Project No.: JCLB103/ 002 / 001

November 2014

Review of Sites of Importance for Nature Conservation (Updated 2014)

For

Croydon London Borough Council

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Project Number	Report No.	Revision No.	Date of Issue
JCLB103	002	001	27th November 2014

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1. Summary and Main Recommendations

1.1 Summary

1.1.1 Croydon London Borough Council (the Council) is currently preparing the Croydon Local Plan: Detailed Policies and Proposals (CLPDPP) which will replace the remaining Saved Policies of the existing Unitary Development Plan (SPUDP). The CLPDPP will designate Sites of Nature Conservation Importance to be protected for their nature conservation value.

1.1.2 The Council's current SPUDP identifies 74 Sites of Nature Conservation Importance (SNCIs) and includes policies for their protection against adverse effects from development. The list of SNCIs protected under the SPUDP were identified based upon ecological surveys and assessments which date from1997. The list of SNCIs was last updated at that time and may no longer be fit for purpose in many instances. An update is required to provide robust evidence to support the designation of SNCIs in the emerging CLPDPP.

1.1.3 The Council, with its partners and stakeholders in the Local Plan making process, has also identified a number of additional sites within Croydon that while not identified as SNCIs in the original Unitary Development Plan (UDP), may meet the criteria for designation.

1.1.4 This report details the methodology used and the results obtained for the review of the biodiversity interest of 61 existing SNCIs in Croydon (excluding the 13 Sites of Metropolitan Importance) plus a further nine sites identified as potential SNCIs.

1.1.5 The report includes recommendations for revisions to the existing SNCI evaluations and recommendations on the evaluations for the potential SNCIs put forward for assessment. It is recommended that these evaluations are incorporated into the CLPDPP, with the degree of policy protection appropriate to the evaluation.

1.2 Main Recommendations

1.2.1 The London Wildlife Sites Board (LWSB) guidance for assessing sites of local importance refers to such sites as, 'Sites of Importance for Nature Conservation' or SINCs. The current saved polices of the Local Plan however refer to them as Sites of Nature Conservation Importance (SNCIs). It is therefore recommended, that to be consistent with other local authorities in Greater London, the Council adopts the same description of SINC in its future plans. To this end ecological sites protected by local planning policy will hereafter be referred to as SINCs.

1.2.2 Based on the review of existing SINC sites in Croydon, it is recommended that the Council identifies the sites in Table 6 as SINCs with the revised evaluation grade, following consultation with the LWSB.

1.2.1 It is important to note that all evaluations were based strictly on ecological criteria and ecological evidence collected from field surveys. No other factors were taken into consideration such as the value of sites in providing access to nature for local communities. If the Council wishes to consider incorporating such considerations into the evaluation process, it is recommended that these be in addition to and separate from the ecological evaluations to maintain a robust ecological evidence base to support their designation.

1.2.2 It is important to note that no site was evaluated as being higher than Borough Grade I as the brief did not include a review of Sites of Metropolitan Importance (SMIs) in the borough. It was not possible therefore to compare the SINC sites surveyed with those attaining the Metropolitan standard. It may therefore be that some of the best Borough Grade I sites are comparable to SMIs. So that the full hierarchy of locally important sites has been reviewed and evaluated in the same way the Council may therefore wish to consider either:

- Obtaining existing detailed ecological survey information for these sites; or
- Commissioning Thomson Ecology to re-survey these sites under the existing contract.

