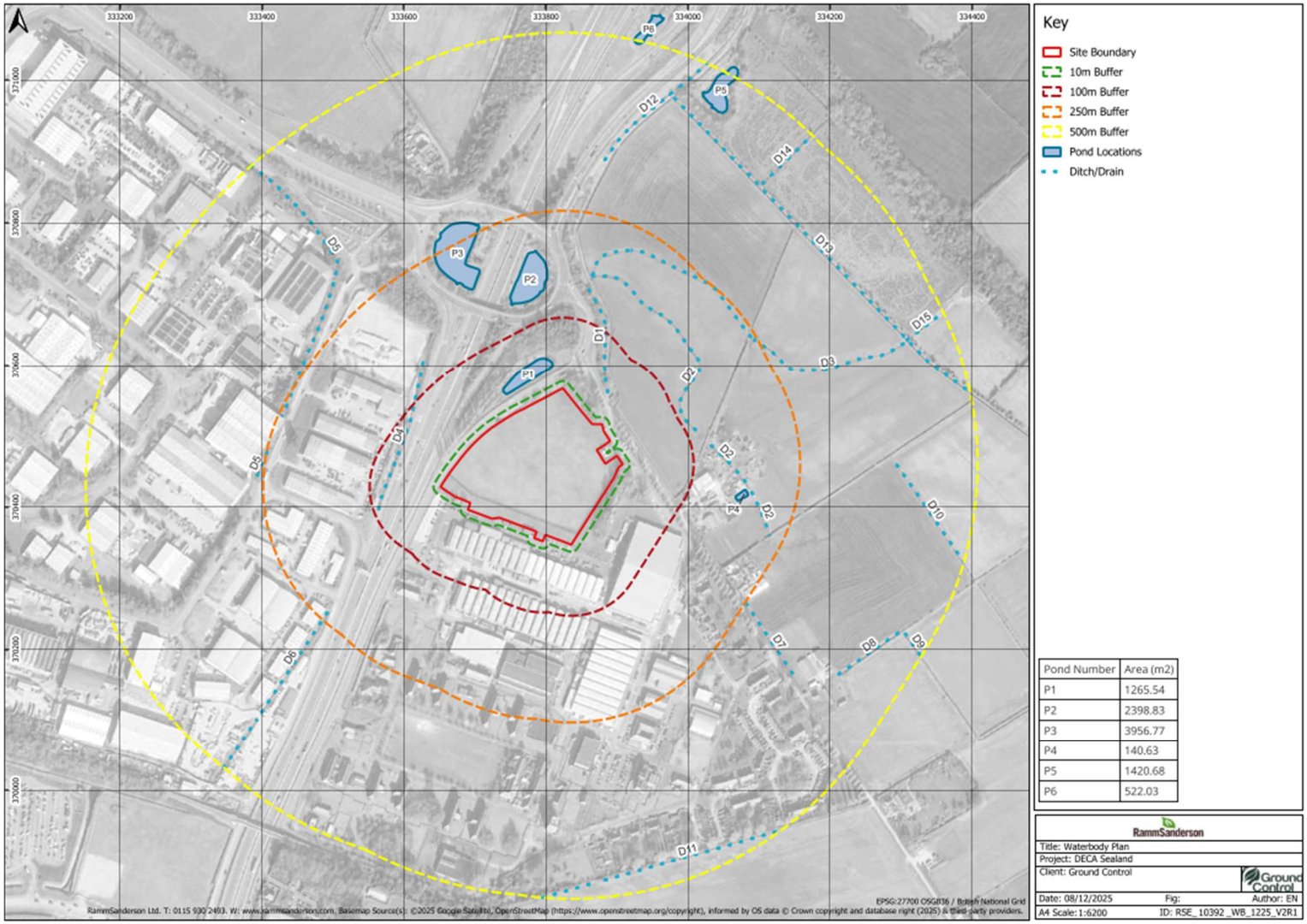


Figure 4: BIA Habitat Baseline Condition Plan

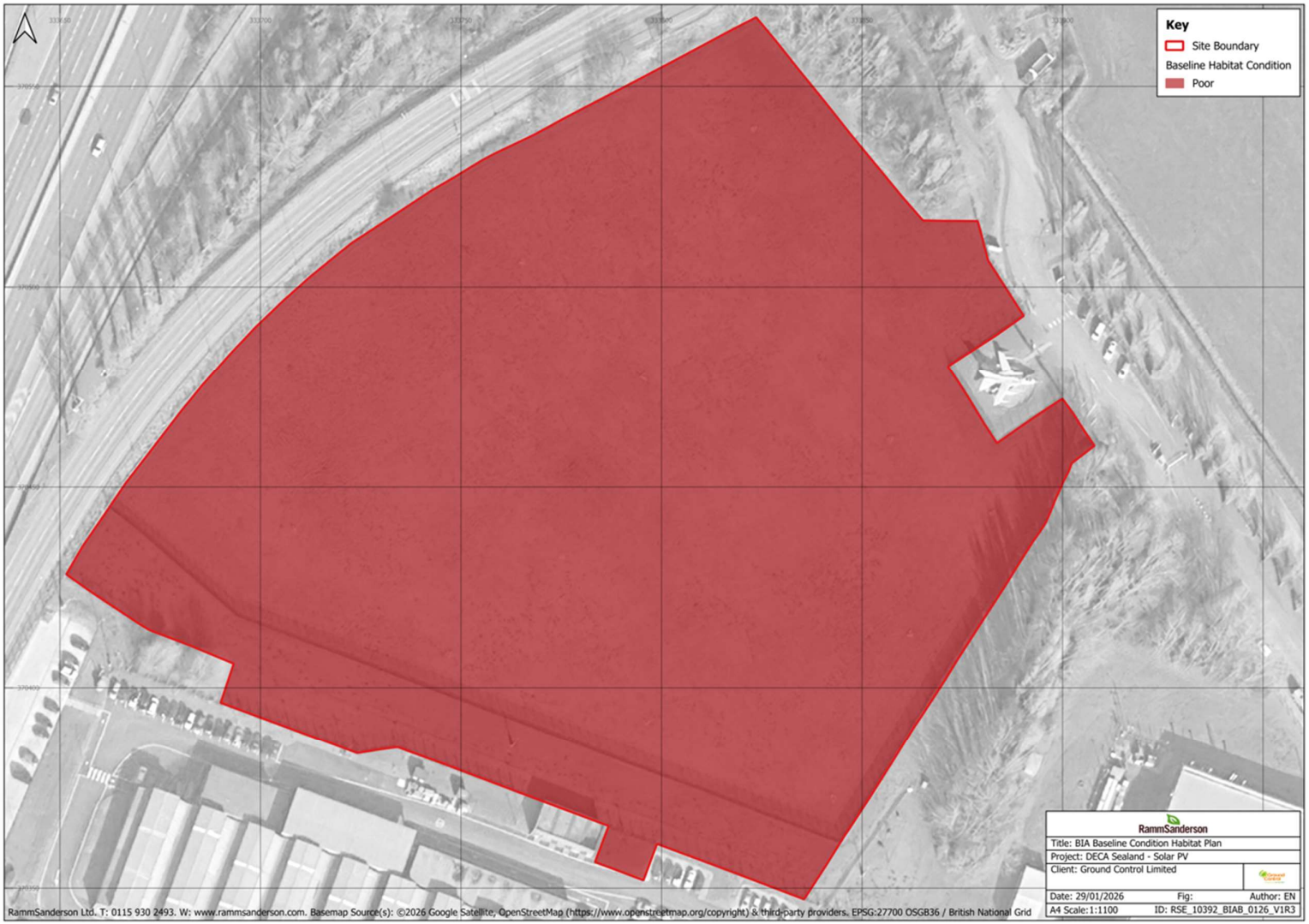


Figure 5: Proposed BIA Habitat Plan

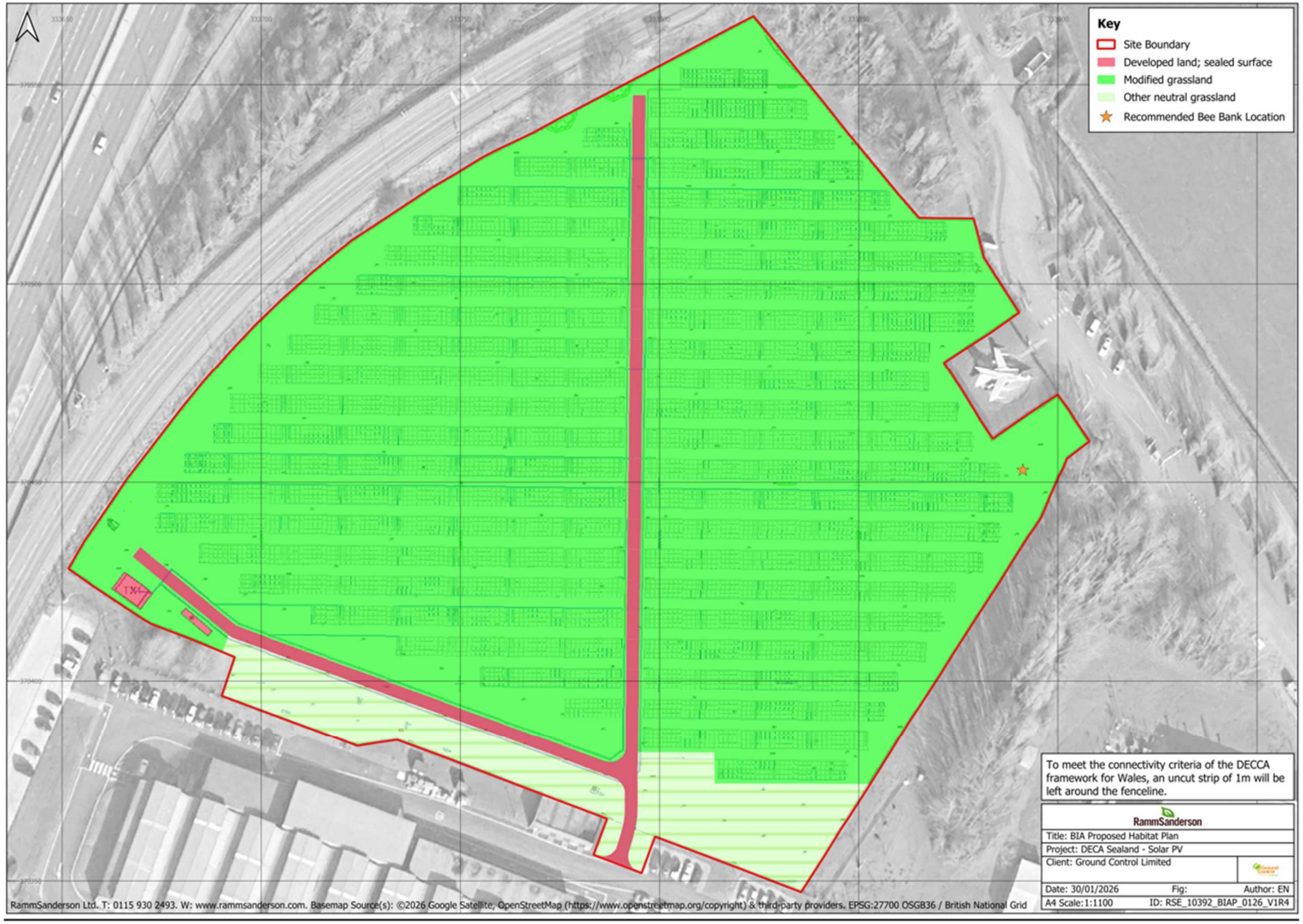
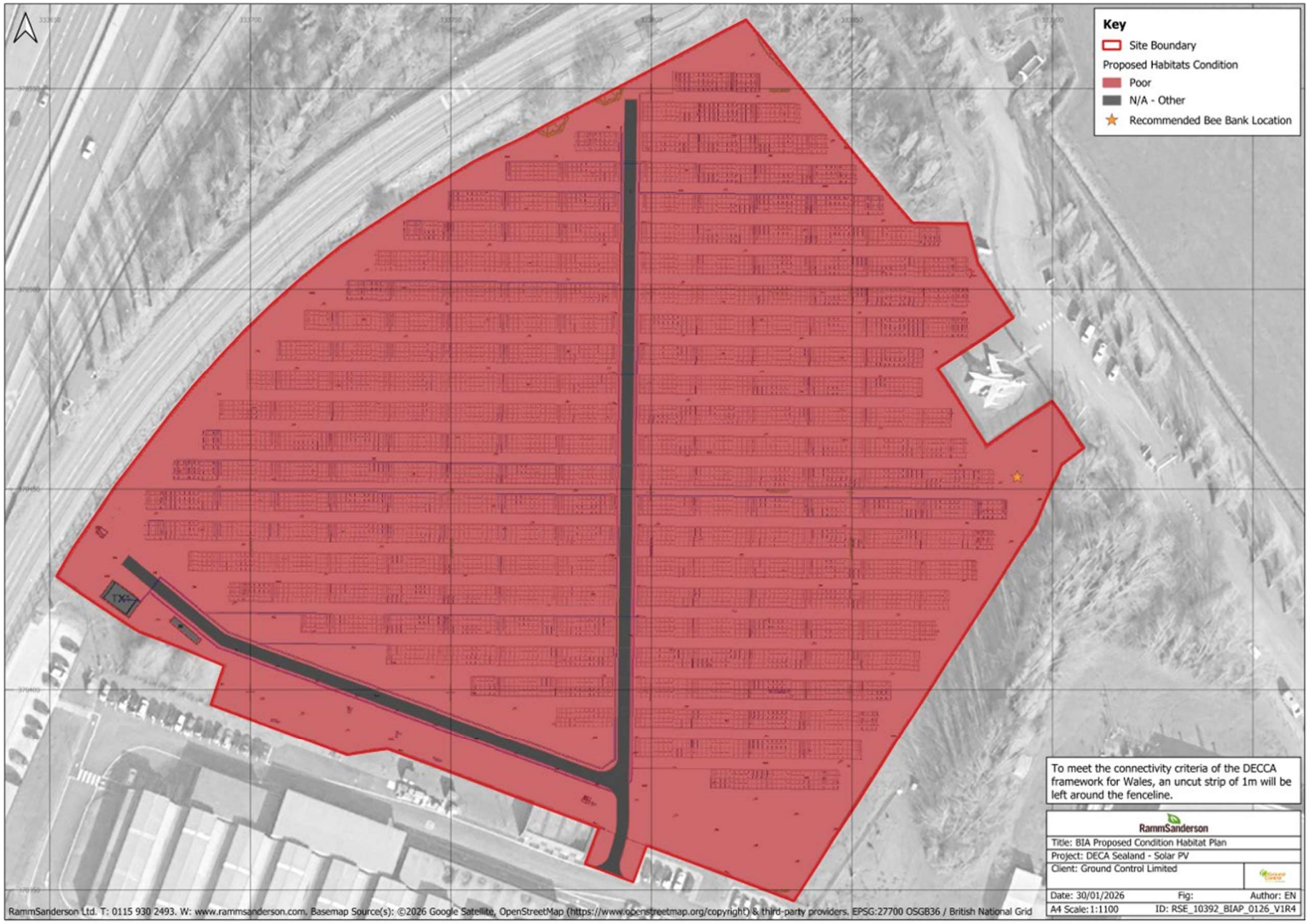


Figure 6: BIA Habitat Retention Plan

Figure 7: BIA Proposed Conditions Visualisation Plan



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APPENDIX 1: RELEVANT LEGISLATION AND PLANNING POLICY

i The UK is no longer a member of the European Union (EU). EU legislation as it applied to the UK on 31 December 2020 is now a part of UK domestic legislation. EU legislation which applied directly or indirectly to the UK before 11.00 p.m. on 31 December 2020 has been retained in UK law as a form of domestic legislation known as 'retained EU legislation'.

ii The Secretary of State for the Environment, Food and Rural Affairs and Welsh Ministers have made changes to parts of the Conservation of Habitats and Species Regulations 2017 (referred to as the 2017 Regulations) so that they operate effectively. Most of these changes involve transferring functions from the European Commission to the appropriate authorities in England. All other processes or terms in the 2017 Regulations remain unchanged and existing guidance is still relevant and are now referred to as The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (the 2019 Regulations).

