
Preliminary Ecological Appraisal Report

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TGF Barn, Saffron Walden



07/01/02022

Project Reference: 65204804

Document Reference: 65204804 -SWE-ZZ-XX-RP-J-0001

Revision: C01

Prepared For: Brinkworth

Status / Revisions

| Rev. | Date | Reason for issue | Prepared | | Reviewed | | Approved | |
|-------------|-------------|-----------------------------|-----------------|----------|-----------------|----------|-----------------|----------|
| C01 | 07.01.22 | | CL | 08.12.21 | SB | 14.12.21 | JS | 05.01.21 |

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1 Non-technical Summary

This preliminary ecological appraisal report has been prepared by Sweco for Brinkworth, and relates to proposed residential development at TGF Barn, Friars Manor, Tindon End Rd, Saffron Walden CB10 2XT, grid reference TL 61363 33726 for which detailed planning permission will be sought.

The purpose of this report is to identify potential ecological constraints to development, inform recommendations for design change, highlight opportunities for ecological enhancement and determine the need for further survey work and/or assessment to confirm baseline ecological conditions.

An extended UK habitat classification survey was carried out in November 2021, to map the habitats present on site and assess their potential to support notable/protected species.

The site comprises of a mixture of buildings, artificial unvegetated unsealed surface developed land, sealed surface, ponds, modified grassland, modified grassland with scattered trees, priority hedgerows with scattered trees, species-poor hedgerow, broadleaved woodland and artificial unvegetated unsealed surface with ephemeral.

The findings of the extended UK Habitat classification survey confirm that the habitats on-site have the potential to support great crested newts, bats, bird, reptiles and hedgehogs. The following further survey work is therefore recommended at the appropriate time (and prior to any planning application) to establish an ecological baseline for these taxa:

- Great crested newt eDNA survey (samples taken April-June)

Given the on-site presence of potential bird nesting habitat, any clearance of vegetation, or buildings that support suitable nesting features, should be timed to avoid the bird breeding season (March-August inclusive). If this is not possible, these habitats can only be removed following confirmation by a suitably qualified ecologist that they are not in active use by nesting birds.

Opportunities exist for the provision of ecological enhancements in the form of

- Use of native plant species within soft landscaping
- Integrated bird and bat boxes within the new buildings
- Bird and bat boxes erected onto retained trees
- Habitat buffer areas
- Inclusion of log piles to provide refuge for hedgehogs, reptiles and/or amphibians
- Pond maintenance

2 Limitations and Exceptions

This report and its findings should be considered in relation to the terms and conditions proposed and scope of works agreed between Sweco and the client.

Interpretations and recommendations contained in the report represent our professional opinions, which were arrived at in accordance with currently accepted industry practices at the time of reporting and based on current legislation in force at that time.

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This report is prepared and written in the context of the proposals stated in the introduction to this report and should not be used in a differing context. Furthermore, alterations to the initial proposals or changes in conditions on site over time may necessitate an alteration to the report in whole or in part after its submission. Therefore, in the event of any change in proposals or lapse of one year or more from the date of the report, the content of the report should not be relied upon unless referred to Sweco for validation and, if necessary, re-appraisal.

Scientific survey data will be shared with local biological records centre in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) professional code of conduct.

This report was prepared only for our client and is not intended to be relied on by any other party. Third parties should not rely on the facts, matters or opinions set out in this report without the express written permission of Sweco.

Please note that Sweco does not purport to provide specialist legal advice.

General Survey Limitations

Unless stated specifically, drawings and plans are indicative only. As such, the position of features marked on the plans or drawings should not be taken as 100% accurate.

Preliminary ecological appraisal does not assess the presence or absence of species but is used to assess the potential for habitat to support them. Where a species is seen or there is clear and recent evidence of the presence of a species, this is reported.

With reference to the CIEEM guidelines (ref. 1), a preliminary ecological appraisal report is not suitable to support a planning application. This is because where there is the potential for ecological constraints, further survey work is necessary to determine if an actual constraint is present and establish baseline conditions. Once all ecological constraints have been confirmed following any further surveys or assessments that may be required, the effect of the proposals in relation to each of these constraints should be assessed in an ecological impact assessment report, which should be suitable to support a planning application.

Site Specific Limitations

Due to the time of year when the site visit was undertaken, some plant species were not identifiable. However, this does not affect the categorisation of UK habitat types.

Access was not given for all the ponds, but HSI scores were calculated to the accessible ponds and so it was considered that an accurate assessment could be made.

3 Introduction

3.1 Purpose

This preliminary ecological appraisal report (PEAR) has been prepared by Sweco for Brinkworth, and relates to proposed residential development at TGF Barns, Friars Manor, Tindon End Rd, Saffron Walden CB10 2XT, for which detailed planning permission will be sought.

The purpose of this report is to:

- identify potential ecological constraints to development
- determine the need for further survey work to confirm baseline ecological conditions in order to produce an ecological impact assessment (EclA) to support a planning application
- highlight opportunities for ecological enhancement.

3.2 Site Description

The site occupies an area of approximately 0.7 ha and is located around national grid reference TL 61363 33726, to the south of Wimbish.

Habitats on-site include buildings, artificial unvegetated unsealed surface, developed land sealed surface, ponds, modified grassland, modified grassland with scattered trees, priority hedgerows with scattered trees, species-poor hedgerow, broadleaved woodland and artificial unvegetated unsealed surface with ephemeral.

The site is predominately surrounded by arable fields, hedgerows and small areas of woodland, with a minor road to the west.

The indicative site red line boundary is shown in figure 1 below.

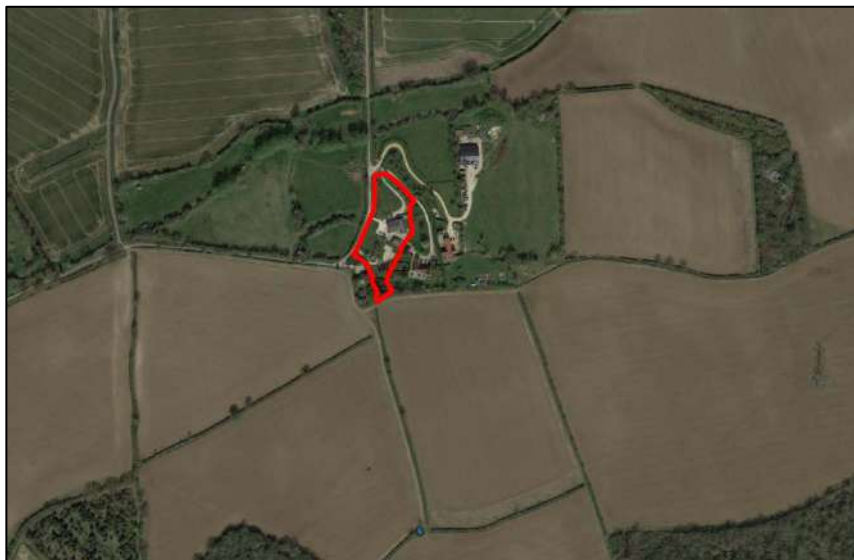


Figure 1. Indicative site boundary shown by red line

Map data: © Google 2021: Getmapping Plc, Infoterra Ltd & Bluesky, Maxar Technologies, Map Data © 2021

3.3 Proposed Development

The proposed development comprises of closing off the central driveway, redeveloping the main barn, constructing a car port and a swimming pool, as shown on Brinkworth's drawing 3000 Proposed Site Plan.

4 Legislative and Policy Context

4.1 Current UK Legislation

The main pieces of legislation relating to ecology within England and Wales are:

- **The Conservation of Habitats and Species Regulations 2017** (as amended) transposes European Union Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive) into national law. These regulations provide for the designation and protection of 'European Sites', the protection of 'European Protected Species' and the adaptation of planning controls for the protection of such sites and species. Under the regulations, public bodies have a duty in exercising their functions to have regard to the EC Habitats Directive.
- **The Wildlife and Countryside Act 1981** (as amended) provides detail on a range of protection and offences relating to wild birds, other animals, and plants. The level of protection depends on which Schedule of the Act the species is listed on. Licences are available for specific purposes to permit actions that would otherwise constitute an offence in relation to species.
- **The Natural Environment and Rural Communities (NERC) Act 2006** imposes an obligation on all public bodies, including local authorities, to consider whether their activities can contribute to the protection of wildlife. The duty is created by section 40(1) of the Act, which states that: "Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity."
- **The Protection of Badgers Act 1992** exists for welfare reasons, to protect badgers (*Meles meles*) from cruelty. Under the act it is a criminal offense to wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so, or to intentionally or recklessly interfere with a sett.

The reader is referred to the original legislation for definitive interpretation.

4.2 Planning Policy

The recommendations of this report are in line with the key principles of the National Planning Policy Framework (ref. 2) and Government Circular 06/05 (ref. 3).

Local planning policies relating to ecology are invariably based on the conservation of species protected under the above legislation, including species and habitats of principal importance listed under Section 41 of the NERC Act 2006; and the protection of designated sites. All of these features are considered within the scope of this PEAR and therefore any recommendations made herein are likely to be in line with this policy.

5 Methods

5.1 Technical Approach

The PEA has been undertaken following CIEEM's guidelines (ref. 4) and British Standard 42020:2013 (ref. 5). This approach has been employed to provide an indication of the ecological importance of the site and the potential for the site to be used by protected species. As such, the work required has been carried out in accordance with the key principles of the National Planning Policy Framework (ref. 2) and Government Circular 05/06 (ref. 3).

Common names and binomial scientific names of plant species identified are as they appear in Stace (ref. 6).

The conclusions and recommendations for further works are in accordance with current legislation and guidance.

5.2 Personnel

This report was produced by Courtney Long, BSc (Hons), who has over one season's experience in ecological consultancy including surveys and mitigation for a range of protected species and in producing preliminary ecological appraisals and impact assessments. All surveyors used to establish baseline information are suitably qualified and experienced; surveyors' names and qualifications are stated under each survey heading below. This report was reviewed by Sophie Barrell MEdol (Hons) ACIEEM who has over five years' experience and by Joshua Stafford BSc (Hons) MRSB who has over 11 years' experience in ecological consultancy and production of preliminary ecological appraisals and impact assessments.

5.3 Scope of the Assessment and Zone of Influence

The Zone of Influence (ZOI) is the area over which ecological features may be subject to change as a result of the proposed development and associated activities (ref. 7). The ZOI varies depending on the ecological feature concerned and can extend beyond the site boundary. Where possible, ZOIs will be determined using the results of professionally accredited or published scientific studies. Where such studies are not available, the ZOI will be determined using the professional judgement of a suitably experienced and qualified ecologist. This is in line with professional guidelines (ref. 7).

Given the size and location of the site the zone of influence was generally taken to be the site boundary and its immediate environs only, although the following below exceptions apply:

- Statutory designated sites: The ZOI was considered as 24km for internationally important statutory designated sites, 3km for nationally and locally important designated sites and 2km for ancient woodland. These distances were chosen based on best professional judgement.
- Non-statutory designated sites: An Essex Field Club Records Centre (EFC) standard 2km ZOI was considered sufficient (ref. 8). This distance was chosen based on best professional judgement.

- Bats: An EFC records centre standard 2km ZOI was considered sufficient. This distance was chosen based on best professional judgement.
- Great crested newt: A 500m ZOI from the site boundary was considered sufficient, based on professional guidelines (ref. 9).
- Badgers: A 20m ZOI was considered sufficient, based on Natural England guidelines (ref. 10).
- Water vole: a 5m buffer zone around any watercourse/wetland habitat was considered a sufficient ZOI, based on professional guidelines (ref. 11).
- Otter: a 150m ZOI around any watercourse/wetland habitat was considered a sufficient ZOI, based on professional guidelines (ref. 12).

5.4 Desk Study

The Multi-Agency Geographic Information for the Countryside (MAGIC) (ref. 13) online database was consulted to obtain geographic information on nationally and/or internationally important site designations of relevance to the site and the location of granted protected species licences.

Essex Field Club (EFC) was contacted for details of any non-statutory designations and records of protected/notable habitats and species within 2km of the site's boundary. Only records of protected species from within the last 10 years are considered within this report.

Online mapping tools were used to check for the presence of any ponds within 500m of the site boundary in order to inform an assessment of habitat availability and connectivity for great crested newt (*Triturus cristatus*).

5.5 UK Habitat Classification System Survey

An extended UK habitat classification system survey of the site (see figure 1) was undertaken on 8 November 2021 by Josh Stafford, BSc (Hons), and Courtney Long. Weather conditions at the time of the survey were dry and overcast, with an ambient temperature of approximately 9°C.

A list of plant species was compiled in accordance with methodology required to establish UK Habitat Classification types (ref. 14) up to level 4. Level 5 was recorded wherever possible, with care to accurately record all habitats of priority importance (if present). Secondary codes were added to polygons where deemed appropriate, taking special care to map mandatory codes for habitat mosaic, complex and origin. Survey was undertaken at the fine scale minimum mapping unit (MMU) of 25m² (polygons) and 1m width/5m long (lines). Key ecological features below the MMU in either area or length were mapped as points.

Habitats were classified and assessed in terms of both their conservation importance and potential to support notable and/or protected species (based on habitat suitability and/or field signs).

The following was searched for and recorded if present during the survey:

- All field signs of protected species or those of conservation interest, including burrows, droppings, footprints and hairs
- Refuges and particular habitat types to be used by certain classes of fauna
- Any mammal paths if found were noted and followed where possible
- Entry points for fauna along fence and/or hedgerow boundaries if present
- Incidental sightings of invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

5.5.1 Bat

Only accessible buildings and established trees adjacent to the site were inspected and assessed in terms of their suitability (negligible, low, moderate or high) to support roosting bats, in line with the Bat Conservation Trust (BCT) survey guidelines (ref. 15).

5.5.2 Great crested newts

Ponds/ditches within 500m of the site boundary were subject to a Habitat Suitability Index assessment to assess their suitability for great crested newts (*Triturus cristatus*) where access was possible, in line with relevant guidelines (ref. 16).

The survey was carried out from the site boundary and covered all areas visible from the fence line.

6 Results

6.1 Designated Sites

All relevant desk study data relating to designated sites is attached in appendix A.

Consultation of the MAGIC online interactive mapping tool confirms the presence of one nationally important statutory designation is present within 3km of the site boundary. There are no internationally important statutory designations present within 24km of the site boundary.

The Essex Field Club has confirmed the presence of 22 non-statutory designations within the 2km search radius.

6.2 Habitats

The results of the UK Habitat survey are presented below and on Sweco drawing 65204804-SWE-ZZ-00-DR-J-0001, which also shows the location of any target notes.

The following habitat types are present on site:

- Buildings (u1b5)
- Artificial unvegetated unsealed surface (u1c)
- Developed land; sealed surface (u1b)
- Ponds (r1a-19)
- Modified grassland (g4)
- Modified grassland with scattered trees (g4-11)
- Priority hedgerows with scattered trees (h2a-11)
- Species-poor hedgerow (h2b)
- Broadleaved woodland (w2c)
- Artificial unvegetated, unsealed surface with ephemeral (u1a-17)

Appendix B provides a list of plant species encountered for the habitats listed; as such for these plants scientific names are not provided below.

6.2.1 Buildings (u1b5)

There are 2 buildings on-site (labelled B1 and B2 on Sweco drawing 65204804-SWE-ZZ-00-DR-J-0001), all of which were subject to preliminary bat roost assessment. Descriptions of each of these buildings are provided in Table 6.2 below, with photographs of each building presented below the table. Pictures of the buildings and potential bat roosting features are show in Photos 1-17.

Table 6.2 Building Descriptions

| Ref. No. | Description |
|-----------|---|
| B1 | Two-storey wood-panel building with slanted corrugated-tin roof. Ground floor walls are rendered. Roof isn't insulation and is partially sealed to the eaves. |
| B2 | Single storey wood-panel building with slanted corrugated roof. The structure has a few windows and insulation in the roof. |



Photo 1. Building 1



Photo 2. Gaps in the roof of Building 1

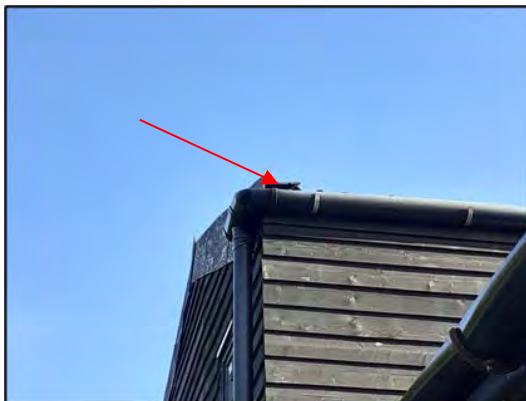


Photo 3. Gap in the roof of Building 1



Photo 4. Gap in the roof of Building 1

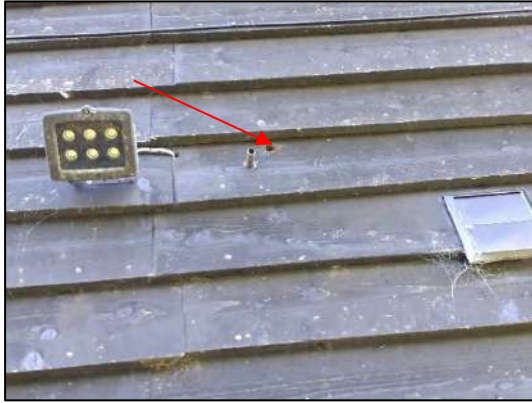


Photo 5. Hole in the outer wall of Building 1



Photo 6. Gap in the door frame of Building 1



Photo 7. Gap in outer wall for ventilation Building 1

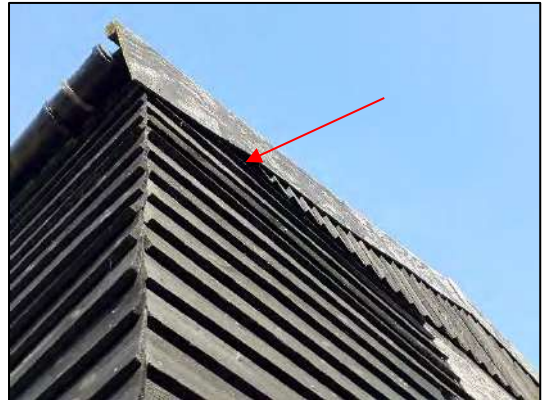


Photo 8. Gap in the roof panel of Building 1



Photo 9. Gap in the roof panel of Building 1



Photo 10. Building 2



Photo 11. Gap between corrugated iron and outer wall of Building 2



Photo 12. Gap in outer wall, roof and insulation of Building 2



Photo 13. Gap between corrugated iron and outer wall of Building 2



Photo 14. Gap in outer wall of Building 2



Photo 15. Gap in outer wall and insulation of Building 2



Photo 16. Gap in outer wall of Building 2



Photo 17. Building on neighbouring property with loose tiles and ivy

6.2.2 Artificial unvegetated unsealed surface (u1c)

The middle driveway was comprised free-draining, white-stone loose gravel and a solitary cherry tree. Potted plants were also present along the driveway including rose species and a bay plant.

The southern driveway is well-used and comprised bare ground.



Photo 18. Southern driveway

6.2.3 Developed land. Sealed surface (u1b)

The north driveway comprised tarmac hardstanding.