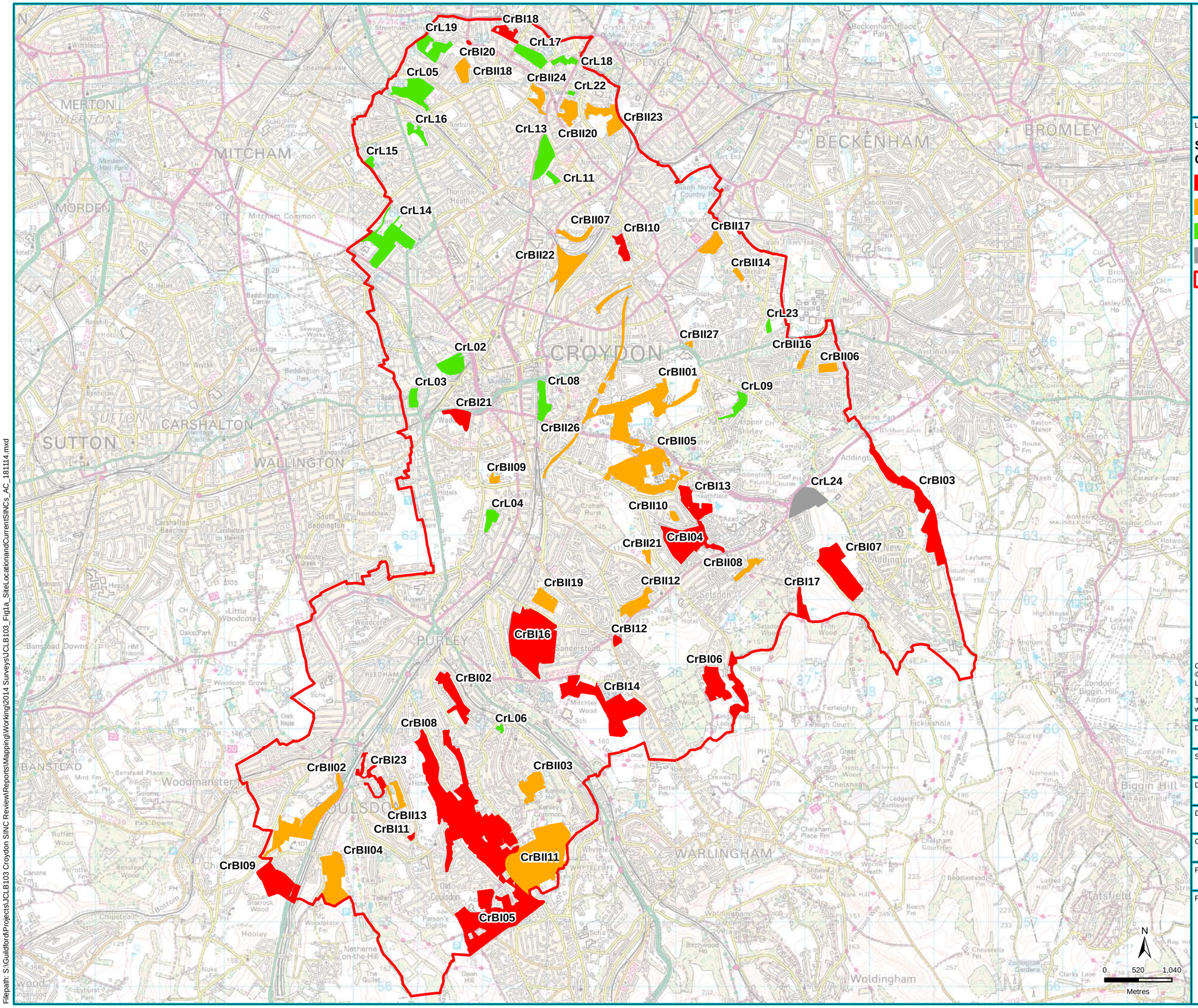
1.2.3 It has not been possible to survey some sites due to difficulties in securing access. These sites are identified in the report. It is therefore recommended that ecological surveys for those sites for which it was not possible to gain access to in 2013 or 2014, be surveyed in 2015, if access arrangements can be negotiated. If access to these sites cannot be obtained, it is recommended that they continue to be evaluated as shown in the current SPUDP (for those existing SINC sites which have a current evaluation) or be identified as potential SINCs (for those sites not currently designated as SINCs).

1.3 Other Recommendations

1.3.1 The survey results have enabled the identification of the habitats of principal importance for nature conservation under Section 41 of the NERC Act 2006. However, it should be noted that as the surveys were confined to existing SINCs it is likely that there are other habitats of principal importance in Croydon which lie outside of the currently designated sites. The Council may therefore wish to consider commissioning Thomson Ecology to assist in identifying other habitats of principal importance in Croydon.

1.3.2 The survey results have identified sites that have high potential to support protected species and species of principle importance. It is recommended that the Council should take into account the possibility that protected species may exist on these sites as part of the planning process and should seek further detailed surveys for such species in the future if:

- Such sites are subject to future planning applications for development;
- Land adjacent to such sites is subject to future planning applications for development; and
- The landowners are considering changing the management of these sites.