Protected Species

Bats / Great Crested Newt

iii These species, known as European Protected Species, are protected under Regulation 43 of the 2017 Regulations as amended by the 2019 Regulations. This makes it an offence to deliberately capture, injure or kill an animal; deliberately disturb an animal; or damage or destroy a breeding site or resting place used by an animal.

iv Deliberate capture or killing is taken to include "accepting the possibility" of such capture or killing. Deliberate disturbance of animals includes in particular any disturbance which is likely a) to impair their ability (i) to survive, to breed or reproduce, or to rear or nurture their young, or (ii) in the case of animals of hibernating or migratory species, to hibernate or migrate; or b) to affect significantly the local distribution or abundance of the species to which they belong.

v Where development works are at risk of causing one or more of the offences listed above, a mitigation licence from Natural Resources Walescan be obtained to facilitate the works that would otherwise be illegal.

vi These species are also protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to intentionally or recklessly obstruct access to any structure or place used for shelter or protection or disturb an animal in such a place.

vii Lower levels of disturbance not covered by the Conservation of Habitats and Species Regulations 2017 remain an offence under the Wildlife and Countryside Act 1981 although a defence is available where such actions are the incidental result of a lawful activity that could not reasonably be avoided.

Nesting Birds

viii All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended), with some species afforded greater protection under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). In addition to the protection from killing or taking that all birds receive, Schedule 1 birds and their young must not be disturbed at the nest.

ix There are no licensing purposes that explicitly cover development activities affecting wild birds.

Common Species of Reptile (common lizard, slow worm, grass snake and adder)

x Common species of reptile are protected against intentional killing and injury under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). There is no requirement for a licence where development works affect common species of reptiles. Instead, Natural England (English Nature, 2004) advise that where reptiles are present, they should be protected from any harm that might arise during the development works through appropriate mitigation.

Badger

xi Badgers and their setts are protected under the Protection of Badgers Act 1992 (as amended). This makes it an offence to wilfully kill, injure or take a badger; or intentionally or recklessly damage, destroy or obstruct access to a badger sett or disturb a badger in its sett.

xii It is not illegal to carry out disturbance activities near setts that are not occupied, i.e. those that do not show signs of current use.

xiii Where required, licences for development activities involving disturbance or sett interference or closure are issued by Natural Resources Wales. Licences for activities involving watercourse maintenance, drainage works, or flood defences are issued under a separate process.

xiv Licences are normally not granted from December to June inclusive (the badger breeding season) because dependent cubs may be present within setts.

Non-native Invasive Plant Species

xv Under the Wildlife and Countryside Act, 1981 (as amended), it is an offence to plant or otherwise cause these species to grow in the wild.

xvi Any contaminated soil or plant material is classified as controlled waste and should be disposed of in a suitably licensed landfill site, accompanied by appropriate Waste Transfer documentation, and must comply with section 34 of the Environmental Protection Act 1990.

Planning Policy

Planning Policy Wales, 2024

xvii The Planning Policy Wales (PPW 2024) sets out the Welsh Governments planning policies for Wales and how these are expected to be applied by Local Authorities within their Local Development Frameworks (LDF).

xviii Regarding the PPW, the below sections are the most relevant:

> ***6.4.5:*** *"Planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means development should not cause any significant loss of habitats or populations of species (not including non native invasive species), locally or nationally and must work alongside nature and it must provide a net benefit for biodiversity and improve, or enable the improvement, of the resilience of ecosystems. A net benefit for biodiversity is the concept that development should leave biodiversity and the resilience of ecosystems in a significantly better state than before, through securing immediate and long-term, measurable and demonstrable benefit, primarily on or immediately adjacent to the site. The step-wise approach outlined below is the means of demonstrating the steps which have been taken towards securing a net benefit for biodiversity. In doing so, planning authorities must also take account of and promote the resilience of ecosystems, in particular the following attributes, known as the DECCA Framework125:*
> - *diversity between and within ecosystems;*
> - *the extent or scale of ecosystems;*
> - *the condition of ecosystems including their structure and functioning;*
> - *the connections between and within ecosystems; and*
> - *adaptability of ecosystems including their ability to adapt to, resist and recover from a range of pressures likely to be placed on them through climate change for example."*

> ***6.4.7:*** *"Planning Authorities should also refer to up to date ecological survey information (where appropriate) and consider local ecological information submitted by recognised environmental organisations."*

> ***6.4.8:*** *"A proactive and creative approach towards facilitating the delivery of biodiversity and ecosystem resilience outcomes must be taken by all those participating in the planning*

process (including the third sector and communities) as small scale interventions contribute to a national scale resilience. In particular, planning authorities must demonstrate that they have sought to fulfil the duties and requirements of Section 6 of the Environment (Wales) Act by taking all reasonable steps to maintain and enhance biodiversity in the exercise of their functions127. This will require action to be taken at the plan level, and ideally through co-ordinated action across regions and sub-regions. Such action should facilitate the implementation of the Section 6 duty at the level of individual development proposals by setting a broad framework of opportunities for achieving a net benefit for biodiversity. The step-wise approach will help guide decision makers in securing a net benefit for biodiversity and the onus is on developers to bring forward proposals in a way which will achieve a net benefit for biodiversity demonstrating how they have used the step wise approach."