6.2.4 Ponds (r1a-19)

There are four within or adjacent to the site boundary, shown in Photos 17-22 and on drawing 65204804-SWE-ZZ-00-DR-J-0001. The vegetation within and on the edges of the ponds comprised lilies, water mint, yellow flag iris, dove's-foot crane's-bill and duckweed. Photo 17 to 22 shows that Pond 3 had better macrophyte cover and terrestrial habitat than pond 1 and pond 2. Pond 1 had a grass pile and pond 3 a pile of logs covered in mud, both of which could act as hibernaculum's (see target notes 1 and 2 on drawing 65204804-SWE-ZZ-00-DR-J-0001).



Photo 19. Pond 1



Photo 20. Bare ground and grass pile hibernaculum (TN1) by pond 1.



Photo 21. Pond 2 by woodland edge and amenity grassland



Photo 22. Pond 3



Photo 23. Log pile hibernaculum (TN2)

6.2.5 Modified grassland (g4)

Modified grassland dominates the habitat on site and comprised well-maintained, short lawns of perennial ryegrass with dove's-foot crane's-bill and dandelions. An area of modified grassland in the north, located outside of the site boundary, was comprised perennial ryegrass with creeping buttercup, white clover and bristly ox-tongue.

6.2.6 Modified grassland with scattered tree (g4-11)

The modified grassland in the north also comprised scattered trees including field maple, hawthorn, and lime. The south modified grassland scattered trees included hornbeam, willow and hawthorn. The small, modified grassland along the east boundary was mostly a well-maintained, short lawn of perennial ryegrass mixed with dove's-foot crane's-bill and a patch of bare ground with a central beech tree. Along the south hedgerow was a pile of logs from an old telephone pole which could act as a hibernaculum, as show in Photo 24 (see target note 3 on drawing 65204804-SWE-ZZ-00-DR-J-0001).



Photo 24. Telephone pole log pile (TN3)

6.2.7 Priority hedgerows with scattered trees (h2a-11)

The hedgerow along the west site boundary (H3 and H4) were comprised eight woody species its canopy: blackthorn, dogwood, elder, field maple, hawthorn, hazel, hornbeam, spindle and dog rose. The ground flora comprised bramble, hawthorn, ivy, oak sapling, red-dead nettle, white-dead nettle and spindle. Both hedgerows had scattered field maple, however the north also had a scattered ash tree. Both hedgerows have over seven woody species, and therefore are considered important hedgerows under Hedgerow Regulations 1997.



Photo 25. South Hedgerow with scattered field maple facing south

6.2.8 Species-poor hedgerow (h2b)

There are six species-poor hedgerows. H1, H2, H5, H7 and H8 are comprised solely of cherry laurel, while H6 was comprised solely of Leyland cypress. H5 had two scattered trees of Leyland cypress.

6.2.9 Broadleaved woodland (w2c)

The broadleaved woodland comprised oak, ash and field maple in the canopy. The ground layer was mostly bare ground, with garlic mustard and ivy. In the north section of the woodlands, there was a portion of a ponds.

6.2.10 Artificial unvegetated unsealed surface with ephemeral (u1c-17)

The free-draining, loose gravel driveway is now populated by scattered ephemeral species such perennial ryegrass, common dock, moss, willowherb, creeping thistle, weld, mallow, bristly ox tongue, bramble, ribwort plantain and dandelion. There was a brash pile in this habitat which could act as a hibernaculum, shown on Photo 34 (see target note 4 on drawing 65204804-SWE-ZZ-00-DR-J-0001).



Photo 26. Ephemeral habitat and brash pile (TN4)

6.3 Species and Species Groups

The records obtained from EFC found the following species were within 2km of the site boundary:

- Bats
- Breeding birds
- Great-crested newts (*Triturus cristatus*)
- Reptiles

6.3.1 Bats

There are 33 records of 6 species including a record of a common pipistrelle in close proximity to the site. The species include western barbastelle (*Barbastella barbastellus*), common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*) and brown long-eared bat (*Plecotus auritus*). The hedgerows, trees, ponds and woodland provide suitable foraging and commuting habitat for bats on site. A number of trees and building structures have potential roosting features. In the woodland, there was several trees with potential bat roosting features, described in Table 6.1 (see target notes 5 to 10 on drawing 65204804-SWE-ZZ-00-DR-J-0001).

MAGIC found that there were three European Protected Species license Application granted: a 2011 license for common pipistrelle and western barbastelle ~1.5 km north of site, a 2017 license for common pipistrelle, soprano pipistrelle and brown long-eared bat ~ 1.8Km north-east, and a 2012 license for common pipistrelle, brown long-eared bat and Nathusius's pipistrelle ~1.8 km north-east.

Building 1 and Building 2 had a number of potential roost features identified during the inspection and however, upon closer inspection it was clear that much of the weather boarding lead immediately onto insulation boards, leaving no cavities or spaces for bats to roost. Further the holes along the soffits, walls and roof lead directly into the building, with no roof space or cavity wall they there is nowhere for bats to shelter inside the buildings as both the workshop and house are in constant use and exposed to the light sources from windows and internal lighting, thus rendering them unsuitable for bats. Further the owner explained that the weather boarding and corrugated metal roofing of both buildings had recently been removed and replaced in an effort to weatherproof both the main house and adjacent workshop meaning that the roof and wooden weather boarding are relatively new.

Table 6.1 shows that one tree had high roost suitability, two had moderate suitability and three had low roost suitability.

Table 6.1: Trees with roosting features and roost suitability of the trees

| Tree ref. | External roosting evidence and/or potential roost features | Roost suitability |
|-------------|---|-------------------|
| TN5 | Field maple with ivy cover, some dead branch and lose bark | Low |
| TN6 | Hawthorn with ivy covered bark | Low |
| TN7 | Ash tree with two trunks, both covered in ivy | Moderate |
| TN8 | Mature veteran oak with dead branches, lose bark and cavity | High |
| TN9 | Ash tree covered in ivy | Moderate |
| TN10 | Willow with large hole close to ground | Low |



Photo 27. Field maple (TN5) with cracked bark and cover in ivy



Photo 28. Close-up of branch from TN5 with cracked bark



Photo 29. Hawthorn covered in ivy (TN6)



Photo 30. Mature ash trees covered in ivy (TN7)

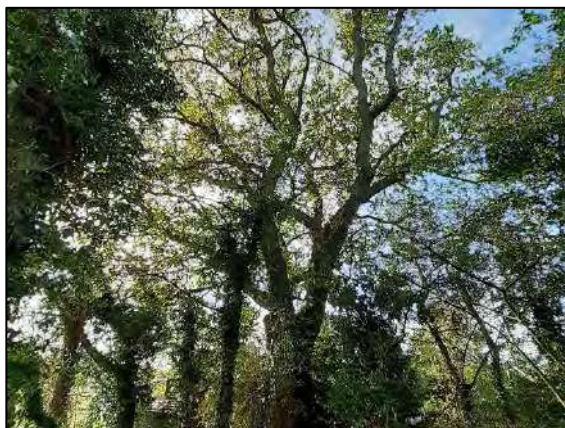


Photo 31. Veteran Oak tree (TN8)

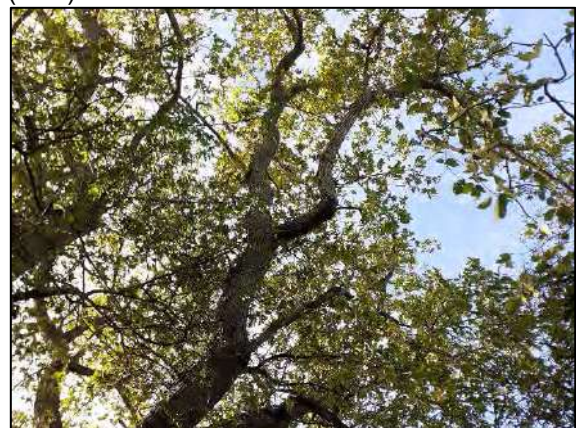


Photo 32. Dead branch on TN8



Photo 33. Dead branch with crack on TN8



Photo 34. Willow (TN10) with large hole and ivy cover

6.3.2 Great crested newt and amphibians

There was one records of great crested newts within ~600m, including one recorded as a mortality on the road directly adjacent to the site. In addition, 1 common frog (*Rana temporaria*) were recorded within 2km of the site. The site provides suitable breeding habitat comprising four ponds on or adjacent to the site, in addition to suitable terrestrial habitat for amphibians within the grassland, woodlands and the hedgerows with trees. The site also provides four hibernaculum, two of which are on the edges of ponds on site.

MAGIC found that there were three GCN licence returns within 2km; a GNC survey ~680m south-east of site showing presence in 2016 was the closest, then four ~1700m north-east showing precence in 2016 and then ten ~1750m north-east showing precense. HSI scores for ponds within 500m with habitat connectivity with the site are included as Appendix C. The HSI assessment found that pond 3 and 4 have average suitability; pond 1 and 2 have below average suitability and pond 8 has poor suitability.

6.3.3 Reptiles

There are two records of common lizards (*Zootoca vivipara*) with the closest being 1.8km from site. Anecdotal evidence was also presented when the landowner commented that they found a grass snake during hedge cutting. There is therefore some potential for reptiles on site within the rougher areas of the grassland and along the hedgerows with trees.

6.3.4 Birds

SBIS has provided numerous records of wintering birds such as redwings, fieldfare, skylarks, yellowhammer, brambling, and starlings within 2km which may utilise the site or surrounding areas. Records of birds which may utilize the site for breeding include marsh tit, starling, house sparrows and barn owl (one records 2km from site) close proximity to the site. The grassland, hedgerow with trees, scattered trees, ponds and woodlands provide wintering and breeding habitat for numerous species of species on site.

6.3.5 Badgers

There is 5 records of badgers within 2km, with one in close proximity to the site. The broadleaved woodland, hedgerows and grassland is suitable for badge. However, no sign of badgers was found on site.

6.3.6 Hedgehogs

There are 11 records of hedgehogs within 2km, with one in close proximity to the site. Suitable habitat for hedgehogs, such as the woodland and hedgerow, are present on site.

6.3.7 Water vole

There are 1 records of water vole within 2km, with one in close proximity to the site. The ditches on site are not suitable to support water vole.

7 Ecological Constraints, Opportunities and Recommendations

The evaluation in this section is based on the site survey on 8 November 2021. For purposes of the assessment, it is assumed there has been no change in the condition of the site since the site survey (unless otherwise stated).

7.1 Ecological Constraints and Recommendations

Table 7.1 provides a breakdown of the important ecological features, which could pose a constraint, that have been identified for the site and the associated recommendations including further survey work, assessments, mitigation and/or considerations for the scheme design.

Table 7.1 Identified Ecological Constraints and Recommended Action(s)

| Important Ecological Feature (Ecological Constraint) | Legislation/Policy | Recommended action(s) |
|--|---|--|
| Mature trees and woodland | NERC | Mature trees should be retained where possible. If removal of mature trees is proposed further survey is required to ensure legally protected species are not present prior to their removal. In addition, assessment of adequacy of any mitigation or compensation measures is required. Any trees that contain features suitable for bats should be subject to further survey (see bats below) |
| Hedgerows | NERC | Hedgerows are a priority habitat with two of the hedgerows being species-rich which are considered important under the Hedgerow Regulations and should be retained where possible. If removal of any hedgerows is necessary, then further survey is required to ensure legally protected species are not present prior to their removal. In addition, assessment of adequacy of any mitigation or compensation measures is required as part of the EclA. |
| Nesting birds | WCA WCA Sch 1 NERC BoCC Red/Amber BD Annex1 | It is recommended to retain the buildings, hedgerow, trees, woodland and ponds on site that offer potential bird nesting opportunities. Any habitats to be removed should be cleared in the winter months or following a nesting bird check if within the breeding bird season (March to August inclusive). |

| Important Ecological Feature (Ecological Constraint) | Legislation/Policy | Recommended action(s) |
|--|------------------------------|--|
| Bats | WCA Sch 5 NERC HabRegs | Habitats onsite (woodland, hedgerow, and scattered trees) support, roosting, commuting and foraging bats. If trees with bat potential will be removed, then further surveys are required. The potential for bats to use these features is considered to be low to high, so up to three surveys including one dusk and one dawn survey, carried out by suitably licensed and experienced surveyors in accordance with current BCT guidance is required. The surveys should take place a minimum of two weeks apart. Surveys can only be carried out between May and September inclusive. Should any bats be found using any of the features then further survey effort will be required (to make a total of three survey visits per feature utilised by bats) and a licence will be required from Natural England to destroy the roost lawfully. Adequate mitigation will also be required. |
| Great crested Newts (GCN) | WCA Sch 5 NERC HabRegs | The ponds on site were found to be suitable breeding habitat for GCN. Suitable terrestrial habitat such as woodland, hedgerows are also present on site. A GCN eDNA surveys is therefore required to determine if GCN are present on site. This will include a single visit (March to June) If the eDNA tests return a positive result then full GCN surveys will be required to determine the population size and inform a licence from Natural England. This should include up to six site visits between mid-March and June. Alternatively, a GCN district licence may be obtained. |
| Reptiles | WCA Sch 5 | The grassland, hedgerows, log pile and brash pile on site is suitable for reptiles. Vegetation clearance should follow a method statement, as recommended by EcIA. |
| Badger | PBA | There was no sign of badgers on site, but a badger check is recommended 3 months before work is to start to ensure no badgers have colonised the site. |
| Hedgehog | NERC | No survey required; however, the retention of some suitable habitat, such as the woodlands, hedgerows and gardens, is recommended to reduce any impact that the development may have on this species. |

WCA - Wildlife and Countryside Act 1981 (as amended). WCA Sch 1 - Wildlife and Countryside Act 1981 (as amended) Schedule 1.

WCA Sch 5 - Wildlife and Countryside Act 1981 (as amended) Schedule 5 (killing, injuring and sale of animals). WCA Sch 8 - Wildlife and Countryside Act 1981 (as amended) Schedule 8 (protected plants). WCA Sch 9 - Wildlife and Countryside Act 1981 (as amended) Schedule 9 (invasive species). NERC - Natural Environment and Rural Communities Act 2006 Section 41. Species/habitats of principal importance. BD Annex 1- European Birds Directive, Annex 1. HabRegs- Conservation of Habitats and Species Regulations 2017 (as amended), Annex I, Annex II, Annex IV of the Habitats Directive. PBA - Protection of Badgers Act (1992). Red List Great Britain - CR (critically endangered), EN (endangered), VU (Vulnerable), NT (Near Threatened); BoCC Red/Amber - Birds of Conservation Concern - Red or Amber listed.

Following completion of the surveys and assessments required, as detailed in table 7.1 above, an EclA report should be produced in line with CIEEM guidance (ref. 7). This report should detail the methods and results of all the surveys and assessments undertaken, discuss the ecological baseline and the effect of the development on ecological features considering appropriate mitigation. This report will be suitable for submission with a planning application for the scheme

7.2 Opportunities for Enhancement

In order to enhance the site for biodiversity and help towards achieving a net gain at the site it is recommended that the following ecological enhancements appropriate for the scheme should be considered for inclusion:

- Use of native plant species within soft landscaping;
- Integrated bird and bat boxes within the buildings;
- Bird and bat boxes erected onto retained trees;
- Habitat buffer areas
- Pond maintenance

8 Conclusions

Residential development at TGF Barns, Friars Manor, Tindon End Rd, Saffron Walden CB10 2XT is proposed, for which detailed planning permission will be sought.

The following ecological constraints need to be considered:

- Mature trees and woodland
- Species-rich hedgerows
- Breeding birds
- Bats
- Reptiles
- Great crested newts
- Hedgehogs

In order to establish baseline ecological conditions at the site and potential effects of the development and so complete an EcIA the following survey and assessments are required:

- eDNA Great crested newt survey

The potential effects on ecological features could be reduced by including the following within the design for the scheme:

- Bat sensitive lighting
- Retention of the hedgerows on site, particularly the species-rich important hedgerows along the eastern boundary
- Retention of the woodland
- Retention of the ponds
- Retention of log and grass piles to provide refuge for hedgehogs, reptiles and/or amphibians

Opportunities exist for the provision of ecological enhancements in the form of

- Use of native plant species within soft landscaping;
- Integrated bird and bat boxes within the buildings;
- Bird and bat boxes erected onto retained trees;
- Habitat buffer areas
- Pond maintenance

9 References

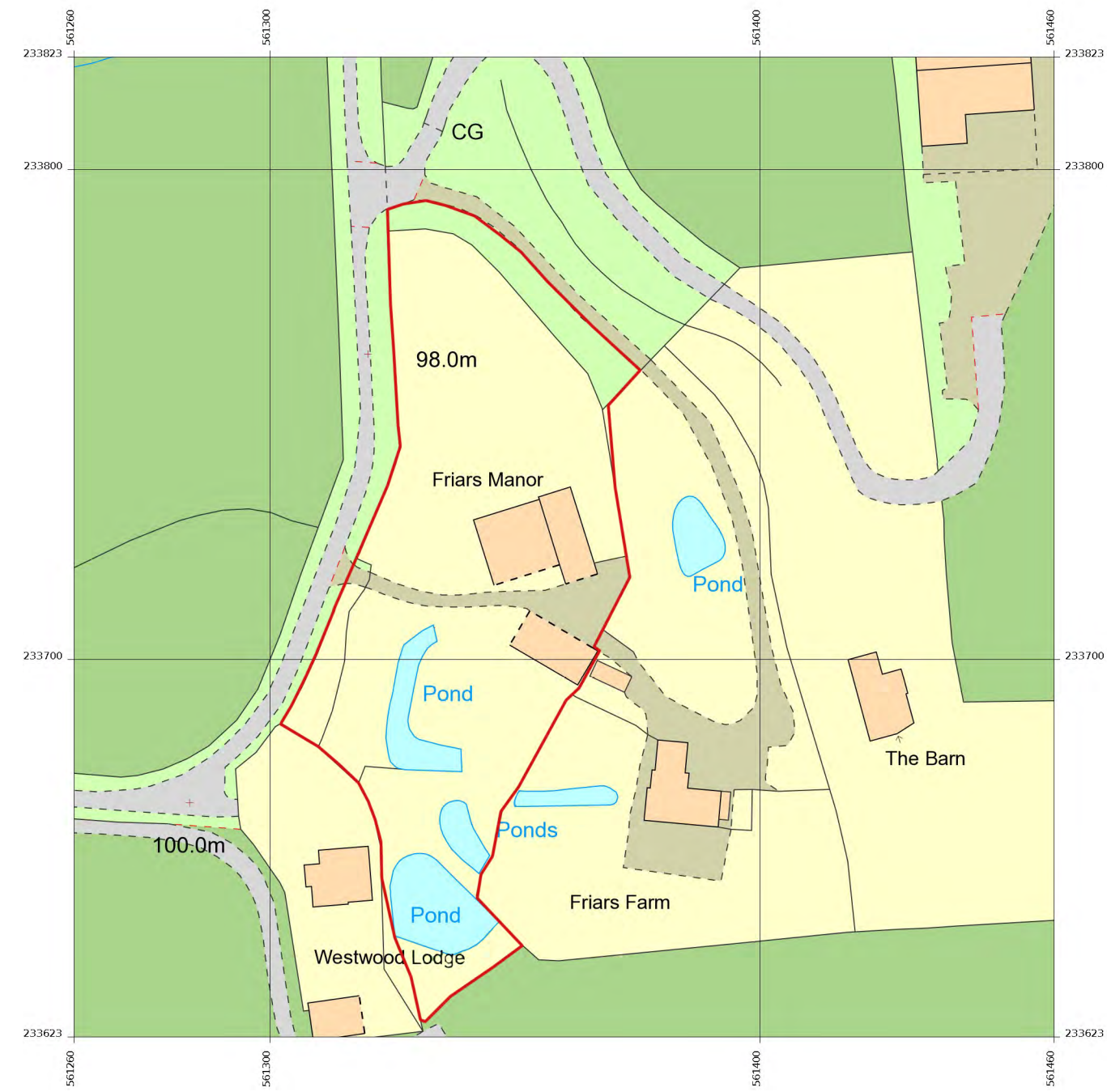
- 1 CIEEM (December 2017) Guidelines for Ecological Report Writing, 2nd ed. Chartered Institute of Ecology and Environmental Management, Winchester.
- 2 Ministry of Housing, Communities and Local Government (February 2019). National Planning Policy Framework.
- 3 ODPM (2005) Government Circular: Biodiversity and Geological Conservation – statutory obligations and their impact within the planning system.
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- 14 Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2020). The UK Habitat Classification User Manual Version 1.1 at <http://www.ukhab.org/>.
- 15 Collins, J. (ed.)(2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd ed). The Bat Conservation Trust, London.
- 16 Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). Herpetological Journal 10 (4), 143-155