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Legend

Sites of Importance for Nature Conservation

- Grade I
- Grade II
- Local
- Unknown
- London Borough of Croydon

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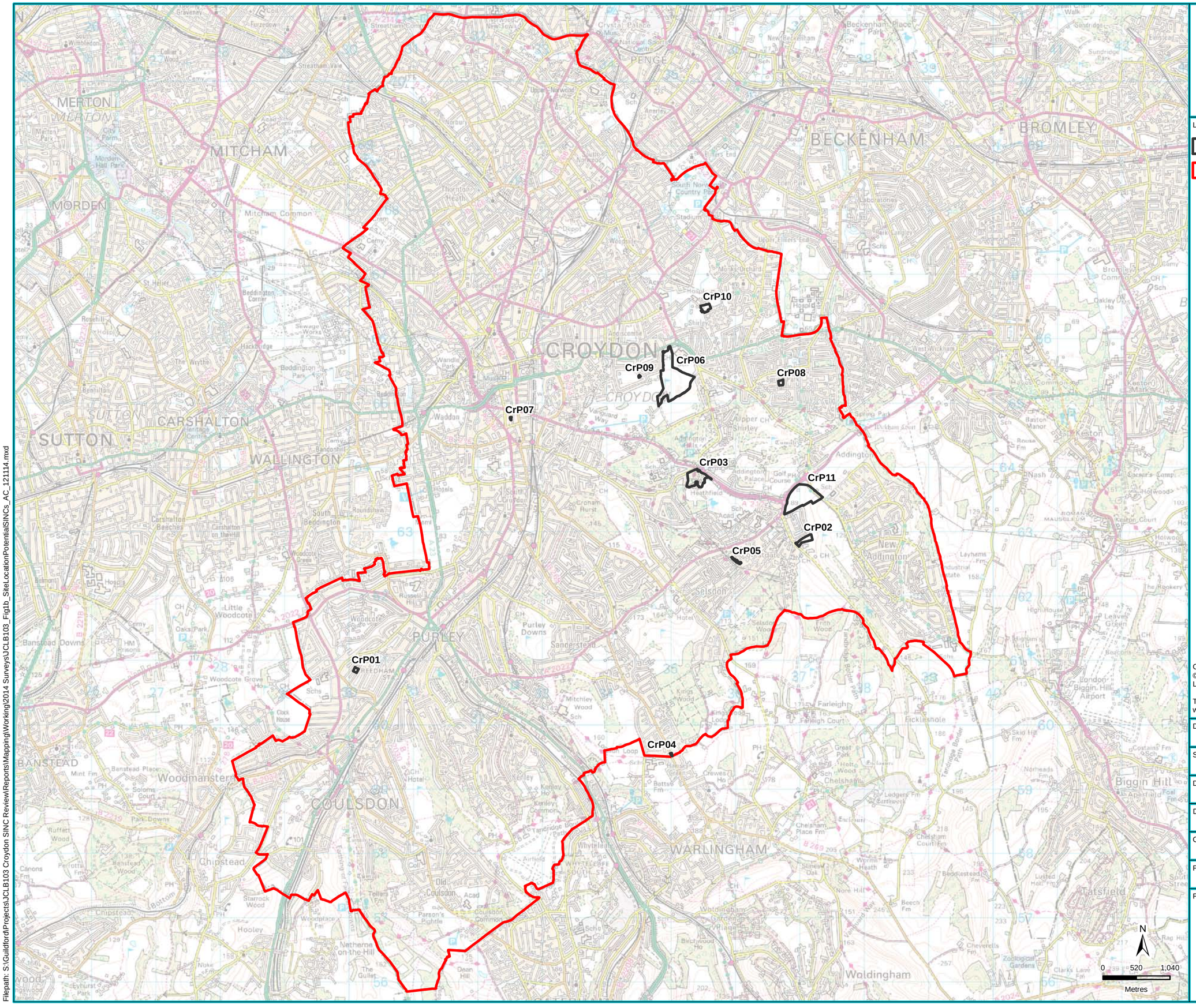
Scale at A3	1:55,000
Drawn: AC	Checked: NS
Date: 18/11/2014	Date: 18/11/2014
Client	Croydon London Borough Council
Figure Number	1a

Figure Title

Current SINC's - Survey Area Showing Site Locations and Existing Ecological Evaluations



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Legend

- Potential SINC Boundary
- London Borough of Croydon

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Date: 18/11/2014	Date: 18/11/2014
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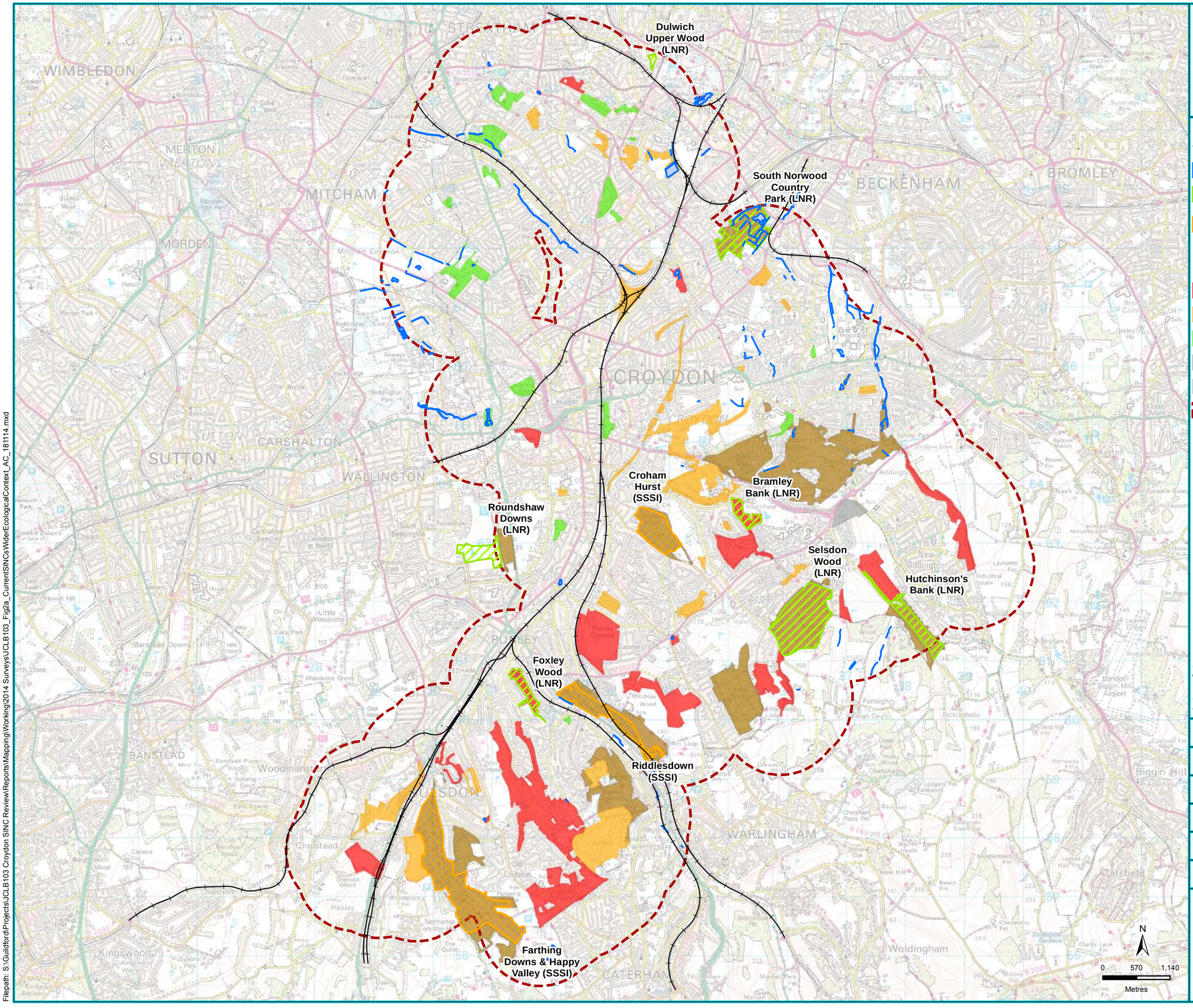
Figure Number	1b
Figure Title	Potential SINC's - Surveys Area Showing Site Locations