6.4.9: *"It may not be possible for planning authorities to identify opportunities for a net benefit for biodiversity within their own administrative boundaries and co-operation may be needed to identify, capture and monitor net benefits for biodiversity across larger areas, making use of existing regional mechanisms or setting up new voluntary arrangements. Collaboration on this basis will mean exploring ways in which land may be identified and set aside to deliver net benefits for biodiversity and establishing where contributions could come forward towards the funding of nature recovery projects. It may also be possible as part of a co-ordinated approach to establish a position where net benefits for biodiversity are banked in advance of smaller scale developments coming forward. Net benefits for biodiversity would need to be monitored to ensure they are not lost to future development and that development proposals do not impact existing and previously agreed areas of net benefit for biodiversity128."*

6.4.10: *"The broad framework for implementing the Section 6 Duty, securing a net benefit for biodiversity and building resilience through the planning system includes addressing all of the following attributes:*

Diversity: at a biological level, including at the genetic, species, habitat, ecosystems or sea/landscape scale, as well as at the geological and physical level underpins biodiversity, resilient ecosystems, their functioning and the delivery of important ecosystem services. More diverse ecosystems are more resilient to external influences (this includes biological, geological and physical diversity on a site). This means strategic planning and individual development proposals should avoid negative impacts on biodiversity by considering how biodiversity assets can be maintained and enhanced;

Extent: to ensure mechanisms allow for the identification of potential habitat, the maintenance of existing biodiversity assets and networks and promote the restoration of damaged, modified or potential habitat and the creation of new additional habitat, as ecosystems which are small in extent are less resilient to external influences. This means that strategic planning and individual development proposals must avoid loss in the extent of biodiversity and incorporate measures to appropriately maintain and enlarge existing habitats, especially where extent is small or declining, through habitat restoration and creation with adjoining and nearby areas, green infrastructure features and networks;

Condition: Ecosystems and biodiversity assets need to be in a healthy condition to function effectively, to deliver a range of important ecosystem services and be more resilient to external influences. Ecosystem health can be adversely affected by a range of pressures including land use and climate change, pollution, Invasive Non-Native Species and over exploitation as set out in SoNaRR. Good condition requires sufficient scale and functioning natural processes or appropriate management to provide structural complexity and sustain diverse mosaics of habitats. Strategic planning and individual development proposals must not compromise the condition of ecosystems. By taking an integrated landscape approach to development, for example, which considers both direct, indirect and cumulative impacts and benefits, and seeks to reduce pressures it should be possible to make a positive

contribution. Planning for and securing the long term management of retained habitats is key to maintaining condition through for example, the use of planning obligations;

Connectivity: to take opportunities to develop functional and physical connectivity of biodiversity and ecological networks within and between ecosystems and across landscapes, building on existing connectivity and quality and encouraging habitat creation, restoration and appropriate management, including the links within and between habitats, allows species to forage, breed and migrate and respond to climate change and other pressures, as well as enabling the flow of natural processes (however, measures should be taken to prevent undesired flows such as INNS and nutrients). The opportunities to be taken at a strategic level could include enlarging habitat areas, developing buffers around designated sites or other biodiversity assets or corridors, including transport and river corridors, removal of barriers and the creation of 'stepping stones' which will strengthen the ability of habitats and ecological networks to adapt to change, including climate change. Individual development proposals should identify and incorporate measures which enable appropriate links to be made between the site and its surroundings so as to improve connectivity; and

Adaptability to change: resistance and recovery from pressures arise when the attributes of ecosystem resilience – diversity, extent, condition and connectivity of ecosystems are in good condition. Habitats and species are not static: planning for nature recovery should aim to sustain habitats and associated species as the geography and landuse changes around them, harnessing natural processes and opportunities for nature-based solutions. This means that strategic planning and individual development proposals should identify impacts to the ecosystem resilience attributes of biodiversity, using the pressures identified in SoNaRR. They should incorporate measures to ensure that biodiversity's ability to adapt to, resist and recover from pressures is enhanced. Enhancement of resilient ecological networks and securing and enhancing green infrastructure will be key ways of achieving this, as well as facilitating social and economic resilience aspirations of the Well-being of Future Generations Act."

6.4.11: *"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 minimized, 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."*

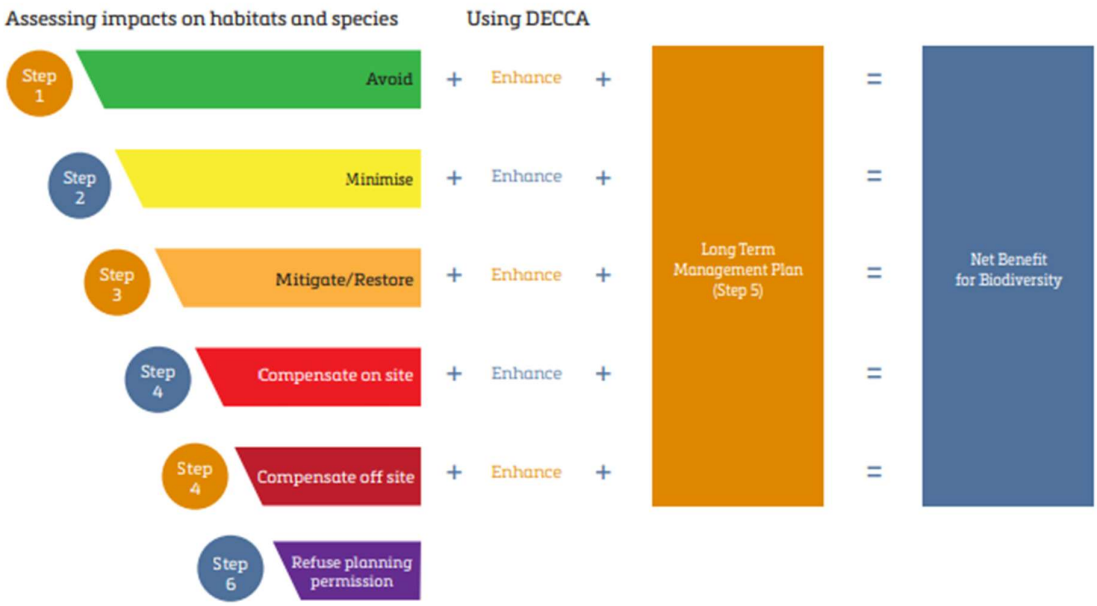
6.4.12: *"Having worked iteratively, in line with Figure 12, through the stages of the step-wise approach below, and providing evidence in the Green Infrastructure Statement that the step-wise approach has been followed, a scheme of enhancements must be provided to ensure a net benefit for biodiversity. Where biodiversity enhancement proportionate to the scale and nature of the development is not proposed as part of an application, significant weight will be given to its absence, and unless other significant material considerations indicate otherwise, it will be necessary to refuse permission. Enhancement measures could include on-site, locally relevant, habitat creation and/or could be part of the development itself favouring the use of native species using biodiverse nature-based solutions such as SuDS, green roofs, grassland management for wildflowers or reptile refugia, woodland expansion, and wetland creation."*