Drawings

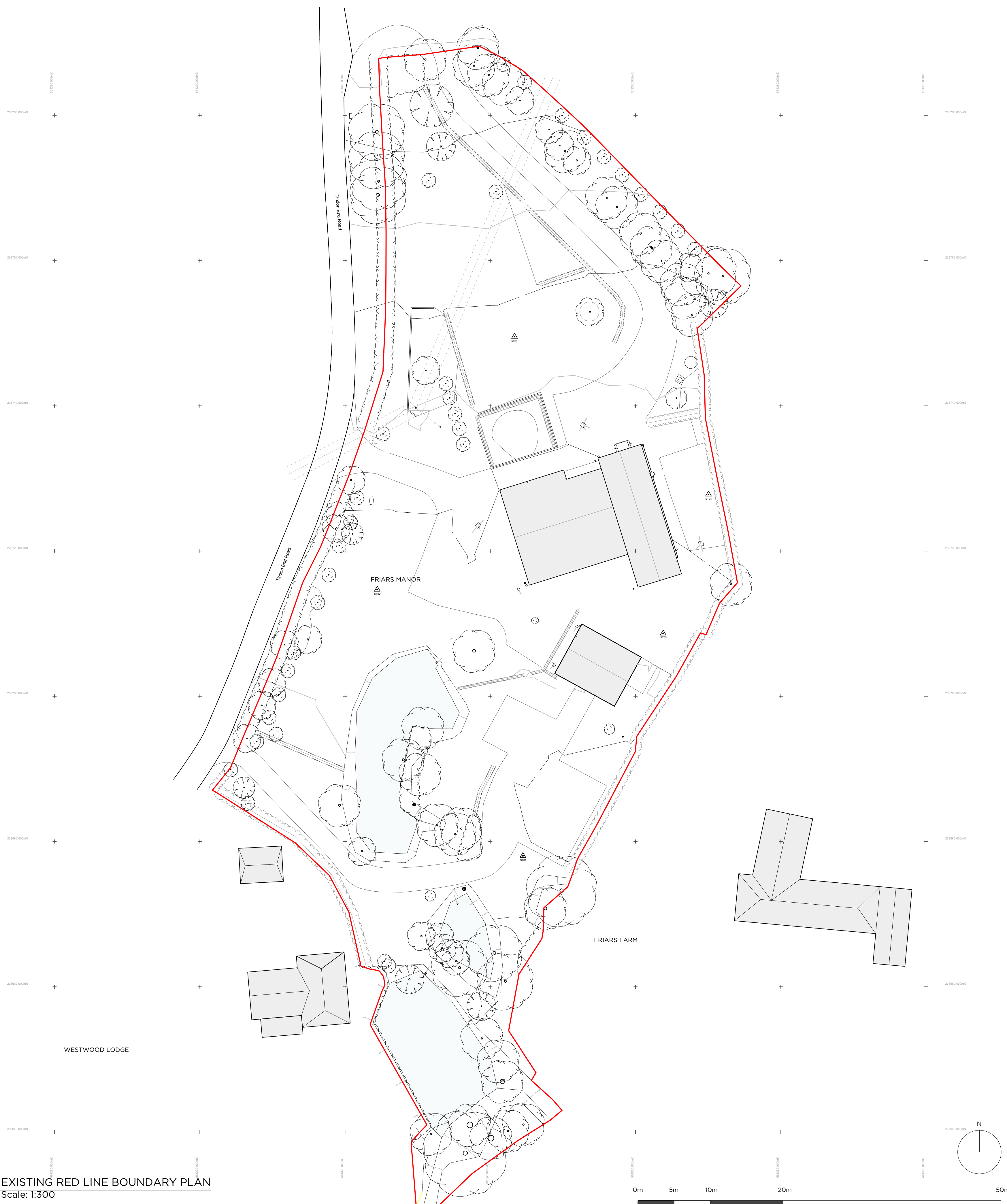
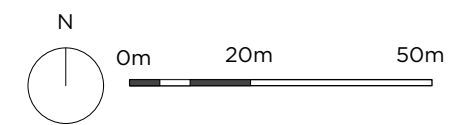
1010-Red Line Boundary Plan: Layout of site

3010-Proposed Red Line Boundary Plan: Proposed plans for site

65204804-SWE-ZZ-XX-DR-J-0001: UK Habitat Survey



2 EXISTING LOCATION PLAN
1:1250



1 EXISTING RED LINE BOUNDARY PLAN
Scale: 1:300

NOTES:

— FRIARS MANOR BOUNDARY LINE

FRIARS MANOR: 6059 sqm
0.606 Hectares
1.5 Acres

STATUS:

SK

REVISION:

BRINKWORTH

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WWW.BRINKWORTH.CO.UK
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CLIENT R & D Lehtonen - Riley

JOB TGF Barn

TITLE Red Line Boundary Plan

JOB NO. 3979 DWG. NO. 1010

DRAWN BY WW CHECKED BY

SCALE 1:300 & 1250

DATE 01/21 REV

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PRIMARY DRIVEWAY

CLOSE OFF CENTRAL DRIVEWAY
& REPLANT HEDGE.

PRIVATE ACCESS TO SITE &
GARAGES.

1 PROPOSED RED LINE BOUNDARY PLAN
Scale: 1:300

1



NOTES:

— FRIARS MANOR BOUNDARY LINE

STATUS:

SK

REVISION:

BRINKWORTH

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CLIENT R & D Lehtonen - Riley

JOB TGF Barn

TITLE Proposed Red Line Boundary Plan

| | |
|--------------|---------------|
| JOB NO. 3979 | DWG. NO. 3010 |
|--------------|---------------|

| | |
|-------------|---------------|
| DRAWN BY WW | CHECKED BY SC |
|-------------|---------------|

SCALE 1:300

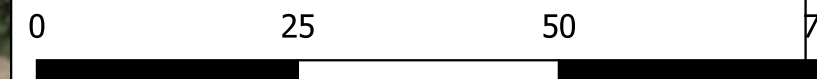
| | |
|------------|-----|
| DATE 04/21 | REV |
|------------|-----|

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Legend

- Site Boundary
- UK Habitat Classification**
- g4 - modified grassland
- w1g - other woodland-broadleaved
- h2a - hedgerow (priority habitat)
- h2b - other hedgerows
- u1b - developed land. sealed surface
- u1b5 - buildings
- u1c - artificial unvegetated unsealed surface
- u1d - suburban mosaic of developed/natural surface
- r1a - eutrophic standing waters
- Target nodes



| | | | | | |
|------|------------|---------------------|-------|---------|--------|
| C01 | 29.11.2021 | For Information | CL | XX | XX |
| Rev. | Rev. Date | Drawing Suitability | Drawn | Checked | Appr'd |

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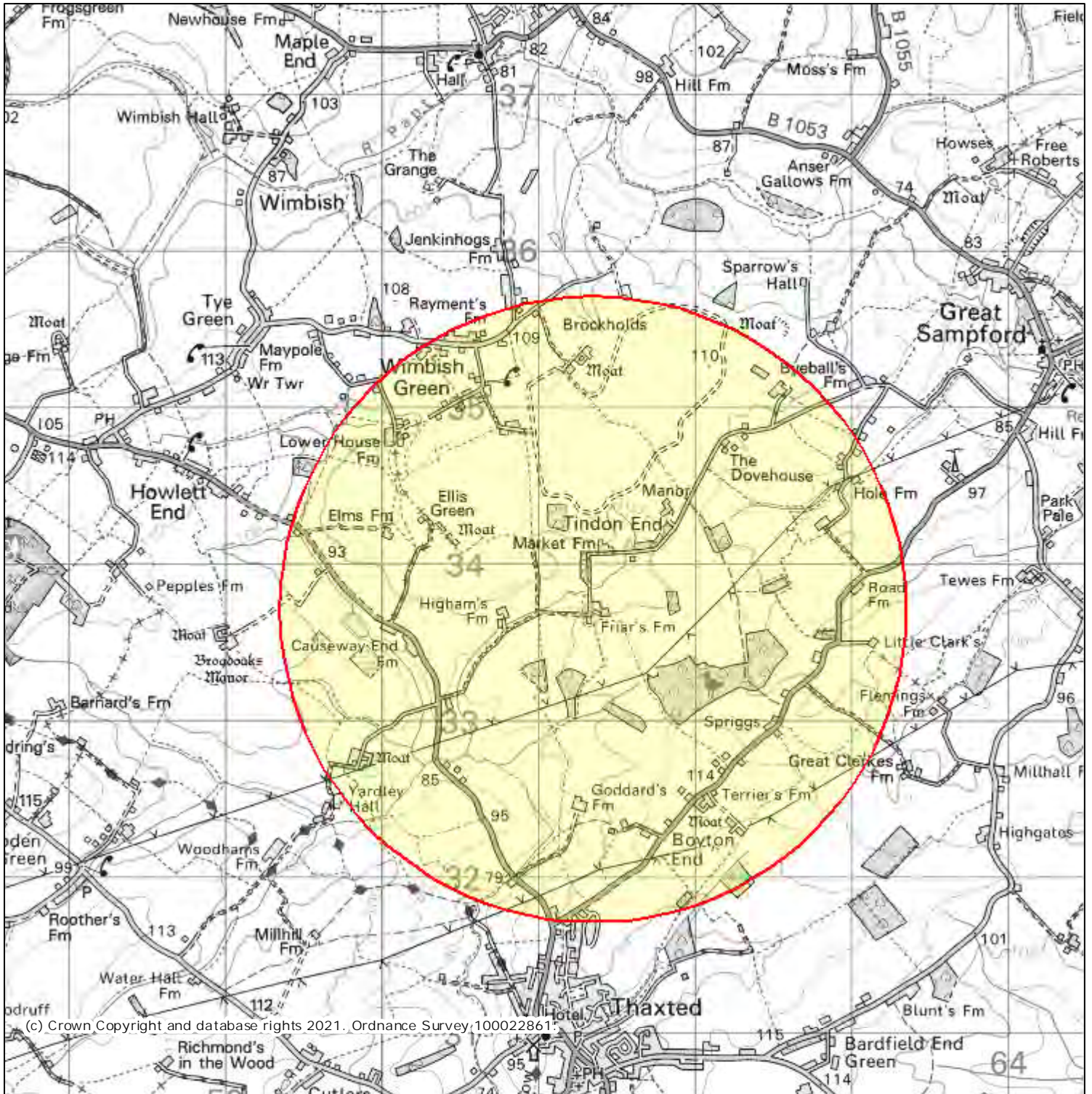
Project
TGF Barn

Drawing Title
UK Habitat map

| | | | |
|--------------|------------------------------|------------|-------|
| Status Desc. | Draft | Status | S2 |
| Project No. | 65202841 | Scale | 1:725 |
| Drawing No. | 65202841-SWE-ZZ-XX-DR-J-0001 | Sheet Size | A3 |

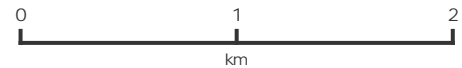
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Appendix A – Ecological Desk Study Data



Legend

 Local Nature Reserves (England)



Projection = OSGB36

xmin = 552400

ymin = 229600

xmax = 569700

ymax = 238600

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Essex Recorders partnership Datasearch Report

Essex Field Club

Registered Charity Number 1113963

In partnership with

Basildon Council

Buglife

Butterfly Conservation

Essex Amphibian & Reptile Group

Essex Bat Group

Essex Birdwatching Society

GeoEssex



Bio and Geodiversity data regarding Project TGF Barn Ecological Survey Radius 2km from TL6136133726

On behalf of

**Miss Courtney Long
Sweco Uk Limited Sweco**

EFC4669, 09 Nov 2021

When information in this report is used in a desk study, Environmental Statement or to support a planning application, then the report must also be put into the public domain and provided in full in the searchable pdf format in which it is supplied and not changed or redacted.

The Essex Field Club, Registered Charity Number 1113963.

Registered Office: Green Centre, Wat Tyler Country Park, Pitsea Hall Lane, Pitsea, Basildon, Essex SS16 4UH

Website: www.essexfieldclub.org.uk. Email: datasearch@essexfieldclub.org.uk or Phone: 01375 371571



Essex Recorders partnership

Essex Field Club

Registered Charity Number 1113963

In partnership with

Basildon Council

Buglife

Butterfly Conservation

Essex Amphibian & Reptile Group

Essex Bat Group

Essex Birdwatching Society

GeoEssex



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Basildon Council
BASILDON - BILLERICAY - WICKFORD



Essex Recorders partnership Datasearch Report

Project TGF Barn Ecological Survey
Search Area: Radius 2km from TL6136133726
Our Reference: EFC4669
Customer Reference: N/A
Dated: 09 Nov 2021

On behalf of:

Miss Courtney Long
Sweco Uk Limited Sweco

This report was compiled using records held by the County Recorders of the Essex Field Club, Basildon Council, Buglife, Butterfly Conservation, Essex Amphibian & Reptile Group, Essex Bat Group, Essex Birdwatching Society, GeoEssex and available at the time of creation.

Enclosed within this report is the following information specific to the enquiry site area:

| | |
|--|-------------------------------------|
| All of a Buzz in Thames Gateway Sites | <input checked="" type="checkbox"/> |
| B-lines | <input checked="" type="checkbox"/> |
| Nature Improvement Areas | <input checked="" type="checkbox"/> |
| Special Areas of Conservation | <input checked="" type="checkbox"/> |
| Special Protection Areas | <input checked="" type="checkbox"/> |
| Ramsar Sites | <input checked="" type="checkbox"/> |
| Marine Conservation Zones | <input checked="" type="checkbox"/> |
| Sites of Special Scientific Interest details | <input checked="" type="checkbox"/> |
| Areas of Outstanding Natural Beauty | <input checked="" type="checkbox"/> |
| Local Nature Reserves | <input checked="" type="checkbox"/> |
| Country Parks | <input checked="" type="checkbox"/> |
| Common Land | <input checked="" type="checkbox"/> |
| Ancient Woodland Inventory | <input checked="" type="checkbox"/> |
| Wood-Pasture and Parkland Inventory | <input checked="" type="checkbox"/> |
| Traditional Orchard Inventory | <input checked="" type="checkbox"/> |
| Priority Habitat Inventory | <input checked="" type="checkbox"/> |
| Invertebrate Assemblage Information | <input checked="" type="checkbox"/> |
| Protected Species | <input checked="" type="checkbox"/> |
| Priority Section 41 Species | <input checked="" type="checkbox"/> |
| National Red List and Scarce Species | <input checked="" type="checkbox"/> |
| Essex Red Data List Species | <input checked="" type="checkbox"/> |
| All Species Records | <input checked="" type="checkbox"/> |
| Invasive Species | <input checked="" type="checkbox"/> |
| Geological Sites | <input checked="" type="checkbox"/> |

1. Introduction

Biological species recording is largely undertaken by committed naturalists on a voluntary basis and on land with public access. Recording is much more rarely undertaken for planning and development purposes, or such data subsequently provided to centralised biological recording specialists, the County Recorders. Desk studies can therefore only ever provide guidance on what is already known about the species recorded in an area, and absence of species records for a search area does not mean they may not occur. For any site with potential nature conservation significance a full ecological site appraisal should be undertaken and species surveys carried out to complement the information contained in this report.

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Data accuracy

The Essex Recorders partnership does not guarantee the accuracy of any information supplied and shall have no liability for any loss, damage or expense incurred as the result of reliance on any information supplied.

The Essex Recorders partnership can only provide information based on the data held by us. In particular, the absence of records for a species does not necessarily indicate that the species itself is absent, merely that it not been recorded, that we have not received records for it or the data are unavailable in suitable format at this time.

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The data held by the Essex Recorders partnership is updated regularly and will become out-of-date. If you intend to use this data after a period of six months please contact us to confirm that we have no new records.

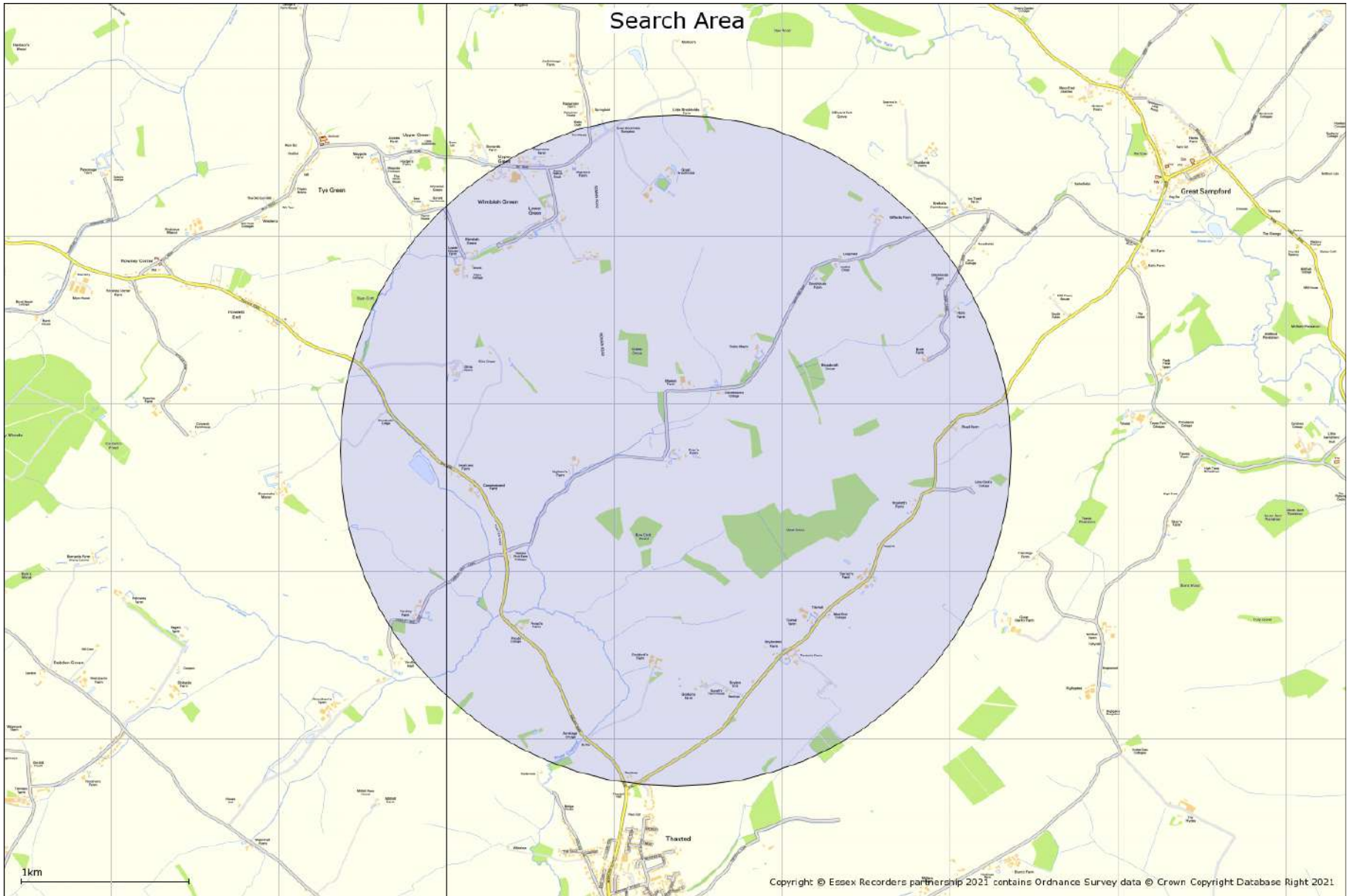
Designations

Except for Essex designations included in the Essex Biodiversity Action Plan or Essex Red Data List, or where otherwise indicated, designations used in this report are derived from the Joint Nature Conservation Committee (JNCC) Master list regardless of the status of the species in the county.