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Legend

- Railway
- Waterbody
- Local Nature Reserve (LNR)
- Site of Special Scientific Interest (SSSI)

Sites of Importance for Nature Conservation

- Grade I
- Grade II
- Local
- Unknown
- Metropolitan
- 1km Buffer

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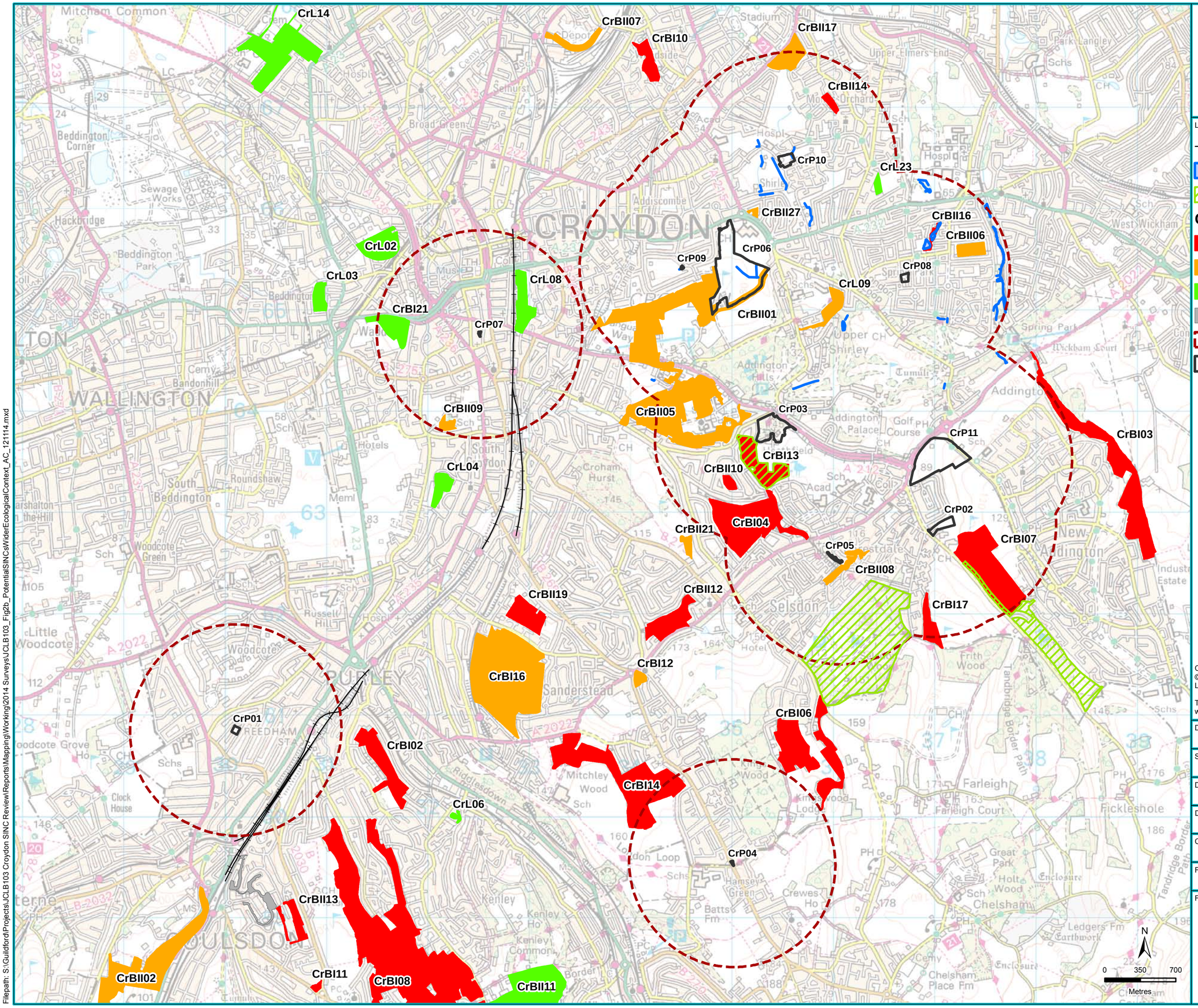
Client	Croydon London Borough Council
Figure Number	2a