6.4.13: *"Improving ecosystem resilience, particularly improving connectivity to the immediate surroundings, would be a key contribution to on-site avoidance, minimisation, and mitigation strategies and enhancement. How a development would improve the attributes of resilience should be demonstrated as far as this is reasonably practical."*

6.4.14: *"Planning authorities can ensure biodiversity enhancement is undertaken at each stage of the step-wise approach below through attaching planning conditions and/or other*

obligations to a planning permission. Planning authorities should take care to ensure that any conditions necessary to implement this policy are relevant to planning and the development to be permitted, and are enforceable, precise, and reasonable in all other respects."

Figure 12: Summary of the Step-Wise Approach



6.4.15: *"The Step-Wise Approach*

1a) The first priority for planning authorities is to avoid damage to biodiversity in its widest sense (i.e. the variety of species and habitats and their abundance) and ecosystem functioning. Where there may be harmful environmental effects, planning authorities will need to be satisfied that any reasonable alternative sites (including alternative siting and design options) that would result in less harm, no harm or benefit have been fully considered.

1b) Proposals in statutory designated sites are, as a matter of principle, unacceptable and therefore must be excluded from site searches undertaken by developers. This principle also extends to those sites containing protected species and habitats which are irreplaceable129 and must be safeguarded. Such sites form the heart of resilient ecological networks and their role and the ecosystem services they provide must be protected, maintained and enhanced and safeguarded from development. It will be wholly exceptional for development to be justifiable in such instances.

2. When all locational, siting and design options for avoiding damage to biodiversity have been exhausted, applicants, in discussion with planning authorities, must seek to minimise the initial impact on biodiversity and ecosystems by:

• maintaining the largest possible area of existing habitat supporting biodiversity and functioning ecosystems, particularly Section 7 habitats and species where present, by minimising development size and appropriate orientation on site, paying due regard to the potential for continued long term maintenance and management of retained areas to benefit biodiversity;
• ensuring that retained habitats continue to be well connected to adjacent habitats to provide connectivity for key species and ensuring that the favourable conservation status of local species populations is maintained;

• retaining existing features, develop a management plan for their future care (e.g., trees, hedgerows, species rich grasslands, heath, wetlands, ponds and freshwater habitats) and use appropriate buffers to protect these from construction and operational impacts; and
• using proven innovative/creative solutions (where required) to minimise damage and maintain existing biodiversity features and ecosystems in tandem with robust monitoring and rectification strategies. 3a) Where, after measures to minimise impact, biodiversity and ecosystems could still be damaged, or lost through residual impacts, the proposed development should mitigate that damage. Mitigation measures must be put in place to limit the negative effects of a development.
• maintaining the largest possible area of existing habitat supporting biodiversity and functioning ecosystems, particularly Section 7 habitats and species where present, by minimising development size and appropriate orientation on site, paying due regard to the potential for continued long term maintenance and management of retained areas to benefit biodiversity;
• ensuring that retained habitats continue to be well connected to adjacent habitats to provide connectivity for key species and ensuring that the favourable conservation status of local species populations is maintained;
• retaining existing features, develop a management plan for their future care (e.g., trees, hedgerows, species rich grasslands, heath, wetlands, ponds and freshwater habitats) and use appropriate buffers to protect these from construction and operational impacts; and
• using proven innovative/creative solutions (where required) to minimise damage and maintain existing biodiversity features and ecosystems in tandem with robust monitoring and rectification strategies. ~

3a) Where, after measures to minimise impact, biodiversity and ecosystems could still be damaged, or lost through residual impacts, the proposed development should mitigate that damage. Mitigation measures must be put in place to limit the negative effects of a development.

3b) Effective mitigation or restoration measures should be incorporated into the design proposal following the consideration of steps one and two above. Mitigation or restoration measures must be designed to address the specific negative effects by repairing damaged habitats and disturbed species. They should seek to restore in excess of like for like, accounting for disturbance and time lags for the recovery of habitat and species, and in every case, mitigation or restoration measures should seek to build ecosystem resilience within the site and where possible the wider area. In some circumstances, where like for like mitigation measures are not possible, particularly in respect of restoration measures, it may be necessary to consider on site compensation measures in the first instance. In designing mitigation measures where uncertainty exists, applicants should follow the precautionary principle and assume a significant effect. Off-site compensation measures (as set out in step four below) should be considered as a last resort.