2. Data available through the Essex Recorders partnership

This report provides access to the following species datasets:

| Data Provider | Species Group | County Coverage |
|--|---|---------------------------------------|
| EFC/Essex Amphibian & Reptile Group | amphibians and reptiles | County data |
| Essex Field Club | honey bee and bumblebees | Countywide data |
| Essex Field Club | bees and wasps | County data |
| Essex Field Club | ants | County data |
| Essex Field Club | beetles | Available county data |
| Essex Field Club | centipedes and millipedes | County data |
| Essex Field Club | hoverflies | Available county data |
| Essex Field Club | soldier flies and allies | County data |
| Essex Field Club | flies (other) | County data |
| Essex Field Club | grasshoppers, crickets and allies | County data |
| Essex Field Club/Butterfly Conservation | butterflies | County data |
| Essex Field Club/Essex Moth Group | larger moths | County data |
| Essex Field Club/Essex Moth Group | micro moths | County data |
| Essex Field Club | leafhoppers and allies | Available county data |
| Essex Field Club | true bugs | Available county data |
| Essex Field Club | spiders | County data |
| Essex Field Club | harvestmen | County data |
| Essex Field Club | pseudoscorpions | County data |
| Essex Field Club | flowering plant | Available county data |
| Essex Field Club | woodlice | County data |
| Essex Field Club | dragonflies & damselflies | Available county data |
| Essex Field Club | non-vascular plants | Available county data |
| Essex Field Club | other Hymenoptera | County data |
| Essex Field Club | molluscs | County data |
| Essex Field Club | lichens | Sample of data |
| Essex Field Club | fungi | Available county data |
| Essex Field Club | other mammals | County data |
| Essex Field Club | bats | County data |
| Essex Field Club | galls | Available data |
| Essex Field Club | Invasive species | Available data |
| Essex Field Club | birds | Club records |
| Essex Field Club/From the UK Caddisfly Recording Scheme dataset (2019) | caddisflies | County/National Recording Scheme data |
| Essex Field Club | slime moulds | Small number of records |
| EFC Schemes | EFC Schemes records | EFC Schemes records |
| Essex Bat Group | bats | Dataset |
| Essex Birdwatching Society | birds, with incorporated Birdtrack data | County data |



Sections on site designations

The following sections provide data on site designations in relation to the datasearch request search area. For statutory designated conservation sites, these are provided on maps expanded to cover a 5km radius.

We cannot currently provide information on Local Wildlife Sites. For these contact the local authority or see Essex Wildlife Trust and www.essexwt.org.uk/protecting-wildlife/local-wildlife-sites

3. All of a Buzz in the Thames Gateway

No All of a Buzz in the Thames Gateway sites are identified in relation to the search area

4. Nature Improvement Areas (NIAs)

See www.naturalengland.org.uk/ourwork/conservation/biodiversity/funding/nia/default.aspx

Nature Improvement Areas (NIAs) were introduced by the Government's Natural Environment White Paper to 'enhance and reconnect nature on a significant scale' in England.

Nature Improvement Areas encompass areas of land that include natural features and wildlife habitats but also include roads, housing developments and other man-made elements. They are areas that have been identified for their opportunities to restore nature at a landscape-scale alongside other land-uses.

These areas will become much better places for wildlife – creating more and better-connected habitats at a landscape scale, providing space for wildlife to thrive and adapt to climate change.

They will help people as well as wildlife – through enhancing a wide range of benefits that nature provides, such as recreation opportunities, flood protection, cleaner water and carbon storage.

NIAs should enhance existing ecological networks by:

- Increasing the number of wildlife sites
- Increasing the size of existing wildlife sites
- Improving connectivity between sites
- Creating wildlife corridors
- Improving the management of existing wildlife sites

The twelve initial NIAs extend from Morecambe Bay in the North West to the Wild Purbeck in the South West. One affecting Essex is the Greater Thames Marshes NIA in the south of the county.

No Nature Improvements Areas are identified near the search area

5. B-Lines network

Map shows routes within the B-Lines network, identified by Buglife and a wide range of conservation and landowner partners. B-Lines aims to coordinate the delivery of wildflower-rich habitats to aid pollinator movement across the landscape. For more information visit www.buglife.org.uk/b-lines

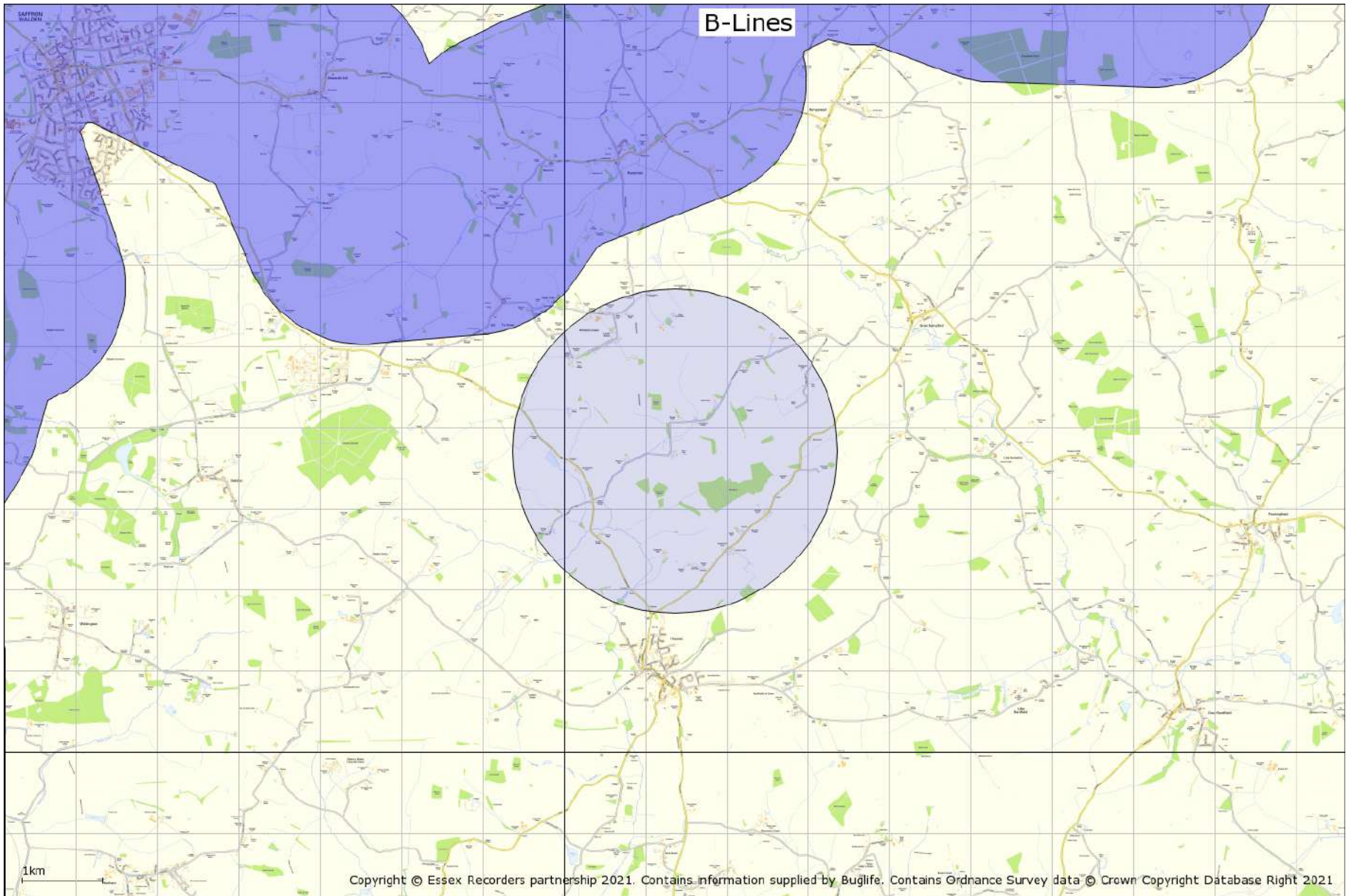
B-Lines is a landscape scale initiative to enhance declining pollinator populations by connecting up the best remaining wildflower-rich habitats through the creation or restoration of wildflower habitats. B-Lines was identified as a method to reverse pollinator declines in the National Pollinator Strategy's Implementation Plan, by aiding their movement across the fragmented landscape.

B-Lines are 3km corridors within which wildflower habitat restoration and creation can be focused and co-ordinated to maximise gains for pollinators. Habitat can be delivered by organisations, landowners, businesses, communities or individuals. Contribution to the B-Lines can be achieved through a variety of wildflower enhancement methods, such as habitat restoration (e.g. scrub clearance/re-introducing management/green haying), wildflower meadow creation in species poor grasslands, wildlife gardens, landowners entering agri-environment schemes, orchard planting, disturbance management and brownfield habitat creation, bee friendly formal planting, living roofs, etc.

Where relevant, planning applications in or around B-Lines should consider what they can contribute to the growing resources of pollinators in B-Lines. This will help to ensure that mitigation proposals align with ongoing work in the surrounding area for pollinators. It is important to note, however, that any planning applications should seek to protect and enhance the wildlife interests of all taxonomic groups and habitats, not pollinators and their requirements in isolation.

Buglife's online B-Lines hub includes an interactive map where habitat work can be uploaded to collate information on wildflower enhancements across the UK, as well as specific pollinator advice.

B-Lines identified in relation to the search area are shown on the map.



6. Special Areas of Conservation

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A Special Area of Conservation (SAC) is an area which has been given special protection under the European Union's Habitats Directive. SACs provide increased protection to a variety of wild animals, plants and habitats and are a vital part of global efforts to conserve the world's biodiversity.

See www.naturalengland.org.uk/ourwork/conservation/designations/sac/

No Special Area/s of Conservation are identified in relation to the search area

7. Special Protection Areas

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A Special Protection Area (SPA) is an area of land, water or sea which has been identified as being of international importance for the breeding, feeding, wintering or the migration of rare and vulnerable species of birds found within the European Union. SPAs are European designated sites, classified under the European Wild Birds Directive which affords them enhanced protection.

See www.naturalengland.org.uk/ourwork/conservation/designations/spa/

No Special Protection Area/s are identified in relation to the search area

8. Ramsar sites

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Ramsar sites are wetlands of international importance, designated under the Ramsar Convention.

Wetlands are defined as areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres.

Ramsar sites may also incorporate riparian (banks of a stream, river, pond or watercourse) and coastal zones adjacent to the wetlands, and islands or bodies of marine water deeper than six metres at low tide lying within the wetlands.

What is the Ramsar Convention?

The Ramsar Convention is an international agreement signed in Ramsar, Iran, in 1971, which provides for the conservation and good use of wetlands. The UK Government ratified the Convention and designated the first Ramsar sites in 1976.

See www.naturalengland.org.uk/ourwork/conservation/designations/ramsars/

No Ramsar Site/s are identified in relation to the search area

9. Marine Conservation Zone/s

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Marine Conservation Zones (MCZs) are a type of Marine Protected Area. They protect areas that are important to conserving the diversity of nationally rare or threatened habitats and/or species and those places containing habitats and/or species that are representative of the biodiversity in our seas.

The Marine and Coastal Access Act 2009 (Part 5) enables Defra Ministers to designate and protect Marine Conservation Zones (MCZs). These are a type of marine protected area, which will exist alongside European marine sites [Special Areas of Conservation (SACs) and Special Protected Areas (SPAs)], SSSIs and Ramsar sites to form an ecologically coherent network of marine protected areas.

See <http://www.naturalengland.gov.uk/ourwork/marine/mpa/mcz/default.aspx>

No Marine Conservation Zone/s are identified in relation to the search area

10. National Nature Reserves

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England's National Nature Reserves (NNRs) represent many of the finest wildlife and geological sites in the country. Our first NNRs emerged in the postwar years alongside the early National Parks, and have continued to grow since then.

Natural England is the body empowered to declare NNRs in England, the Reserves being a selection of the very best parts of England's Sites of Special Scientific Interest. It is this underlying designation which gives NNRs their strong legal protection. The majority also have European nature conservation designations.

Nearly every type of vegetation is found in England's NNRs, from coastal salt-marshes, dunes and cliffs to downlands, meadows and the subtle variations of our native woodlands. Scarce and threatened habitats such as chalk downs, lowland heaths and bogs and estuaries are conserved in NNRs.

Many NNRs contain nationally important populations of rare flowers, ferns and mosses, butterflies and other insects, and of course nesting and wintering birds. Examples include unique alpine plants at Upper Teesdale and the beautiful field of fritillary lilies at North Meadow, Cricklade, Wiltshire.

See www.naturalengland.org.uk/ourwork/conservation/designations/nnr/default.aspx

No National Nature Reserve/s are identified in relation to the search area

11. Sites of Special Scientific Interest

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There are over 4,100 Sites of Special Scientific Interest (SSSIs) in England, covering around 7% of the country's land area. Over half of these sites, by area, are internationally important for their wildlife, and designated as Special Areas of Conservation (SACs), Special Protection Areas (SPAs) or Ramsar sites. Many SSSIs are also National Nature Reserves (NNRs) or Local Nature Reserves (LNRs).

SSSIs are the country's very best wildlife and geological sites. They include some of our most spectacular and beautiful habitats - large wetlands teeming with waders and waterfowl, winding chalk rivers, gorse and heather-clad heathlands, flower-rich meadows, windswept shingle beaches and remote uplands moorland and peat bog.

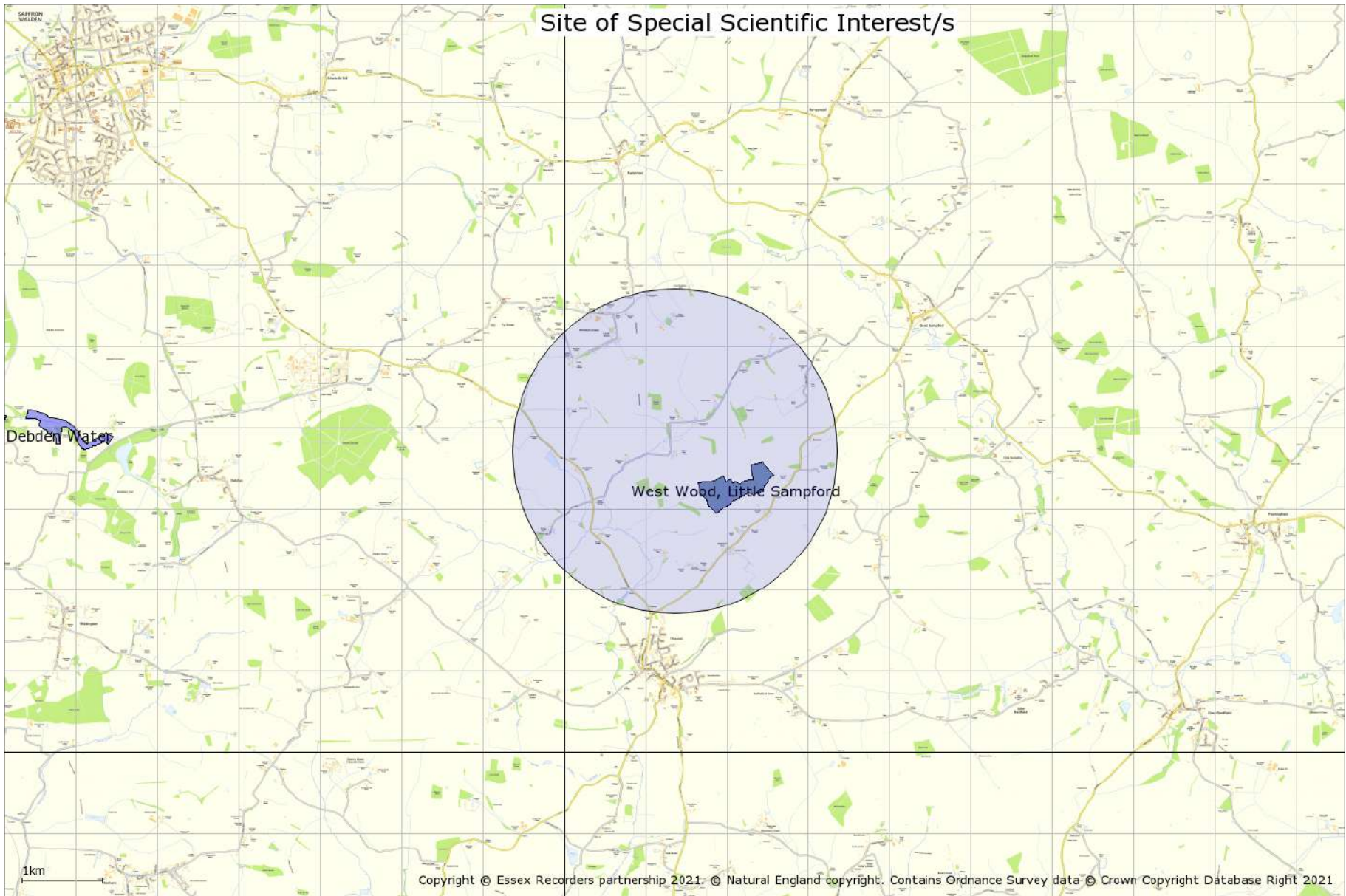
It is essential to preserve our remaining natural heritage for future generations. Wildlife and geological features are under pressure from development, pollution, climate change and unsustainable land management. SSSIs are important as they support plants and animals that find it more difficult to survive in the wider countryside. Protecting and managing SSSIs is a shared responsibility, and an investment for the benefit of future generations.