Figure Title

Evaluated Current SINC Sites – Wider Ecological Context and Connectivity



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Legend

- Railway
- Waterbody
- Local Nature Reserve (LNR)

Current SINC Sites

- Grade I
- Grade II
- Local
- Uncertain
- 1km Buffer
- Potential SINC Boundary

Drawing Ref	JCLB103/17503/1
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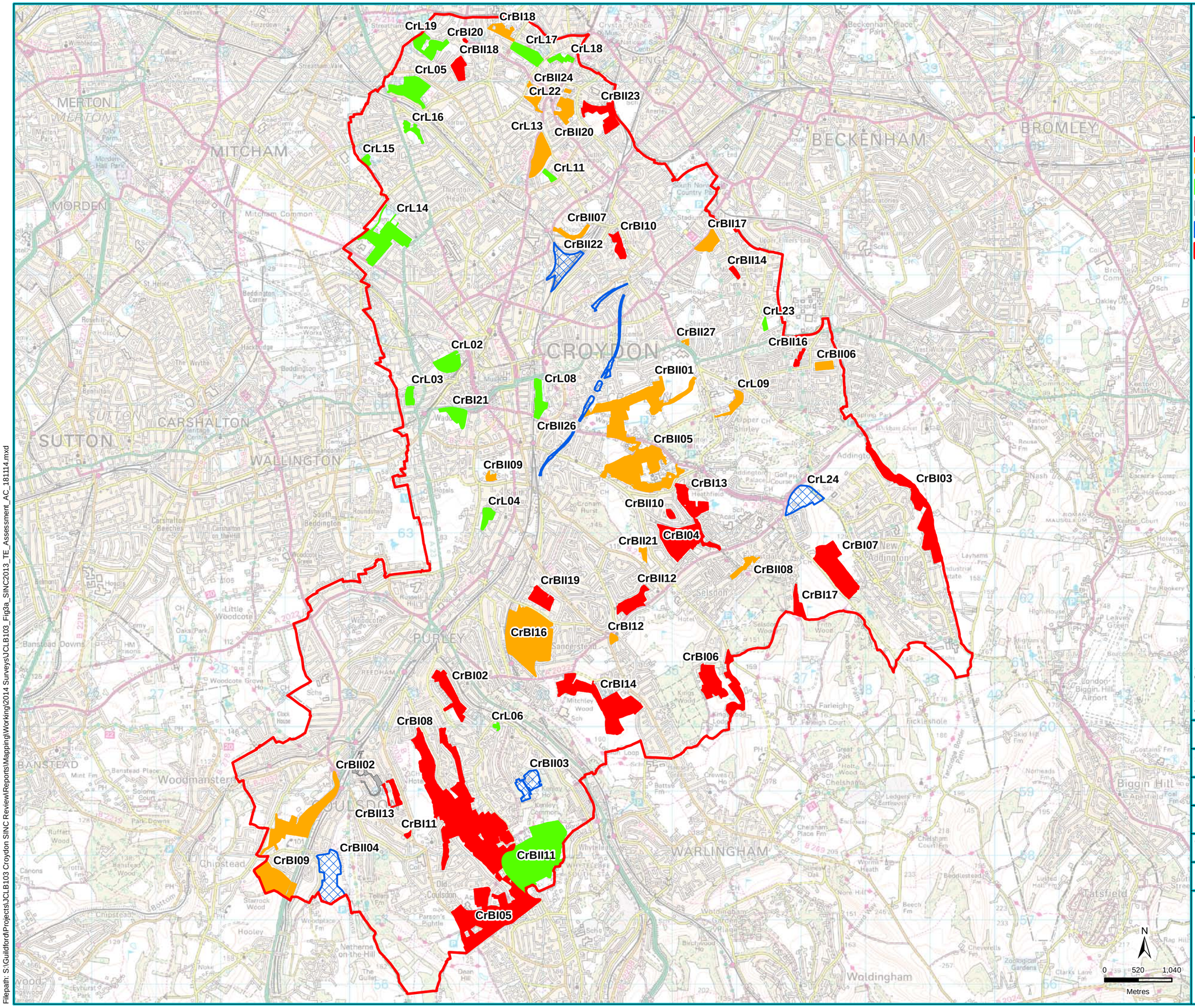
Client	Croydon London Borough Council
Figure Number	2b