4. When all the steps above have been exhausted, and where modifications, alternative sites, conditions or obligations are not sufficient to secure biodiversity outcomes further on-site/immediately proximate, as a last resort off-site compensation for unavoidable damage must be provided. This must be of significant magnitude to fully compensate for any loss. In the absence of a planned approach, compensation measures must be guided by place-based evidence and the onus is on applicants to address the following:

a. Off-site compensation should normally take the form of habitat restoration, or habitat creation, or the provision of long-term management agreements to enhance existing habitats and deliver a net benefit for biodiversity. It should also be informed by a full ecological assessment to establish a formal baseline before habitat creation or restoration starts and secured far enough in advance before the loss of biodiversity on site.

b. The Green Infrastructure Assessment should be used to identify suitable locations for securing off-site compensation. Where possible, a landscape–scale approach, focusing on

promoting wider ecosystem resilience, should help guide locations for compensation. The Green Infrastructure Assessment should provide a spatial guide to opportunities already identified for securing a net benefit for biodiversity. Using the assessment will help determine whether locations for habitat compensation should be placed close to the development site, or whether new habitat or additional management located further away from the site would best support biodiversity and ecosystem resilience at a wider scale.

c. Where compensation for specific species is being sought, the focus should be on maintaining or enhancing the population of the species within its natural range. This approach might also identify locations for providing species-specific compensation further away from the site. Where they exist, Spatial Species Action Plans should be used to help identify suitable locations.

d. Any proposed compensation should be place based, take account of the Section 6 Duty (Biodiversity and Resilience of Ecosystems Duty), the DECCA framework and appropriate ecological advice from the local authority Ecologist, NRW or a suitably qualified ecologist.

5. Each stage of the step-wise approach must be accompanied by a long term management plan of agreed and appropriate avoidance, minimisation, mitigation/restoration and compensation measures alongside the agreed enhancement measures. The management plan should set out the immediate and on-going management of the site, future monitoring arrangements for all secured measures and it should clearly identify the funding mechanisms in place to meet the management plan objectives. The management plan must set out how a net benefit for biodiversity will be achieved within as short a time as possible and be locally responsive and relevant to local circumstances.

6 Finally, where the adverse effect on biodiversity and ecosystem resilience clearly outweighs other material considerations, the development should be refused."

6.4.16: *"The following factors will affect the implementation of the above step-wise approach:*

• Pre-application surveys, research and data searches by developers will be necessary to establish the baseline state of biodiversity and ecosystem resilience on site taking into account the site's contribution to resilient ecological networks through its diversity, extent, connectivity and condition and the provision of ecosystem services.130 For householder scale applications, planning authorities should outline expectations regarding information required to accompany an application, recognising that the enhancement measures sought should be proportionate to the scale of the application. Understanding the ecological context of a development will be essential in facilitating/enabling a proportionate response to the significance of any potential impact.
• Potential applicants should not conduct any pre-emptive site clearance works before submitting a planning application as this can make it more difficult for a development proposal to secure a net benefit for biodiversity. Where a site has been cleared prior to development its biodiversity value should be deemed to have been as it was before any site investigations or clearance took place. A net benefit for biodiversity must be achieved from that point. Habitat status can be established through evidence remaining on site and local desk-based assessments (planning authorities must ensure that they have access to these data sources). In such cases, habitat status will be presumed to be good in the absence of any evidence to the contrary.
• All development must deliver a net benefit for biodiversity and ecosystem resilience from the baseline state (proportionate to the scale and nature of the development proposed). Even if the biodiversity value has been maintained, there must still be a pro-active process to look for and secure enhancement through the design and implementation of the development."

APPENDIX 2: METHODOLOGY

Desk Study

Background Records Search

xix The preliminary ecological assessment includes a desk study to obtain background records relevant to a Site and the Scheme. The data obtained provides contextual information for the scope of field surveys, to aid the evaluation of field survey results, and to provide supplementary information where complete field survey coverage is not possible.

xx The Study Area is dependent upon the nature, timing and scale of the Scheme, as well as the location of the Site and the surrounding landscape. These variables all contribute to what is referred to as the Zone of Influence (ZoI) of the Scheme, which is the area over which ecological features may be affected by biophysical changes because of the works and associated activities.

xxi On 09/12/2025 the Local Records Centre was contacted to obtain the following ecological data:

- Records of non-statutory designated sites within 1km of the Site boundary;
- Records of legally protected and notable species (fauna and flora) within 1km of the Site boundary,
- Designated sites of nature conservation importance (statutory sites only) within 1km of the Site. This was extended to 5km for internationally designated sites: Special Protection Areas (SPAs), Wetlands of International Importance (Ramsar sites) and Special Areas of Conservation (SACs); and,
- Notable habitats within 1km of the Site, these being areas of ancient woodland and 'Habitats of Principal Importance for the Conservation of Biodiversity' included in the England Biodiversity List.

Great Crested Newt Pond Search

xxii Ordnance Survey maps and the Where's the Path website (https://wtp2.appspot.com/wheresthepath.htm) have been used to identify the presence of water bodies within 500 m of the Site boundary, in order to help establish if the land within and immediately surrounding the Site could be used by great crested newts. This species can use suitable terrestrial habitat up to 500 m from a breeding pond (English Nature, 2001), though there is a notable decrease in great crested newt abundance beyond 250 m from a breeding pond (Natural England, 2004).