See www.sssi.naturalengland.org.uk/Special/sssi/index.cfm

Impact Risk Zones (IRZs) are a GIS tool developed by Natural England to make a rapid initial assessment of the potential risks posed by development proposals to: Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites. They define zones around each site which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts. For information on SSSI Impact Risk Zones (IRZs) is available from Natural England

There are 2 Site of Special Scientific Interest/s identified in relation to the search area.

Debden Water
West Wood, Little Sampford



12. Areas of Outstanding Natural Beauty

AONBs are designated areas where protection is afforded to protect and manage the areas for visitors and local residents. Under the Countryside and Rights of Way Act 2000, Natural England has the power to designate areas of outstanding natural beauty (AONBs) in England that are outside national parks and that are considered to have such natural beauty it is desirable they are conserved and enhanced; issue a variation order to change an existing AONB boundary. It also holds a duty to give advice on developments taking place in an AONB; take into account the conservation and enhancement of AONBs in its work.

Two AONBs are relevant to Essex, the Dedham Vale AONB and the extended Suffolk Coast and Heaths Area of Outstanding Natural Beauty which sees the AONB expand by around 38 square kilometres, taking in a rich tapestry of attractive river valleys, ancient woodland, reed beds, wildlife-rich estuaries, and windswept beaches. The area includes the Stour estuary – one of the most important wildlife estuaries in Europe and of international importance for wildfowl and waders.

No Areas of Outstanding Natural Beauty are identified in relation to the search area

13. Local Nature Reserves

© Natural England copyright. Contains Ordnance Survey data © Crown copyright and database right [2021]. NB This national dataset is “indicative” not “definitive”. Definitive information can only be provided by individual local authorities and you should refer directly to their information for all purposes that require the most up to date and complete dataset.

Local Nature Reserve (or LNR) is a statutory designation made under Section 21 of the National Parks and Access to the Countryside Act 1949, and amended by Schedule 11 of the Natural Environment and Rural Communities Act 2006, by principal local authorities.

Local Nature Reserves (LNRs) are for both people and wildlife. They are places with wildlife or geological features that are of special interest locally. They offer people special opportunities to study or learn about nature or simply to enjoy it.

By declaring Local Nature Reserves (LNRs), local authorities can provide many benefits for both people and wildlife.

To:

- increase people's awareness and enjoyment of their natural environment
- provide an ideal environment for everyone to learn about and study nature
- help to build relationships with national and local nature conservation organisations and local people protect wildlife habitats and natural features provide a great opportunity for people to become involved in managing their local environment offer a positive use for land which they would prefer was left undeveloped make it possible to apply bye-laws which can help in managing and protecting the site.

See www.naturalengland.org.uk/ourwork/conservation/designations/lnr/

No Local Nature Reserve/s are identified in relation to the search area

14. Country Park/s

Natural England recognises country parks as significant places that contribute to England's accessible natural greenspace.

Many are located near or within towns and cities and therefore close to where people live. All provide a wide range of opportunities for recreation, health and education and improve the quality of life for their local communities.

Country Parks were established as a result of the 1968 Countryside Act and there are currently more than 400 sites that call themselves Country Parks in England. They are visited by over 70 million visitors a year.

They are public green spaces often at the edge of urban areas which provide places to enjoy the outdoors and experience nature in an informal semi-rural park setting. Country Parks normally have some facilities such as a car park, toilets, perhaps a cafe or kiosk, paths and trails, and visitor information. There is not necessarily public right of access, although most are publicly accessible; some charge entry others do not.

See www.naturalengland.gov.uk/ourwork/enjoying/places/countryparks/default.aspx

No Country Park/s are identified in relation to the search area

15. Open Country and Common Land

Conclusive Map Data of Open Country:

Created under the Countryside and Rights of Way (CROW) Act 2000, the Open Country (OC) data was digitised from OS MasterMap by the contractors Black and Veatch Consulting Limited on behalf of the Countryside Agency. It consists of all land that appears to the Countryside Agency to consist wholly or predominantly of mountain, moor, heath and down and is not registered common land. It includes any modifications determined by the Planning Inspectorate as a result of appeals. It includes areas of land that are excepted from the rights of access as specified in Part 1 of Schedule 1 of the CROW Act. It may be amended for certain errors under current error regulations. The map must be reviewed not more than 10 years after its issue in conclusive form.

Conclusive Map Data of Registered Common Land:

Created under the CROW Act 2000, the Registered Common Land (RCL) data was digitised from DNF Landline by the contractors Geodata on behalf of the Countryside Agency. It is a digitised copy of land registered as common land under the Commons Registration Act 1965. It includes any modifications determined by the Planning Inspectorate as a result of appeals. It includes areas of land that are excepted from the rights of access as specified in Part 1 of Schedule 1 of the CROW Act. It may be amended for certain errors under current error regulations. The map must be reviewed not more than 10 years after its issue in conclusive form.

Important Notes:

There is no right of access to land shown as OC or RCL until the relevant Commencement Order for the area becomes effective.

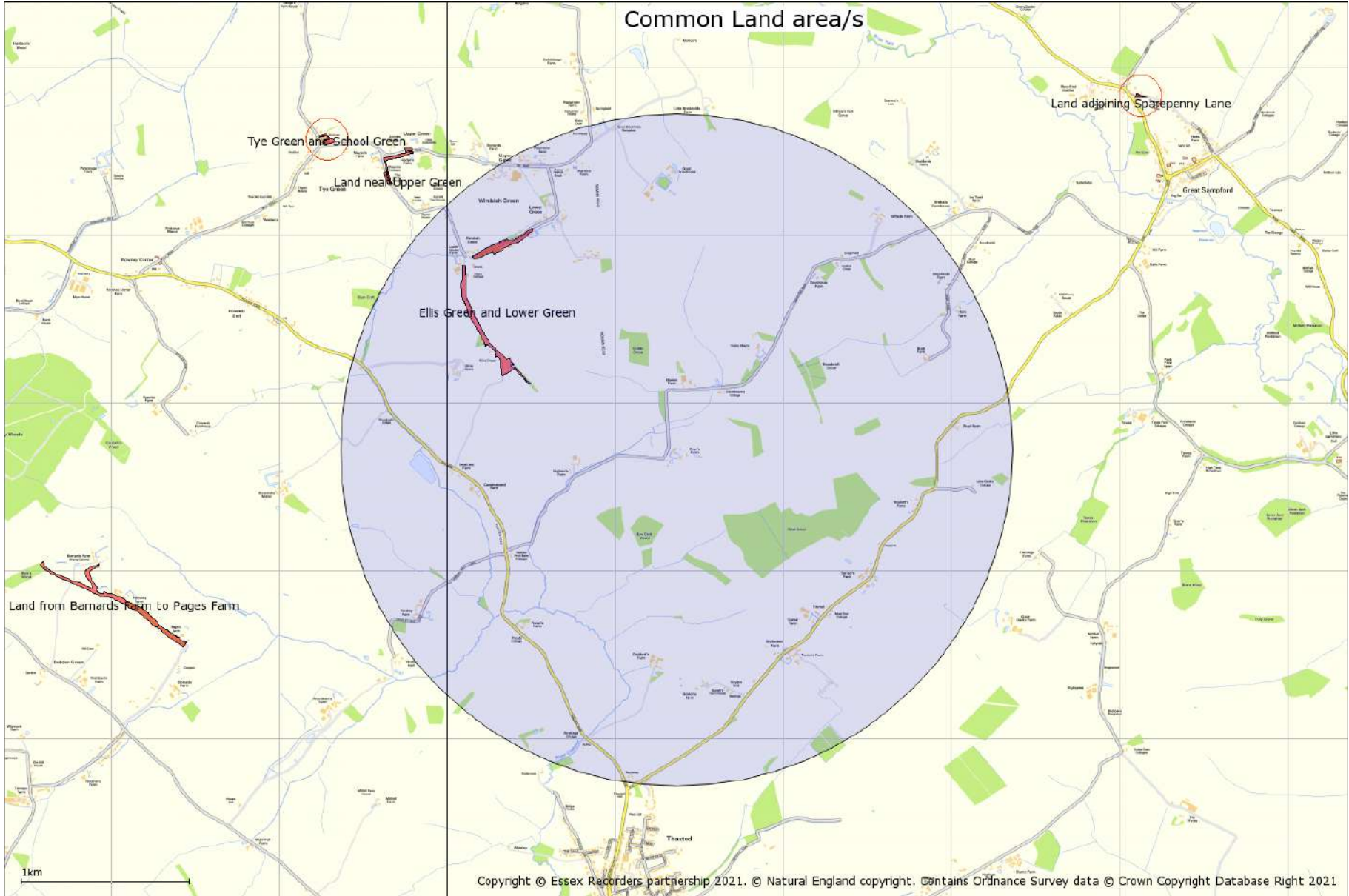
There is no right of access to land shown as OC or RCL where such land meets any of the descriptions of excepted land as specified in Part 1 of Schedule 1 of the CROW Act. This includes areas of land such as racecourses, aerodromes and military byelaw land.

There may be restrictions on the right of access in some areas of land. Under the CROW Act, landowners or tenants of access land have a 28-day allowance of restrictions each calendar year and can also apply for longer term restrictions. Digital data of restrictions to the rights of access will not be made available to third parties. All restrictions can be viewed on the website www.countrysideaccess.gov.uk. More information about restrictions can be found here: www.openaccess.gov.uk

No Open Country area/s are identified in relation to the search area

There are 5 Common Land area/s identified in relation to the search area. (Red polygon/s)

Ellis Green and Lower Green
Land adjoining Sparepenny Lane
Land from Barnards Farm to Pages Farm
Land near Upper Green
Tye Green and School Green



16. Ancient Woodland Inventory

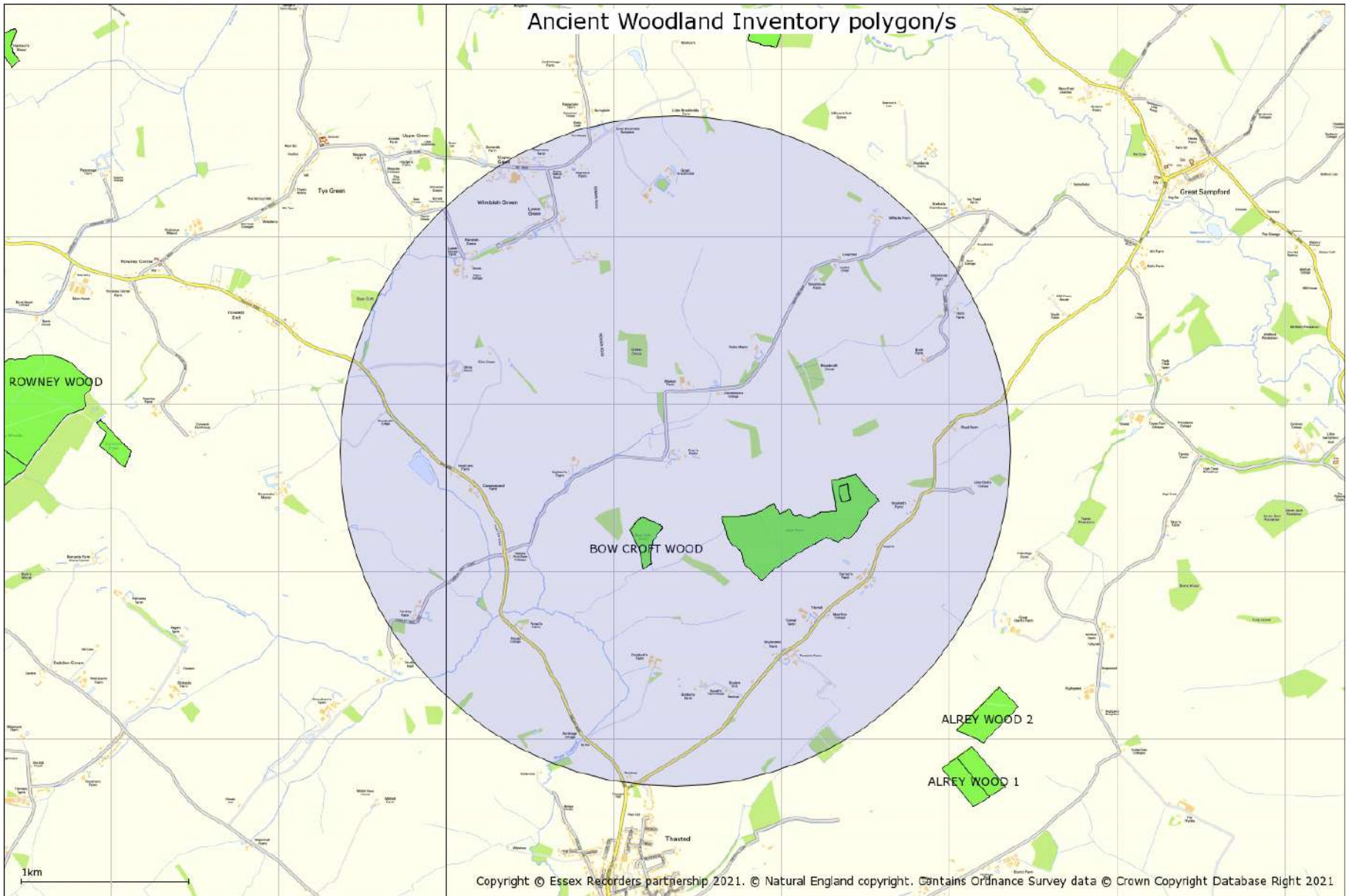
Ancient Woodlands (England). © Natural England copyright. Contains Ordnance Survey data © Crown copyright and database right [2021]

Ancient woodland is land that has had a continuous woodland cover since at least 1600 AD and may be ancient semi-natural woodland (ASNW), which retains a native tree and shrub cover that has not been planted, although it may have been managed by coppicing or felling and allowed to regenerate naturally, or plantation on ancient woodland sites (PAWS) where the original tree cover has been felled and replaced by planting, often with conifers, and usually over the last century.

See www.naturalengland.org.uk/about_us/whatwedo/partnership/casestudies/ancientwoodland.aspx

There are 9 Ancient Woodland Inventory polygon/s identified in relation to the search area.

ALREY WOOD 1
ALREY WOOD 2
aw Record 301
aw Record 302
aw Record 306
aw Record 307
aw Record 450
BOW CROFT WOOD
ROWNEY WOOD



17. Wood-Pasture and Parkland BAP Priority Habitat Inventory

Natural England Wood-Pasture and Parkland BAP Priority Habitat Inventory for England (England) v2.0© Natural England [2021], reproduced with the permission of Natural England, www.naturalengland.org.uk/copyright/. © Crown Copyright and database rights [2021] Ordnance Survey licence number 100022021.

Parkland was defined as areas with a minimum of 3 trees, excluding boundary trees, which had less than 250 m between trees. Park extent was mapped to boundary features where park trees were less than 100 m from the boundary or the boundary included a large tree which was less than 250 m from a park tree.

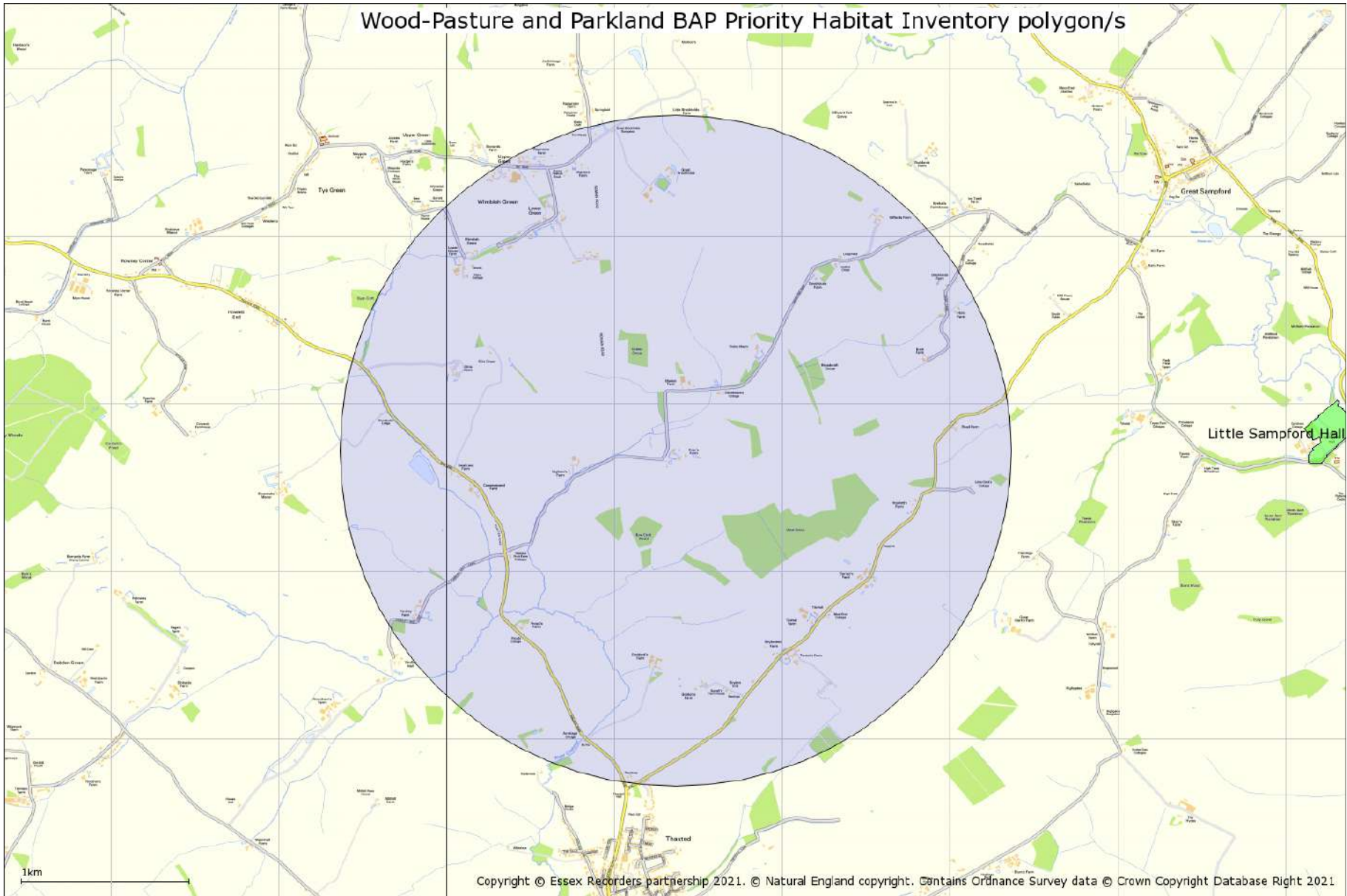
Some areas of woodland were included where possible park trees were present. Some open areas and wooded areas were not removed as the precise extent of parkland habitat was difficult to determine from aerial photography.

Cemeteries and churchyards were excluded unless they were entirely within the park boundary.

The minimum mappable unit for the inventory was 0.25ha. Metalled roads and rivers were excluded according to Natural England mapping rules, therefore some areas <0.25ha may be present if separated by a road.