Figure Title

Evaluated Potential SINC Sites – Wider Ecological Context and Connectivity



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Legend

- Grade I
- Grade II
- Local
- Uncertain
- Restricted Access
- London Borough of Croydon

Drawing Ref	JCLB103/17531/1
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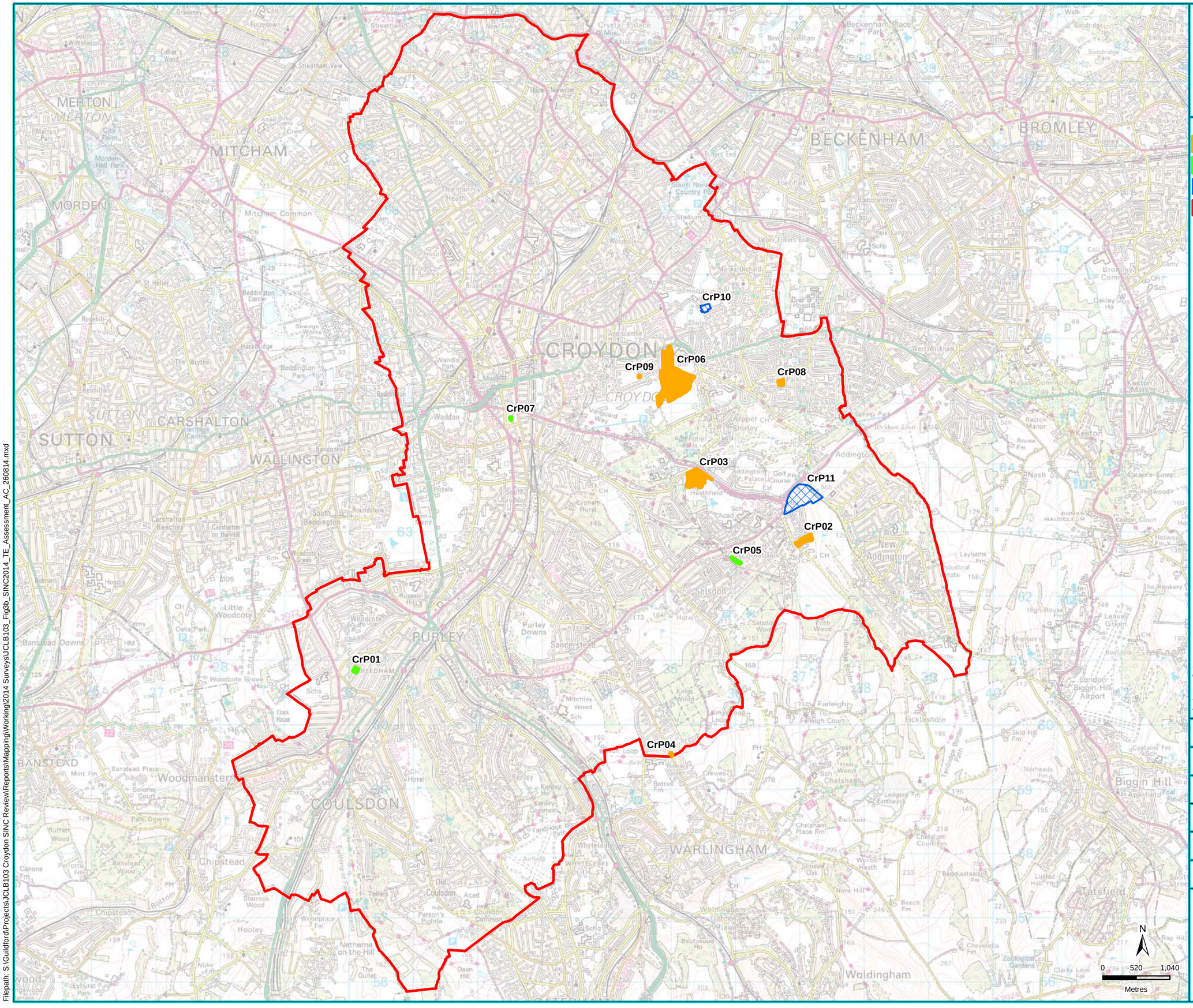
Client	Croydon London Borough Council
Figure Number	3a
Figure Title	Current SINC Sites - Revised Site Evaluations Following Review



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Legend

- Grade II
- Local
- Restricted Access
- London Borough of Croydon

Drawing Ref	JCLB103/17502/1
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Date: 18/11/2014	Date: 18/11/2014
Client	Croydon London Borough Council
Figure Number	3b
Figure Title	Potential SINC Sites - Site Evaluations

2. Introduction

2.1 Development Background

2.1.1 The Council is currently preparing the Croydon Local Plan: Detailed Policies and Proposals (CLPDPP) which will replace the remaining Saved Policies of the Unitary Development Plan (SPUDP, 13th July 2006). The CLPDPP will designate Sites of Importance for Nature Conservation Importance (SINCs) to be protected for their nature conservation value.