Field Survey

xxiii The preliminary ecological assessment includes a walkover survey of the Survey Area (all land within the Site), broadly following the methodology set out in the UKHab survey guidance (UKHab Ltd, 2023). This survey method records information on habitat types and is 'extended' to record any evidence of and potential for protected or notable species to be present. Plant names recorded during the survey follow (Stace, 2019).

xxiv During the walkover survey, the following protected or notable species are considered:

- **Badger**: the survey involves searching for signs of badger activity including setts, tracks, snuffle holes and latrines, following the methodology detailed in (Scottish Natural Heritage, 2018) and (Harris, 1989).
- **Bats**: the survey involves searching for potential roosting sites for bats within trees and structures (such as buildings, bridges or underground features such as mines) and categorising the potential of those trees or structures to support roosting bats (buildings: negligible to high, or confirmed roost; trees: confirmed roost, PRF-M or PRF-I), in accordance with Bat Conservation Trust (BCT) (Collins, J. (Eds.), 2023) guidance.
- **Hazel dormouse**: the survey involves assessing the potential of habitats within the Survey Area to support hazel dormouse, following English Nature guidance (English Nature, 2006);
- **Otter**: the survey involves assessing the potential of watercourses and water bodies, and adjacent terrestrial habitat within the Survey Area to support otter, following RSPB (Ward, 1994) and (Chanin, 2003) guidance;

- **Water vole**: the survey involves assessing the potential of watercourses and water bodies within the Survey Area to support water vole, following The Mammal Society (Dean, 2016) guidance;
- **Birds**: the survey involves assessing the potential of habitats within the Survey Area to support breeding, wintering or migrating birds, either individually notable species or assemblages of both common and rarer species;
- **Great crested newt**: the survey involves assessing the potential of habitats within the Survey Area to support great crested newt, following English Nature (English Nature, 2001) and Froglife (Froglife, 2001) guidance;
- **Reptiles**: the survey involves assessing the potential of habitats within the Survey Area to support reptiles (typically adder, grass snake, common lizard and slow worm only, though in some locations and habitat types (most notably heathland) may also include smooth snake and sand lizard), following Froglife (Froglife, 1999) and JNCC ((Joint Nature Conservation Committee, 2003) guidance;
- **Notable species of invertebrate**: the survey involves assessing the potential of habitats within the Survey Area to support notable species of invertebrates, both terrestrial and aquatic (including white-clawed crayfish);
- **Protected or Notable species of plants**: the survey involves recording protected or notable plant species;
- **Other notable species**: the survey involves assessing the potential of habitat within the Survey Area to support other Notable Species, such as hedgehog, brown hare, polecat or common toad;
- **Non-native invasive plant species**: the survey involves recording evidence of the presence of invasive plants listed on (Wildlife and Countryside Act , 1981 (as amended)) and subject to strict legal control.

Biodiversity Accounting

xxv The biodiversity net gain (BNG) assessment involves making a comparison between the biodiversity value of habitats present within the Site prior to a development (i.e. the 'baseline') and the predicted biodiversity value of habitats following the completion of the Scheme (i.e. 'post development'). The comparison is undertaken in terms of 'biodiversity units', with the Statutory Biodiversity Metric[11] providing the mechanism to allow biodiversity values to be calculated and compared. The BNG assessment is conducted in accordance with the Statutory Biodiversity Metric User Guide[12] and BNG good practice principles[13].

xxvi The metric assesses and generates separate outputs for area-based habitats, hedgerow habitats and watercourse habitats. A development cannot claim to achieve net gain until biodiversity net gains are predicted across all area-based, hedgerow and watercourse habitats.

xxvii The calculation for area-based and hedgerow habitats calculates biodiversity units as follows:

- Before Works = Distinctiveness Score x Condition Assessment x Area/Length x strategic significance
- After Works = ((Distinctiveness Score x Condition Score x Area/ Length x strategic significance) / Time to Target Condition) / Difficulty of Creation/Restoration

xxviii The five factors are determined as set out below:

- Distinctiveness Score – High, Medium or Low, based on UK habitat classifications.
- Condition Score – Good, Fairly good, Moderate, Fairly poor or Poor, based on habitat condition assessment (as recorded using the Statutory Biodiversity Metric condition assessment sheets[14]).
- Area/Length – hectares (ha)/ length (km) of habitat type.
- Strategic significance – High (Within area formally identified in local strategy), Medium (Location ecologically desirable but not in local strategy) and Low (Area/compensation not in local strategy/ no local strategy).

[11] DEFRA (2023). The Statutory Biodiversity Metric DEFRA (2023). The Statutory Biodiversity Metric

[12] DEFRA (2023). The Statutory Biodiversity Metric User Guide

[13] CIEEM, IEMA & CIRAI (2019). Biodiversity Net Gain: Good Practice Principles for Development, A Practical Guide

[14] DEFRA (2024). Statutory Biodiversity Metric Condition Assessments.

- Time until target condition – time period (in years) until the target condition will be achieved.
- Difficulty of creation/restoration – a score applied to account for risk associated with creating/restoring different types of habitat.

Limitations

xxix The aim of a desk study is to help characterise the baseline context of a proposed development and provide valuable background information that would not be captured by a single site survey alone. Information obtained during the course of a desk study is dependent upon people and organisations having made and submitted records for the area of interest. As such, a lack of records for a particular habitats or species does not necessarily mean that the habitats or species do not occur in the study area. Likewise, the presence of records for particular habitats and species does not automatically mean that these still occur within the area of interest or are relevant in the context of the proposed development.

xxx An ecological survey represents a 'snapshot' in time of the ecological condition of a Site. The ecological character of a Site can change substantially throughout both the course of a year, and from year to year impacting on the extent and quality of habitats potential to support protected species.