There is 1 Wood-Pasture and Parkland BAP Priority Habitat Inventory polygon/s identified in relation to the search area.

Wood-Pasture and Parkland BAP Priority Habitat Inventory polygon/s



18. Traditional Orchard Inventory

Natural England Traditional Orchard Inventory (Provisional) for England© Natural England copyright. Contains Ordnance Survey data © Crown copyright and database right [2021]

Definitions

Traditional Orchard

For the purpose of the inventory, Traditional Orchards are defined as sites where at least five fruit trees must be present with no more than 20m between their crown edges. Traditional Orchards are managed in a low intensity way with the orchard floor grazed or mown for hay and with little or no chemical input.

The Traditional Orchard Inventory for England

The inventory identifies Traditional Orchard sites in England. Traditional Orchards are located using aerial photography, Ordnance Survey MasterMap, external datasets compiled from historic surveys, and ground survey ("ground-truthing"). The information recorded about each orchard and stored on the Inventory Database includes its grid reference, its area in hectares, management features of the site and its condition (based on condition assessment criteria).

Limitations of the Traditional Orchard Inventory:

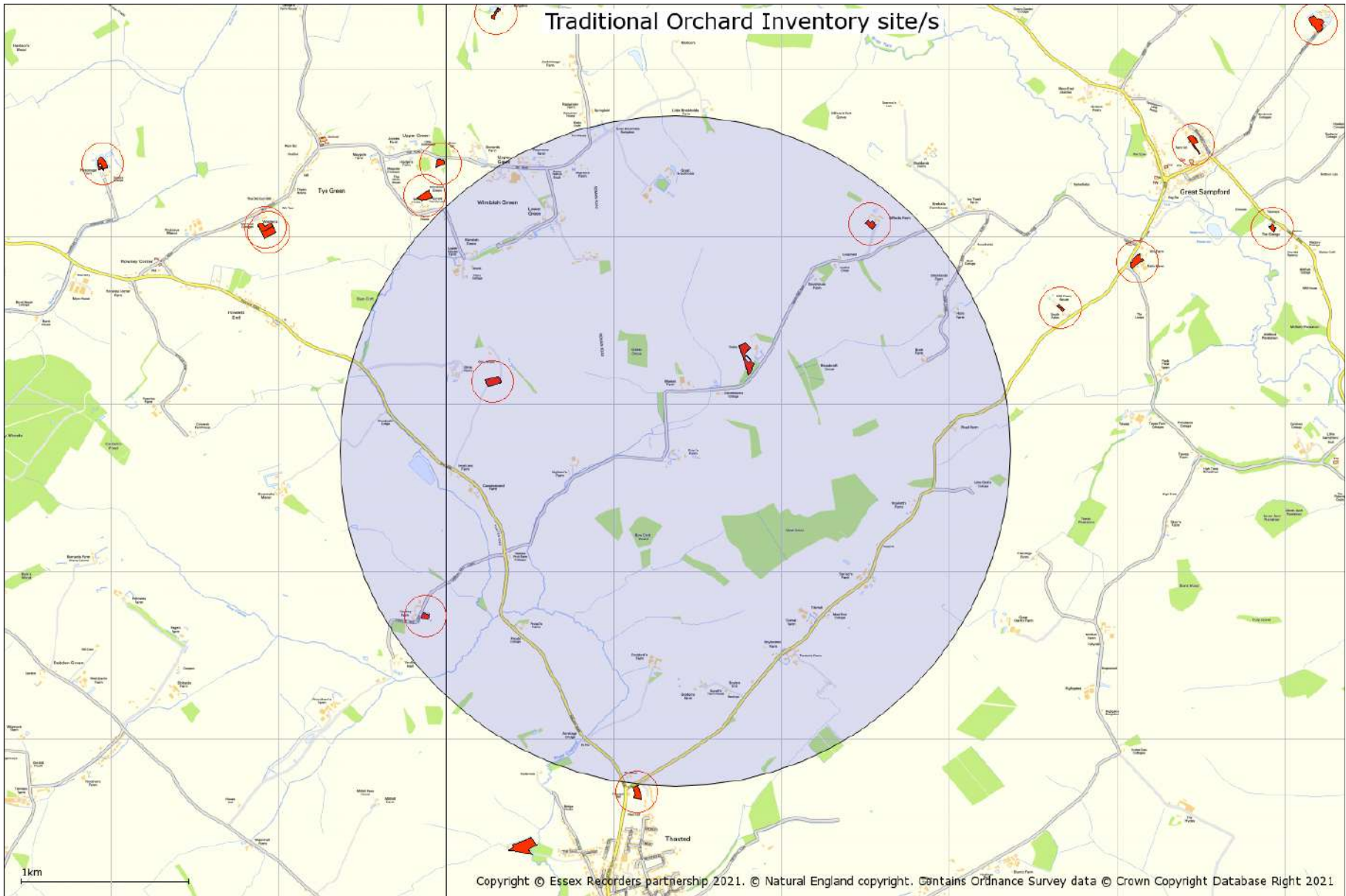
The inventory is classed as 'provisional' because it is under a constant system of review and is updated as new information is received or actual changes are recorded. If you have information that would help Natural England to update the inventory please let them know.

Traditional Orchards HAP Definition

Traditional orchards are defined, for priority habitat purposes, as groups of fruit and nut trees planted on vigorous rootstocks at low densities in permanent grassland; and managed in a low intensity way. Cobnut plats are also included.

The minimum size of a traditional orchard is defined as five trees with crown edges less than 20m apart. However, the potential biological and genetic interest of sites with fewer trees, such as relict orchards and individual trees within gardens is noted. Where appropriate these should be considered as potential restoration sites. It is recognised that other sites which fall outside the definition, such as organic bush orchards and fruit collections in walled gardens may also have biodiversity value, as well as historic, cultural and genetic importance.

There are 17 Traditional Orchard Inventory site/s identified in relation to the search area.



19. Priority Habitat Inventory

Natural England Priority Habitat Inventory © Natural England copyright. Contains Ordnance Survey data © Crown copyright and database right [2021]

Natural England's Priority Habitats' Inventory (PHI) is a spatial dataset that describes the geographic extent and location of priority habitats in England. The PHI has been developed to replace twenty-four separate Biodiversity Action Plan (BAP) priority habitat inventories.

PHI maps habitats of principal importance for biodiversity in England. These were previously known as Biodiversity Action Plan priority habitats.

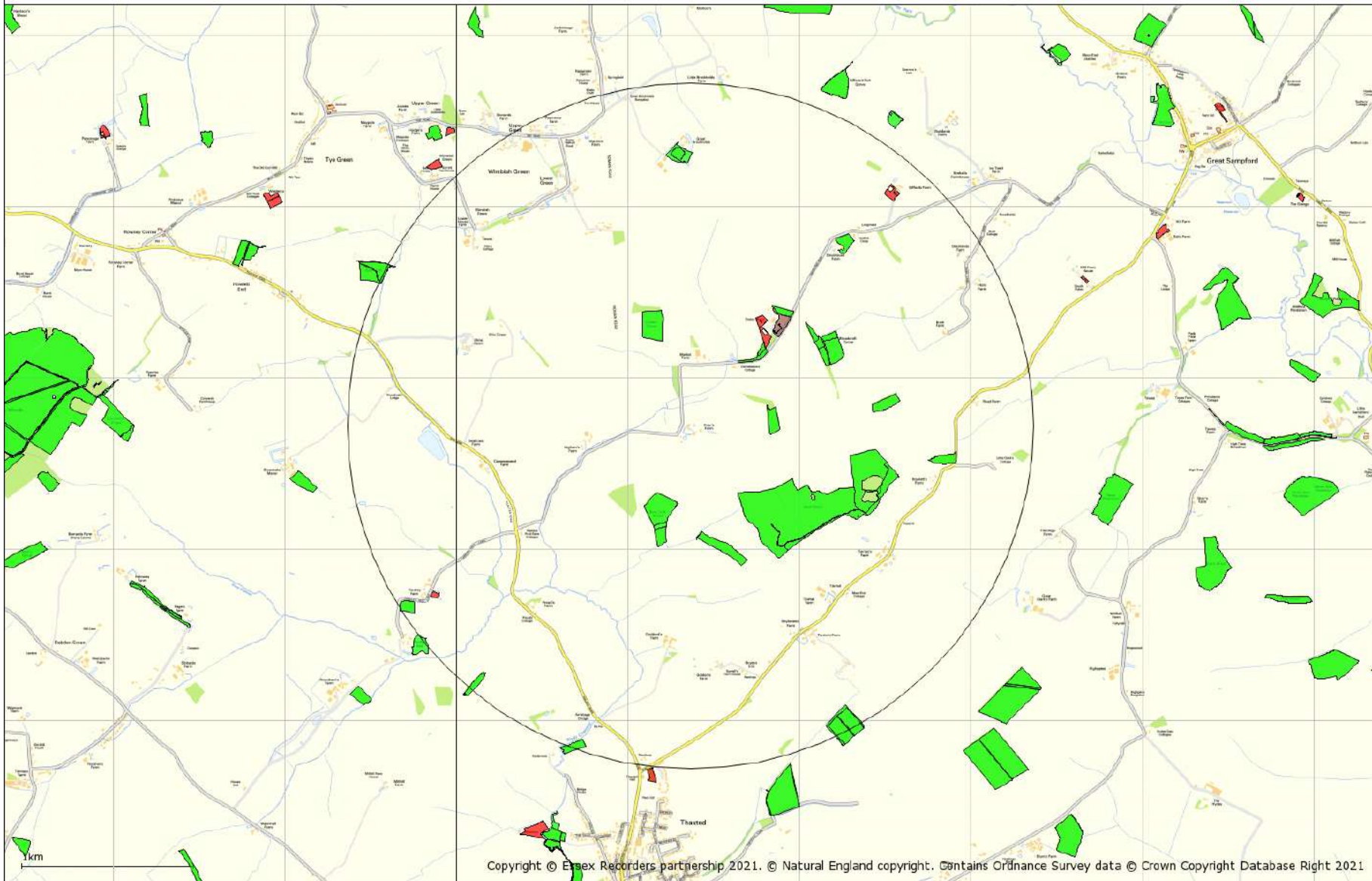
The PHI represents the best available information on priority habitats at an England-wide level; it is not and will never be a definitive dataset for priority habitats across England. As such it should be recognised that the PHI provides a generalised map of the priority habitats in an area.

Marine and freshwater habitats are not currently included, nor are Arable field margins, Hedgerows, Inland rock and scree habitats. Some other habitats, such as Open mosaic habitats on previously developed land and Wood-pasture and parkland are also not included in PHI, but have their own separate inventories.

Priority Habitat Inventory identified in relation to the search area are shown on the map.

Priority Habitat Inventory

Deciduous woodland No main habitat but additional habitats present Traditional orchard



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Species data

The following sections provide species data in accordance with the datasearch request. Non-county designations are based on the JNCC Master List which provides information on the conservation listings of different taxa. Please note that species records are included for all 1km squares crossed by the search area. This is because many records are made at 1km resolution, and they could have been recorded anywhere within the 1km square. The data is provided for the search area on this basis and not the wider area shown on the site designation maps.

Search polygons which are not a radius from a point include a 1km extension outside the polygon boundary extents. Search polygons made up of a corridor may however include data from a wider area as defined by the east, west, south and north edges of the area.

Natural England provides new standard advice on how to address invertebrates and their habitats within the planning system. The standard advice is hosted at <http://habitatsurveys.esdm.co.uk/Data/Sites/1/media/invertebrate-standard-advice-for-essex-oct-2014.pdf>

20. Invertebrate Assemblage Information

This information is based on the use of Natural England's ISIS (2010) methodology. Assemblages are identified from records for the search area and 1km squares crossed by the search area. Please note: these assemblages are identified from existing data and the results only indicate significance already identified from untargeted survey. Specific targeted specialist survey work should be undertaken of the search area to further evaluate identified invertebrate assemblages and identify others which may be important.

Broad Assemblage Types

Invertebrate assemblages are helpful in identifying nature conservation significance of a recorded invertebrate fauna. The following Broad Assemblage Types are highlighted:

Broad Assemblage Types identified:

| | |
|------------------------------------|-------------------------------|
| arboreal canopy | important assemblage |
| unshaded early successional mosaic | close to favourable condition |
| grassland & scrub matrix | important assemblage |
| shaded field & ground layer | close to favourable condition |

Specific Assemblage Types

Specific Assemblage Types (SATs) are characterised by ecologically restricted species and are generally only expressed in lists from sites with conservation value. They have intrinsic value for nature conservation and are designed to be used in setting invertebrate conservation objectives on SSSIs (Lott, 2008).

Specific Assemblage Types identified:

| | |
|----------------------|----------------------|
| heartwood decay | |
| bark & sapwood decay | |
| epiphyte fauna | important assemblage |
| bare sand & chalk | |
| open short sward | |
| saltmarsh | |
| scrub edge | |
| rich flower resource | favourable condition |

21. Protected Species

Protected species have protection under national legislation such as the Wildlife and Countryside Act 1981 and European legislation such as the Habitats Directive.

Please note the following:

(1) If there is no record of a particular protected species, this does not signify that the species is absent from the site in question. It may mean that it has not been recorded, that the site has not been surveyed for this species, or that data relating to its presence has not been made available to us.

(2) The presence of a protected species record does not mean that the species is still present. It means that the species was recorded at that time and place. The implications of the record should be further evaluated, and a survey to establish the current status may be required.

(3) The following summary of legislation is designed purely as a basic guide, if any action is to be taken regarding any of the protected species listed, then it is imperative that the full relevant legislation be consulted.

(4) Information on Badger setts is available from the four Essex Badger Groups by contacting them direct: Essex Badger Protection Group covers the south of the county - www.essexbadger.co.uk; North East Essex Badger Group, north to the Suffolk border - www.neebg.co.uk; Uttlesford Badger Group covers west Essex - www.ubg-uk.org; Harlow Badger Group covers Harlow and Epping Forest Districts - www.hbg-uk.org

WILDLIFE PROTECTION LEGISLATION IN ENGLAND

Legislation that protects wildlife in England exists at the European and national level.

European Law

The Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979) was aimed at ensuring conservation and protection of all wild plants and animals, increasing cooperation between states, and affording special protection to the most vulnerable or threatened species. It was implemented by the EC Birds Directive (Council Directive 79/409/EEC) and the EC Habitats Directive (Council Directive 92/43/EEC).

The Bonn Convention on Migratory Species of Wild Animals (1979 & 1994) requires the protection of migratory animals. It was implemented by the EC Birds Directive (Council Directive 79/409/EEC) and the EC Habitats Directive (Council Directive 92/43/EEC).

The EC Habitats Directive aims to establish a network of protected areas in order to maintain the distribution and the abundance of threatened species and habitats. A number of species are listed in the annexes.

Annex II lists animals and plants whose conservation requires the designation of Special Areas of Conservation (SACs).

Annex IV lists animals and plants in need of strict protection. For the animals, this prohibits deliberate capture, killing, disturbance (especially during breeding period), destruction or taking of eggs from wild, and destruction or deterioration of breeding sites or resting places. For the plants, this prohibits deliberate picking, collecting, uprooting, cutting, destruction, and trade in entire plants or parts, at all stages of life.

Annex V lists animals and plants for which taking in the wild may be subject to management measures.

National Law

Wildlife and Countryside Act

The Wildlife and Countryside Act 1981 (as amended) is the main source of legal protection for wildlife in England and was strengthened by the Countryside and Rights of Way Act 2000. A statutory five-yearly review of Schedules 5 and 8 (protected wild animals and plants) is undertaken by the relevant authorities. Species protection is provided under Schedules 1, 5, 6 and 8:

Schedule 1 lists bird species that are rare, endangered, declining or vulnerable. The Schedule is divided into two parts. Part I lists birds which receive special protection, these birds receive additional protection from disturbance at the nest. Part II lists birds that receive the same level of special protection, but only during the breeding season.

Schedule 5 protects animal (other than bird) species from certain actions, according to the sections of the Act under which they are listed:

- S9(1) prohibits the intentional killing, injury or taking.
- S9(2) protection is limited to possessing and controlling.
- S9(4a) prohibits the damaging, destroying or obstructing access to any place used by the animal for shelter or protection.
- S9(4b) prohibits disturbing the animal while it is occupying any structure or place which it uses for shelter or protection.
- S9(5) prohibits the selling, offering for sale, possessing or transporting for purpose of sale, or advertising for sale, any live or dead animal, or any part of, or anything derived from such an animal. Species on this Schedule do not appear on the PSI.

Schedule 6 lists animals that may not be killed by certain methods. Even humane trapping for research requires a licence.

Schedule 8 lists plant species for which it is prohibited to intentionally pick, uproot, destroy, trade in, or possess (for the purposes of trade).

Under the Wildlife and Countryside Act, all wild plants in Britain are protected from intentional uprooting by an unauthorised person. Landowners, land occupiers, persons authorised by either of these, or persons authorised in writing by the Local Authority for the area are exempt from this, except for Schedule 8 species.

Conservation Regulations

The Conservation of Habitats and Species Regulations 2010 (as amended) transpose the EC Habitats Directive into national law. In addition to enabling the designation of SACs, the regulations also provide species protection:

Schedule 2 protects the listed animals from deliberate capture, killing, disturbance or trading in.

Schedule 4 protects the listed plants from picking, collecting, uprooting, destroying or trading in.

These actions can be made lawful through the granting of licences by the appropriate authorities. Licences may be granted for a number of purposes, but only after the appropriate authority is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on wild the population of the species concerned.

Protection of Badgers Act

The Protection of the Badgers Act prohibits the killing, injuring or taking of badgers and damage or interference with a badger sett, unless licensed to do so by a statutory authority.

International and European Obligations

In the UK, species receiving protection under international legislation and agreements are protected through the Wildlife and Countryside Act, so are not shown separately in the BMERC notable species lists. For reference, the relevant categories are shown below.

Bern Convention on the Conservation of European Wildlife and Natural Habitats

The Bern Convention aims to ensure the conservation of wild flora and fauna species and their habitats.

- Appendix 1 (strictly protected flora) - Plants for which contracting parties will prohibit deliberate picking, collecting, cutting or uprooting.
- Appendix 2 (strictly protected fauna) - Animals for which contracting parties will prohibit deliberate capture, possession, killing, damage to or destruction of breeding or resting sites, disturbance or destruction or taking of eggs.
- Appendix 3 (protected fauna) - Animals for which contracting parties will include closed seasons and regulate their sale, keeping for sale, transport for sale or offering for sale of live and dead wild animals. (Not included in Notable Species List).