2.1.2 The SPUDP identifies 74 SINCs and includes policies (in particular Policy NC1) for their protection against adverse effects from development. The list of SINCs protected under this policy were identified based on ecological surveys and assessments which date from 1997.The list was last updated at that time and may no longer be fit for purpose in many instances. An update is required to provide robust evidence to support the designation of SINCs in the emerging CLPDPP.

2.1.3 Since 1997, a number of other sites have been identified by the Council, with its partners and stakeholders in the Local Plan making process that may meet the criteria for SINC designation. These additional sites also require evaluation to assess if they meet the criteria for SINC designation.

2.2 Ecology Background

2.2.1 The list of 74 SINCs currently protected under the SPUDP policy was identified based on ecological surveys and assessments which date from 1997 and comprises:

- 13 Sites of Metropolitan Importance within the context of Greater London;
- 19 Sites of Borough Importance Grade I;
- 25 Sites of Borough Importance Grade II; and
- 17 Sites of Local Importance.

2.2.2 Limited ecological information is currently available to the Council on these sites other than a one page description for each site based on surveys last undertaken in 1996/7.

2.2.3 There is currently no known ecological information available for the additional sites put forward for evaluation, which are not currently protected under the SPUDP.

2.3 The Brief and Objectives

2.3.1 The list of 74 SINCs which currently benefit from protection under saved policy NC1 of the SPUDP was identified based on ecological surveys and assessments which date from 1997.The list of SINCs was last updated at that time and may no longer be fit for purpose in many instances. An update is required to provide robust evidence to support the designation and protection of SINCs in the emerging CLPDPP and if required, to justify SINC designation in each case at the Examination in Public into the CLPDPP scheduled to take place in 2015.

2.3.2 Of the total 74 SINCs, 13 are of Metropolitan Importance and have been identified in the Mayor of London's Plan. Each of the remaining 61 SINCs needs to be re-surveyed to establish the

nature conservation importance of each location. Furthermore, the additional nine sites put forward by the Council resulting from consultation on the CLPDPP Preferred and Alternative Options, require surveys to establish if they merit designation as SINCs. The deliverables within the project timeframe should include, but not be limited to the following:

- Description of each existing SINC/ potential SINC and its current condition;
- Description of each sites habitat(s) including flora and fauna to be found on site;
- Qualitative justification for continued designation/ new designation as a SINC based on a consistent assessment criteria and methodology; and
- Any other recommendations for future planning designations for each site.

2.4 Limitations

2.4.1 The ecological surveys, on which the results of this report are based, were undertaken between May and October 2013 and between June and July 2014. The field survey programme sought to ensure that each habitat type was surveyed at the most optimal time of year, by identifying the predominant habitat type at each SINC from map and aerial photographic evidence. The programme began by surveying the predominantly woodland sites in May and progressed through other sites including grasslands and parkland. However, due to difficulties in agreeing access to certain sites, some habitats were surveyed at sub-optimal times. This is not however believed to significantly affect the survey results, since all sites were surveyed at a time of year when the identification of plant species was not compromised and their habitats could be assessed.

2.4.2 It has not been possible to survey some sites due to difficulties in securing access.

3. Methodology

3.1 Desk Study

3.1.1 No desk study was undertaken in connection with this project and the results and recommendations in this report are therefore based entirely on the field surveys described below. However, mapping information was used to support the field surveys, including aerial photographic information.

3.2 Field Survey

3.2.1 The survey area encompassed all existing SINCs of Borough Grade I, Borough Grade II and Local Sites within the London Borough of Croydon plus an additional nine sites that the Council requires surveys to assess their potential as new SINCs. The existing SINCs are shown on Figure 1a and those for potential SINCs are shown at Figure 1b. Figure 1a also identifies the status of current SINCs.

3.2.2 An extended Phase 1 habitat survey (JNCC,2010; IEA, 1995) was conducted at each of the sites within the survey area. Phase 1 habitat survey is a standard technique for rapidly obtaining baseline ecological information over a large area of land. It is primarily a mapping technique and uses a standard set of habitat definitions for classifying areas of land on the basis of the vegetation present.

3.2.3 Prior to the field survey of each existing SINC site and potential SINC site, the major habitat parcels as identified from mapping evidence and aerial photographic information, were uploaded onto mobile mappers. The major habitat information was then modified or 'ground truthed', by the ecologists in the field, so that for each site, distinct habitat parcels were accurately described and mapped. The standard habitat definitions were used with an additional category of coarse grassland for unmanaged, secondary grasslands that were species poor.

3.2.4 The dominant and readily identified species of higher plant species from each habitat type within each habitat parcel were recorded and their abundance was assessed on the DAFOR scale:

D Dominant

A Abundant

F Frequent

O Occasional

R Rare

3.2.5 This scale represents the abundance as assessed in the field within the defined area only and does not reflect national or regional abundances. Plant species nomenclature follows Stace (2010). Occasionally the prefix 'L' is used to indicate that the assessed abundance of a particular species is localised within the habitat or site.