Bonn Convention on Migratory Species

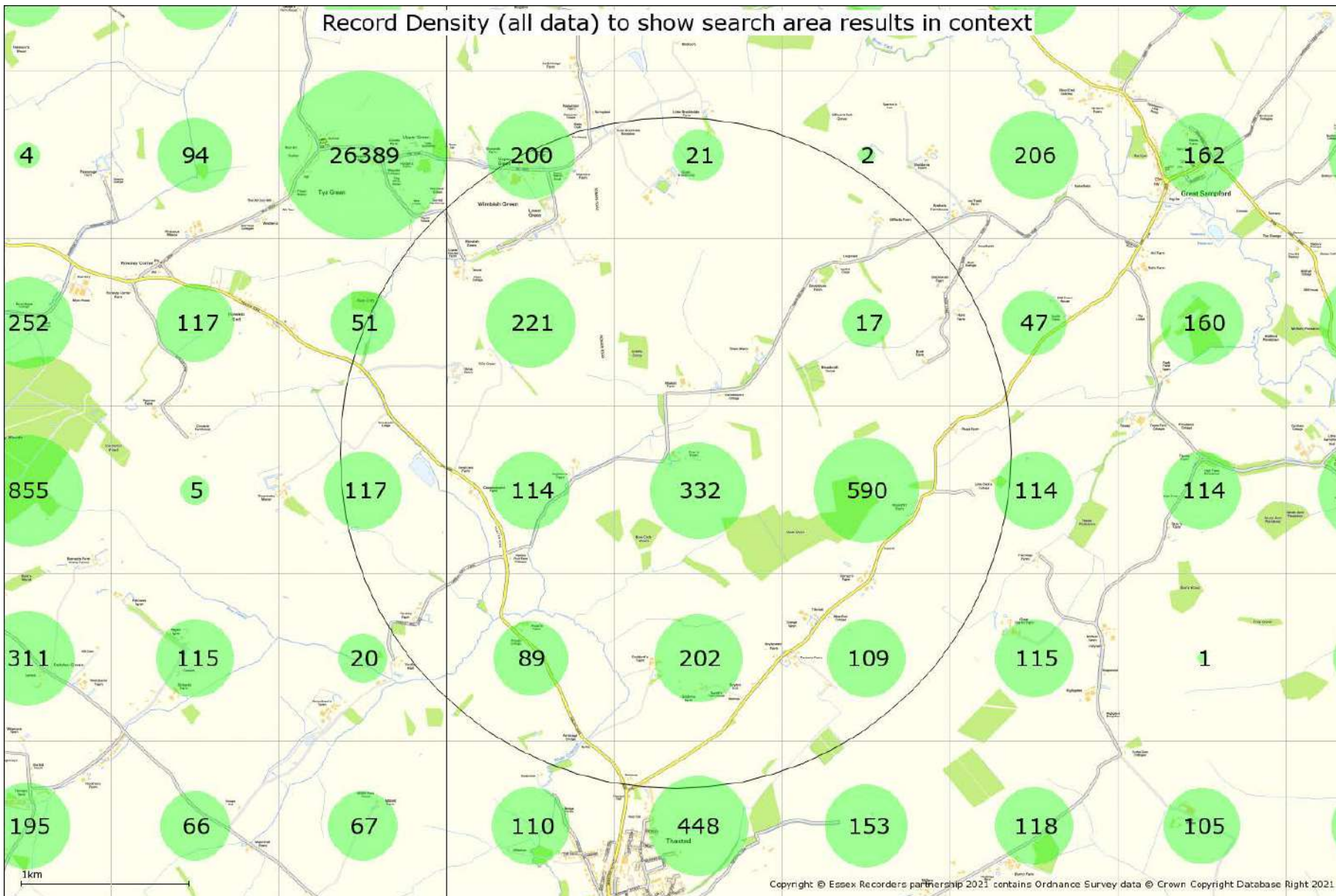
The Bonn Convention aims to conserve terrestrial, marine and avian migratory species throughout their range.

- Appendix 1 (migratory species threatened with extinction) - Species for which contracting parties will strictly protect and endeavour to conserve or restore the places where they live, mitigating obstacles to migration and controlling other factors that might endanger them.
- Appendix 2 (migratory species that need or would benefit from international co-operation) - Species for which contracting parties will be encouraged to conclude global or regional agreements for the conservation and management of individual species or, more often, of a group of species. (Not included in Notable Species List).

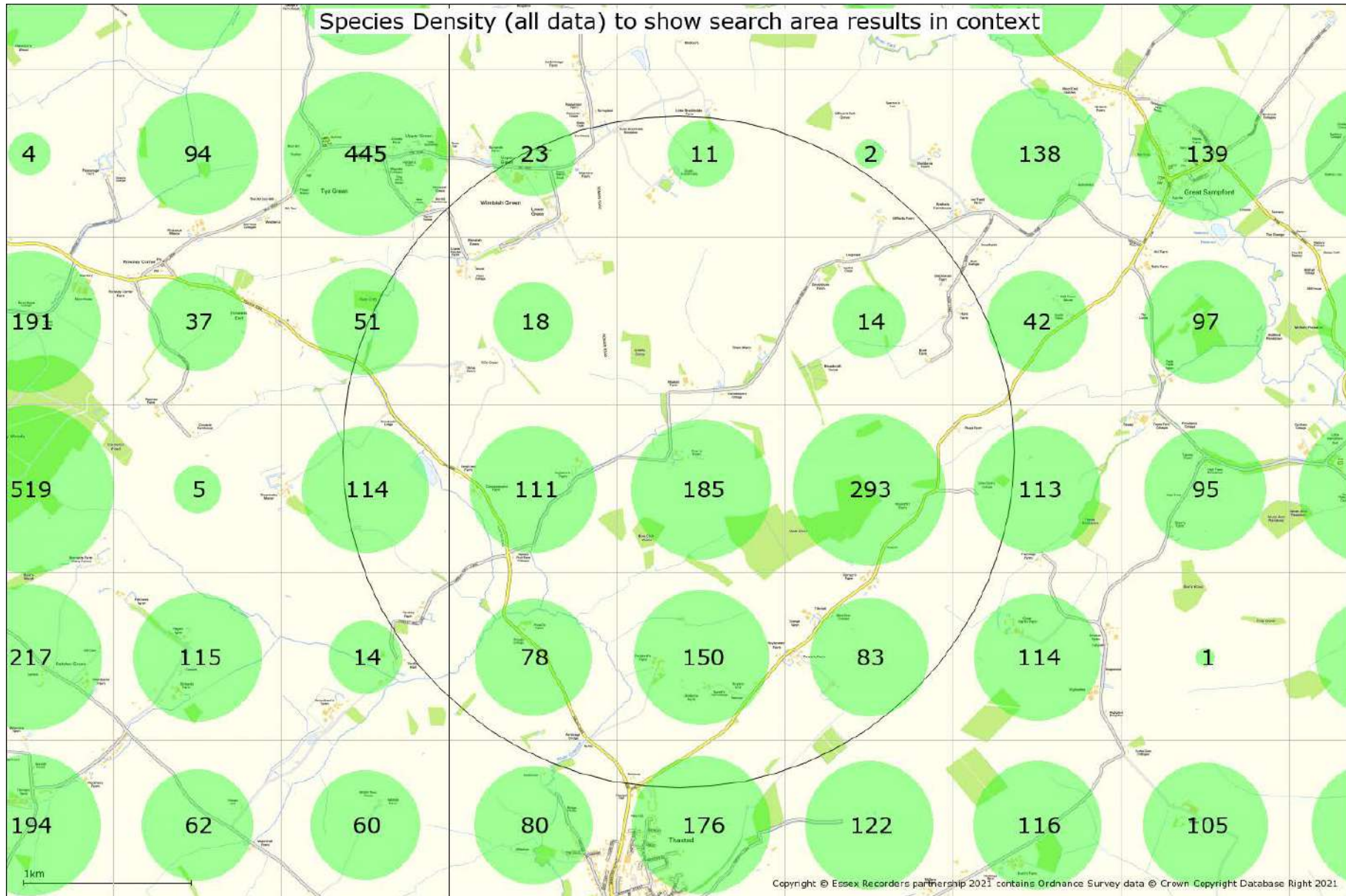
The EC Council Directive on the Conservation of Wild Birds

The Birds Directive provides a framework for the conservation and management of all wild birds in Europe. As well as designating important sites for birds as Special Protection Areas, birds are generally protected from deliberate killing or capture and destruction of or damage to their nests or eggs, and deliberate disturbance. Allowances are made for game birds.

Record Density (all data) to show search area results in context



Species Density (all data) to show search area results in context



Summary of Species Record Counts

Records of Scheduled Species

Records in scheduled categories as detailed in this report are enumerated below.

| | |
|---|-------|
| Protected Species Records | 22624 |
| Priority / NERC S41 Species Records | 2663 |
| Global & National Red List and Scarce Species Records | 5382 |
| Essex Red Data List Species Records | 533 |
| Invasive Species Records | 24 |

Records used in preparing this report

Counts below are for all records within the designated search area used in the preparation of this report. This table is for your information only and is intended to show the relative contribution from each taxonomic group.

| | |
|----------------------------|------|
| Essex Bat Group | 17 |
| Essex Birdwatching Society | 2176 |

Essex Field Club County Recorder counts

| | |
|----------------------------|-------|
| Aculeata | 19 |
| Aculeata: Apinae | 9 |
| Aculeata: Formicidae | 5 |
| Amphibians and reptiles | 7 |
| Araneae | 300 |
| Auchenorrhyncha | 1 |
| Bats | 44 |
| Birds | 24064 |
| Coleoptera | 0 |
| Diptera: Larger Brachycera | 3 |
| Diptera: other groups | 3 |
| Diptera: Syrphidae | 4 |
| Fungi | 1 |
| Galls | 0 |
| Heteroptera | 1 |
| Hymenoptera: other groups | 2 |
| Isopoda | 16 |
| Lepidoptera: butterflies | 930 |
| Lepidoptera: macromoths | 587 |
| Lepidoptera: micromoths | 211 |
| Lichens | 0 |
| Mammals | 183 |
| Mollusca | 9 |
| Myriapoda | 4 |
| Non-vascular plants | 77 |
| Odonata | 8 |
| Opiliones | 6 |
| Orthoptera group | 10 |
| Pseudoscorpiones | 0 |
| Slime moulds | 0 |
| Trichoptera | 7 |
| Vascular plants | 2001 |

Geological Site Information

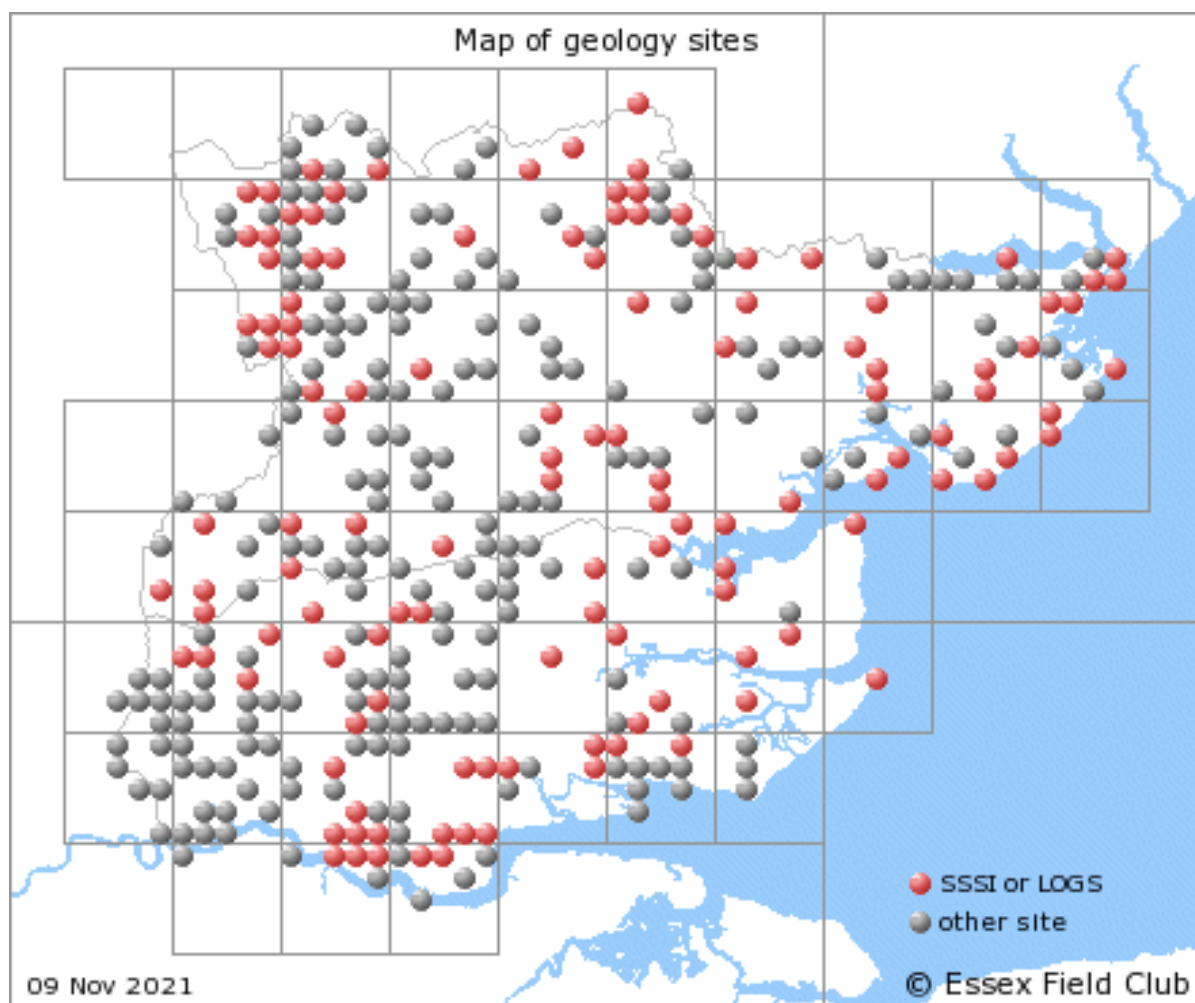
The geological site database includes and describes geological sites which are of regional or local importance for their scientific, historical and/or educational value unlike the strictly scientific criteria applied to the SSSIs (Sites of Special Scientific Interest) which are of national importance. These are not 'second tier' sites but sites of regional and local value in their own right.

Some of these sites are being designated as Local Geological Sites (LOGS), formerly called Regionally Important Geological Sites, or have the potential to be so designated, and these sites are marked as such. Existing SSSIs which have been designated for their geological importance are also included in this database.

Note: Some of the sites in the geological site database are solely of historical interest as a record of an important or interesting discovery. There are also sites which are not strictly geological but nevertheless have a geological connection, for example buildings constructed of local stone. These sites have not been included in this report.

Although many of the sites listed are publicly accessible, inclusion of a site in this database does not imply any rights of access. Permission to visit must always be obtained from the relevant landowner.

There are no geological Sites of Special Scientific Interest, Potential Local Geological or Designated Local Geological Sites identified in relation to the search area.

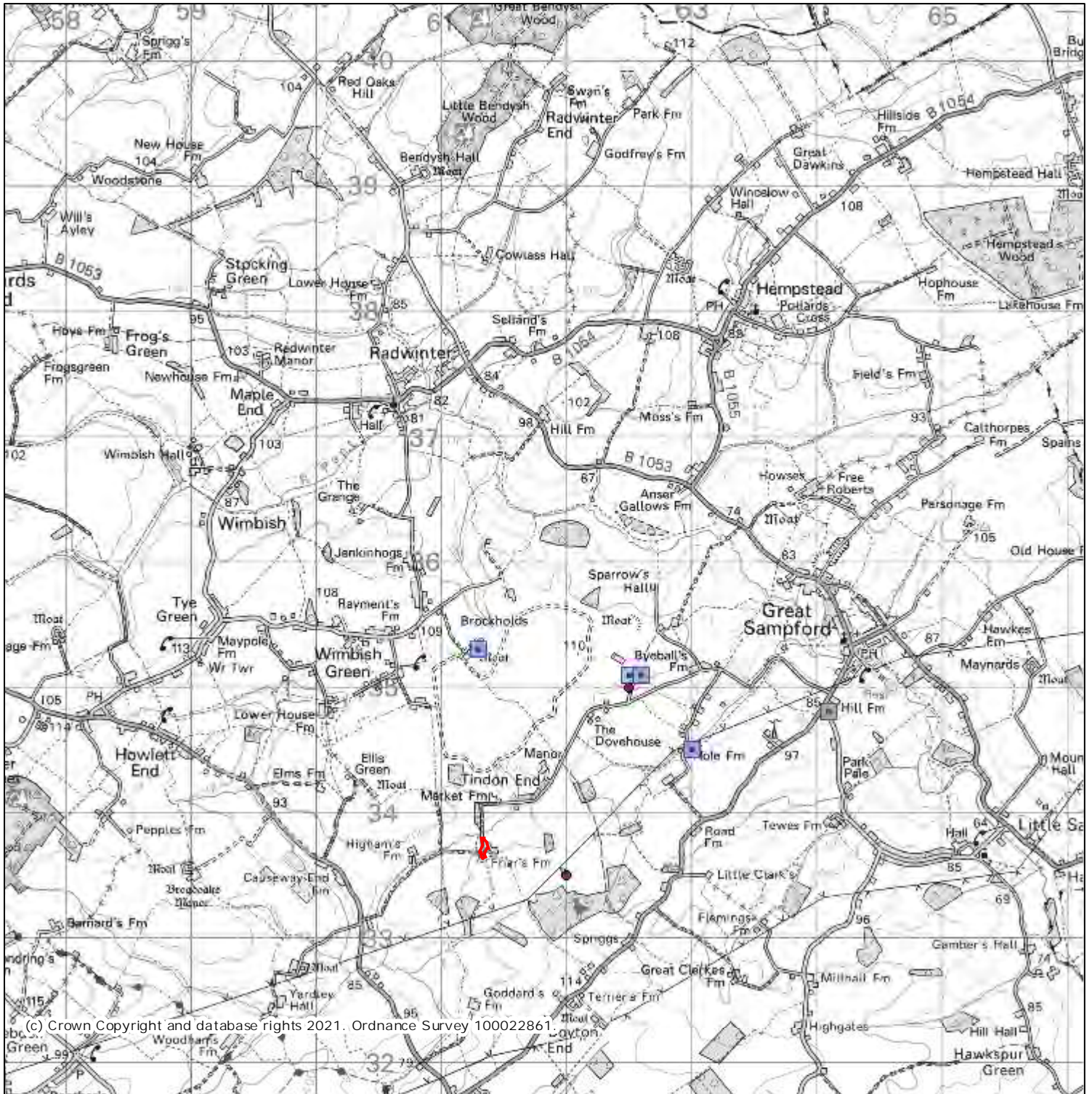


Additional geological Site Information

The following general geological sites have also been identified. Further information is available from www.essexfieldclub.org.uk/portal/p/A-Z+Geological+Site+Index







Radwinter Road Sand Pit
Howe Lane Sand Pit

MAGiC protected species close to site boundary





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Legend

- | | |
|--|--|
|  Ramsar Sites (England) |  Other Mammal |
|  Special Areas of Conservation (England) |  Plant |
|  Special Protection Areas (England) |  Reptile |

Granted European Protected Species Applications (England)

-  Amphibian
-  Bat
-  Cetacean
-  Invertebrate



Projection = OSGB36

xmin = 551100

ymin = 230500

xmax = 572600

ymax = 241700

Map produced by MAGiC on 1 December, 2021.

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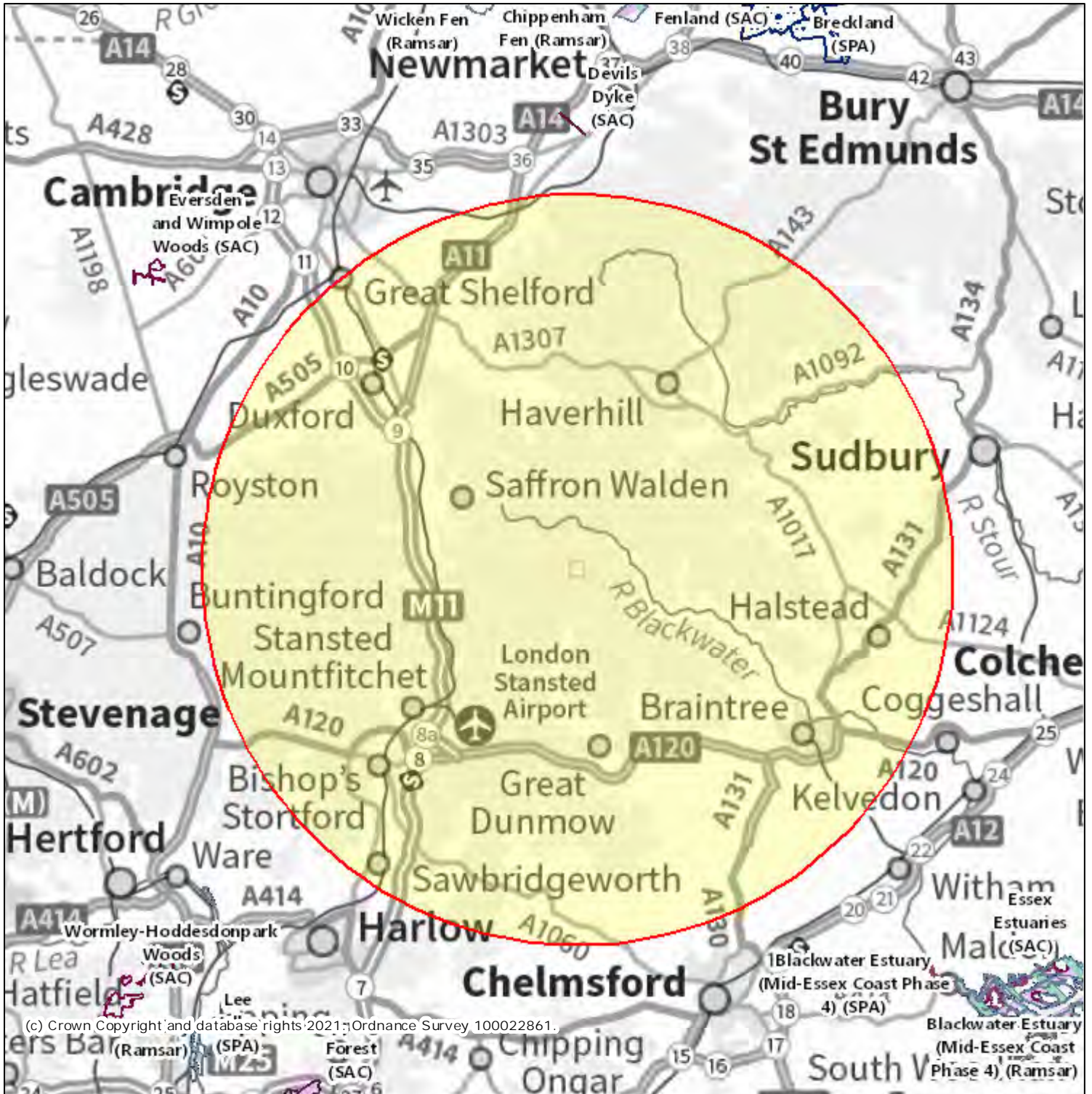
Site Check Report Report generated on Wed Dec 01 2021
You selected the location: Centroid Grid Ref: TL61343371
The following features have been found in your search area:

Local Nature Reserves (England) - points




No Features found

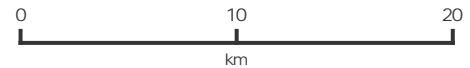
Local Nature Reserves (England)

No Features found



Legend

-  Ramsar Sites (England)
-  Special Areas of Conservation (England)
-  Special Protection Areas (England)



Projection = OSGB36
 xmin = 473100
 ymin = 190000
 xmax = 645400
 ymax = 280000

Map produced by MAGiC on 1 December, 2021.
 Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGiC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.

Appendix B – Plant Species List

Site Name: TGF Barn
Project No:
Date of Survey: 08/11/21
Surveyor(s): Josh and Courtney



Species of Plant

Habitats

| Common name | Scientific name | Amentity grassland | Ponds | Priority hedgerow | Species poor hedgerow | Previously developed land | Unvegetated unsealed ground | Artificial sealed ground |
|-----------------------|----------------------------------|--------------------|-------|-------------------|-----------------------|---------------------------|-----------------------------|--------------------------|
| Ash | <i>Fraxinus excelsior</i> | | | | | | | |
| Field Maple | <i>Acer campestre</i> | | | | | | | |
| Pedunculate Oak | <i>Quercus robur</i> | | | | | | | |
| Hawthorn | <i>Crataegus monogyna</i> | X | | | | | | |
| Lime | <i>Tilia x europaea</i> | X | | | | | | |
| Hornbeam | <i>Carpinus betulus</i> | | | | | | | |
| Cherry Laurel | <i>Prunus laurocerasus</i> | | | | X | | | |
| Beech | <i>Fagus sylvatica</i> | X | | | | | | |
| Wild Cherry | <i>Prunus avium</i> | | | | | | X | |
| Grape-vine | <i>Vitis vinifera</i> | | | | | | | |
| Leyland Cypress | <i>X Cuprocyparis leylandii</i> | | | | | | | |
| Waterlily | | | X | | | | | |
| Water Mint | <i>Mentha aquatica</i> | | X | | | | | |
| Yellow Iris | <i>Iris pseudacorus</i> | | X | | | | | |
| Dove's-Foot Crane's-B | <i>Geranium molle</i> | | X | | | | | |
| Common Duckweed | <i>Lemna minor</i> | | X | | | | | |
| Dogwood | <i>Cornus sanguinea</i> | | X | X | | | | |
| Blackthorn | <i>Prunus spinosa</i> | | | X | | | | |
| Hairy Dog-rose | <i>Rosa caesia subsp. caesia</i> | | | X | | | | |
| Spindle | <i>Euonymus europaeus</i> | | | X | | | | |
| Red Dead-nettle | <i>Lamium purpureum</i> | | | X | | | | |
| White Dead-nettle | <i>Lamium album</i> | | | X | | | | |

Site Name: TGF Barn
Project No:
Date of Survey: 08/11/21
Surveyor(s): Josh and Courtney



Species of Plant

Habitats

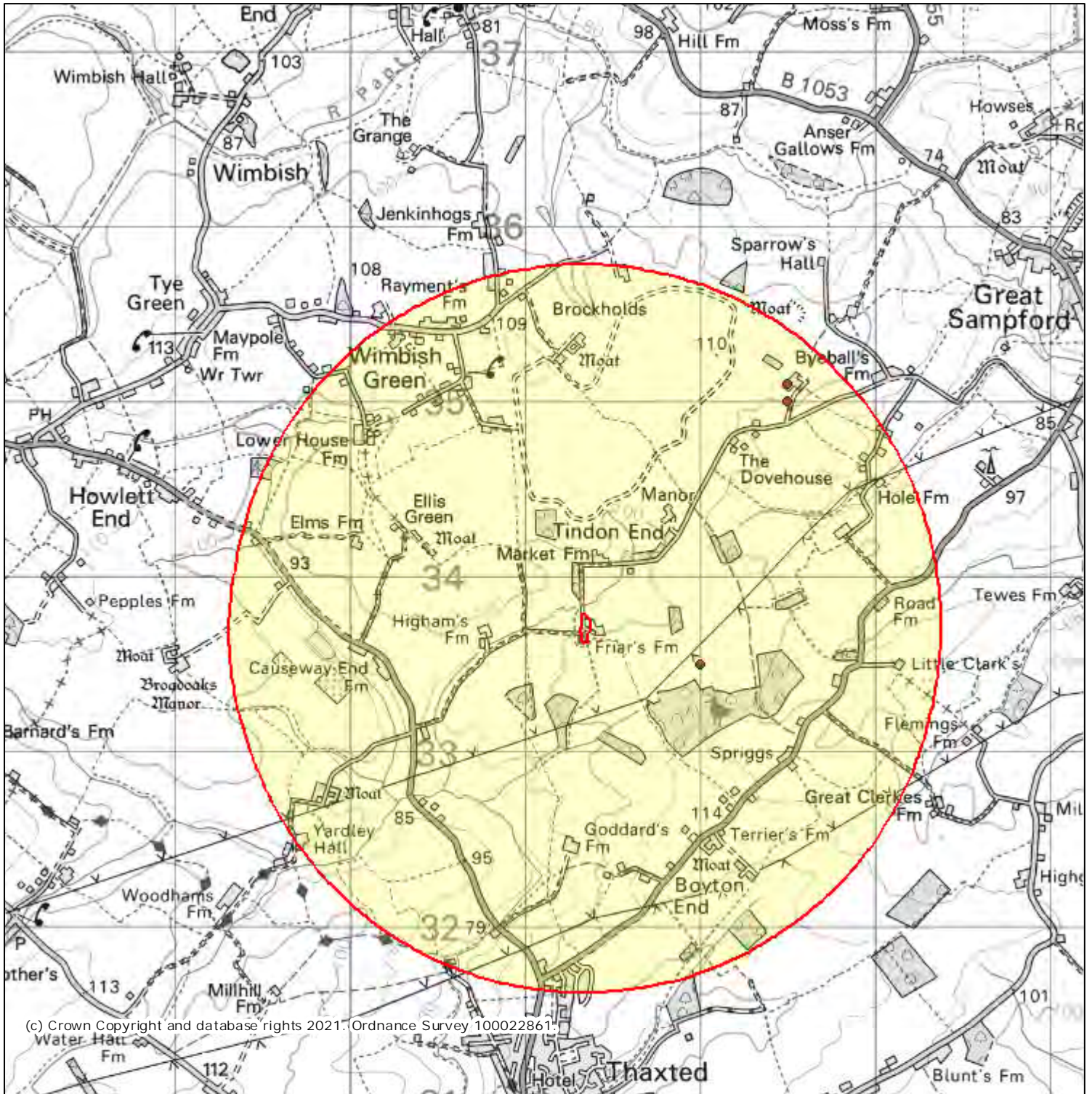
| Common name | Scientific name | Amenty grassland | Ponds | Priority hedgerow | Species poor hedgerow | Previously developed land | Unvegetated unsealed ground | Artificial sealed ground |
|-------------------|---------------------------------|------------------|-------|-------------------|-----------------------|---------------------------|-----------------------------|--------------------------|
| Snowberry | <i>Symphoricarpos albus</i> | | | X | | | | |
| elder | <i>Sambucus nigra</i> | | | X | | | | |
| Common Nettle | <i>Urtica dioica</i> | | | X | | | | |
| Bramble | <i>Rubus fruticosus agg.</i> | | | X | | X | | |
| Ivy | <i>Hedera helix agg.</i> | | | | | | | |
| Dock | | | | | | X | | |
| Mallow | | | | | | X | | |
| Bristly Oxtongue | <i>Helminthotheca echioides</i> | | | | | X | | |
| Perenial Ryegrass | | | | | | X | | |
| Willowherb | | | | | | X | | |
| Ribwort Plantain | | | | | | X | | |
| Weld | <i>Reseda luteola</i> | | | | | X | | |
| | | | | | | | | |
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| | | | | | | | | |
| | | | | | | | | |

Common and scientific names identified are as they appear in Stace, C. (2010) New Flora of the British Isles (3rd edition), Cambridge University Press.

Names in this list were sourced from the Wildflower Society website:
http://www.thewildflowersociety.com/wfs_list_of_all_plants/main_menu_2010.htm

DAFOR key: D = dominant >75% cover; A = abundant 51-75% cover; F – frequent 26-50% cover; O = occasional 11-25% cover; R = rare 1-10% cover, LF = locally frequent, X = present (no frequency recorded).

Appendix C – HSI Scores for Ponds

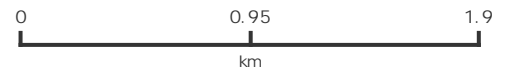


Legend

- Great Crested Newt Class Survey Licence Returns (England)

Great Crested Newt Pond Surveys 2017 - 2019

- 10 FIG present
- 10 FIG absent
- 10 FIG inconclusive
- 8 FIG present
- 6 FIG present
- 4 FIG present
- 4 FIG absent
- 4 FIG inconclusive



Projection = OSGB36

xmin = 556100

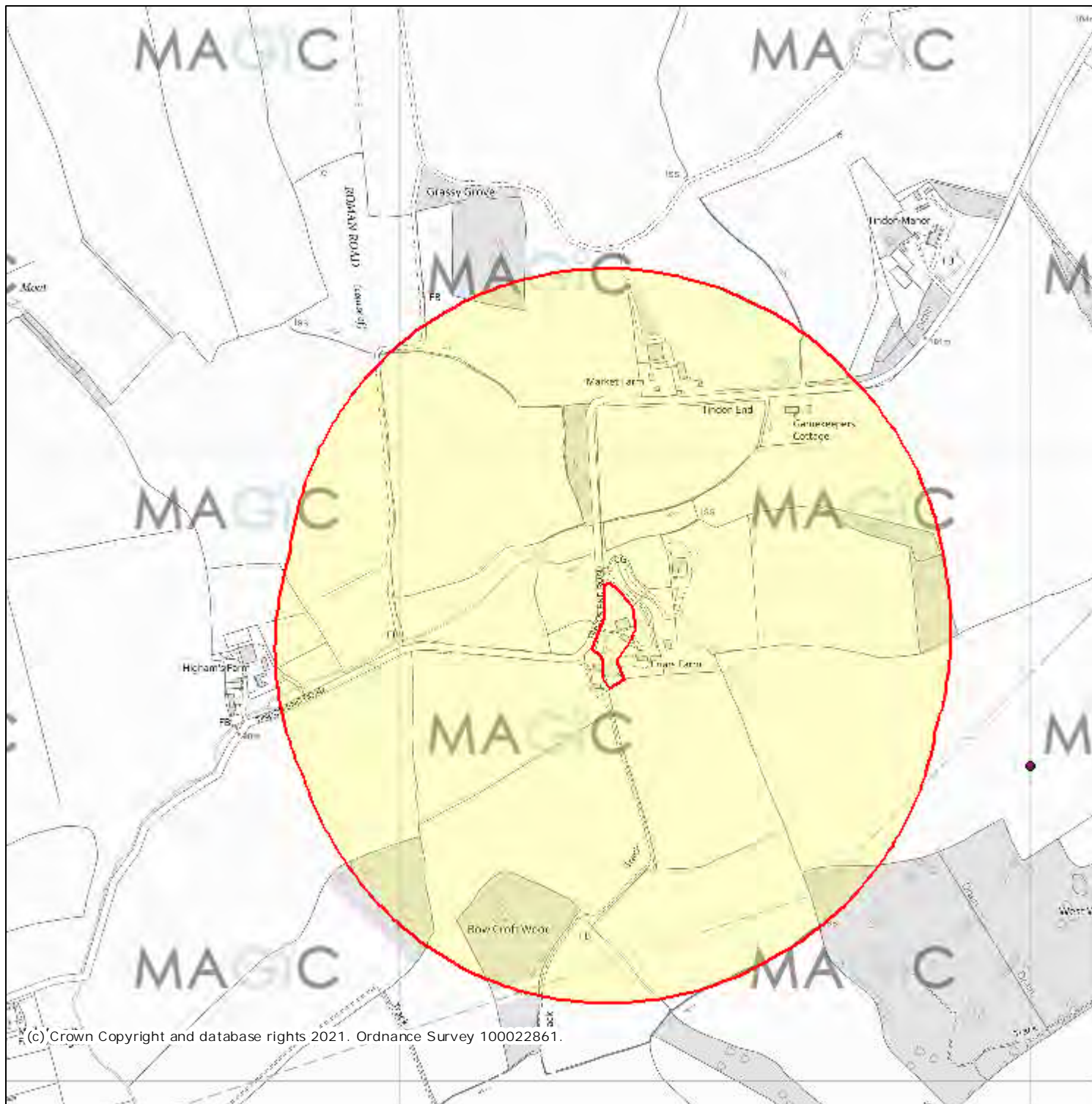
ymin = 231600

xmax = 566200

ymin = 236700

Map produced by MAGiC on 16 December, 2021.

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| | | | |
|--|---|---|--|
| Legend | | | |
| ● | Great Crested Newt Class Survey Licence Returns (England) | Projection = OSGB36 | |
| Great Crested Newt Pond Surveys 2017 - 2019 | | xmin = 559800 | |
| ● | 10 FIG present | ymin = 233100 | |
| ● | 10 FIG absent | xmax = 562700 | |
| ○ | 10 FIG inconclusive | ymax = 234500 | |
| ● | 8 FIG present | Map produced by MAGiC on 15 December, 2021. | |
| ● | 6 FIG present | Copyright resides with the data suppliers and the map must not be reproduced without their permission. | |
| ● | 4 FIG present | Some information in MAGiC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage. | |
| ● | 4 FIG absent | | |
| ● | 4 FIG inconclusive | | |

ARGUK GCN HSI Calculator

| Pond Name | | WB1 | WB2 | WB3 | WB4 | WB5 | WB6 | WB7 | WB8 |
|------------------|---------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Grid Ref | | TL 61328 33694 | TL 61338 33670 | TL 61330 33653 | TL 61352 33674 | TL 61382 33727 | TL 61493 33687 | TL 61423 33871 | TL 61399 33337 |
| SI No | SI Description | SI Value | SI Value | SI Value | SI Value | SI Value | SI Value | SI Value | SI Value |
| 1 | Geographic location | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 2 | Pond area | 0.2 | 0.1 | 0.2 | 0.1 | | | | 0.1 |
| 3 | Pond permanence | 0.1 | 0.1 | 0.9 | 0.9 | | | | 1 |
| 4 | Water quality | 0.67 | 0.67 | 0.67 | 0.67 | | | | 0.67 |
| 5 | Shade | 1 | 1 | 0.7 | 0.6 | | | | 0.2 |
| 6 | Water fowl effect | 1 | 1 | 0.67 | 0.67 | | | | 1 |
| 7 | Fish presence | 0.67 | 1 | 0.67 | 1 | | | | 1 |
| 8 | Pond Density | 0.6 | 0.6 | 0.78 | 0.6 | | | | 0.6 |
| 9 | Terrestrial habitat | 0.33 | 0.67 | 1 | 1 | | | | 0.33 |
| 10 | Macrophyte cover | 0.55 | 0.45 | 0.8 | 1 | | | | 0.3 |
| HSI Score | | 0.50 | 0.51 | 0.69 | 0.66 | 0.00 | 0.00 | 0.00 | 0.49 |
| Pond suitability | | Below average | Below average | Average | Average | | | | Poor |

Categorisation of HSI Score by Lee Brady

| HSI Score | Pond Suitability |
|-------------|------------------|
| < 0.50 | Poor |
| 0.50 - 0.59 | Below average |
| 0.60 - 0.69 | Average |
| 0.70 - 0.79 | Good |
| > 0.80 | Excellent |

Based on ARGUK advice note 5 - Great Crested Newt Habitat Suitability Index