3.2.6 Notable plant species (based on their rarity or their importance as indicator species typical of certain important habitat types, etc.) were also recorded.

3.2.7 Incidental records of fauna were also made during the survey and the habitats identified were evaluated for their potential to support protected species and other species of conservation concern, including species of principal importance for nature conservation under Section 41 of

the Natural Environment and Rural Communities (NERC) Act, 2006. However, no specific faunal surveys were undertaken.

3.2.8 For this survey, the standard Phase 1 habitat survey technique was modified (or extended) to provide more detail over a smaller area. The surveys also included an assessment of the condition of the habitats identified on each existing SINC/ proposed SINC site. The condition assessment methodology used for these surveys is based on a combination of widely used standard condition assessments including:

- The Common Standards Monitoring Guidance (JNCC, 2004);
- The Higher Level Stewardship Farm Environment Plan (FEP) Manual (Natural England 2010);
- The Hedgerow Survey Handbook (Defra, 2007); and
- Habitat Suitability Index (HSI), assessment for the likelihood of a water body supporting great crested newt (Oldham, et al, 2000).

3.2.9 These standard condition assessments were modified so that they were relevant to the purposes of this project and were aimed at gathering information on the physical characteristics of the habitats including structure, composition and management.

3.2.10 Appendix 1 shows the methodology used for the condition assessments in relation to the main habitat types identified in the surveys. The condition assessments were uploaded onto mobile mappers for completion in the field in order for the locations of each condition assessment to be accurately logged by a GPS so that it could be related precisely to each habitat parcel. This will also enable accurate future monitoring enabling the precise same locations to be re-assessed over a period of time.

3.2.11 The Phase 1 habitat surveys and condition assessments were supported by photographic evidence again taken with the mobile mappers and the locations of each photograph logged using GPS.

3.2.12 The surveys were undertaken between May and October 2013 and June and July 2014.

3.3 Site Assessment and Evaluation

3.3.1 Delivering the key requirements of the brief required a consistent and systematic survey and evaluation process to ensure that every existing SINC site and potential SINC site was surveyed and evaluated in exactly the same way. This process needed to not only be thoroughly consistent across the sites within Croydon, but given the National Planning Policy Framework (NPPF, DCLG, 2012) requirement to plan for biodiversity across local authority boundaries, this process also needed to be consistent with that adopted by neighbouring local authorities both within Greater London and Surrey. In this context, the Mayor of London's Biodiversity Strategy sets out criteria and procedures for identifying such land for protection in local plans. The London Wildlife Sites Board (LWSB) has developed a process by which London Boroughs (including the City of London) should select and approve SINCs (LWSB, 2013). The system in operation in London identifies three grades of SINC:

- Sites of Metropolitan Importance (SMI);
- Sites of Borough Importance (SBI) Grade I and Grade II, and
- Sites of Local Importance (SLI).

3.3.2 The field survey information collected was analysed and evaluated to ascertain where each site should be positioned in the above site status hierarchy.

3.3.3 Based on the mapping and habitat descriptions from the field surveys, detailed, accurate Phase 1 colour coded maps were produced in GIS using standard colour coding and accurately plotting the location of each target note. From these GIS maps, the area of each habitat type, within each site, was accurately measured and recorded. Species information for each habitat parcel was collated along with the results of the condition assessment(s) for each habitat parcel.

3.3.4 Based on this information, each existing SINC site and potential SINC site surveyed was described in detail, including their:

- Size;
- Habitat diversity;
- Habitat structure;
- Habitat condition, current land use and management;
- Dominant plant species and notable plant species; and
- Evidence of fauna and potential for species of conservation concern.

3.3.5 Based on this information each existing SINC site and potential SINC site was evaluated to establish if it merited policy protection within the forthcoming Croydon Local Plan (CLPDPP).The framework for this evaluation combined the guidance and criteria for local site selection from national guidance (Defra, 2006) and that specific to Greater London (LWSB, 2013). The criteria used are detailed in Appendix 2 and are largely based on the Ratcliffe Criteria (1997) which are summarised in Table 1 below:

Table 1: Summary of the key criteria used in evaluating the ecological value of sites in Croydon (based on the Ratcliffe Criteria, 1997)

Criteria	Description / Comments
Size	The value of a site usually increases with size. Smaller sites are therefore often of low ecological value.
Diversity	The variety of both species and communities. Sites with a low diversity are generally of low ecological value.
Naturalness	Degree of modification by man. Highly modified sites often have low ecological value.
Rarity	The presence of rare or local species or communities on site. Common and widespread species and communities are often of low ecological value.
Fragility	Degree of sensitivity of species, communities and habitats to environmental change. Recently established ephemeral or 'artificial' habitats are often of lower ecological value than long established habitats with slow colonising species as they are more readily recreated.

Typicalness	Sites that represent a 'typical' example of a particular ecosystem may have value as well as the best examples of particular ecosystems.
Recorded history	Value of the site for previous scientific study and research. Important sites may be designated for their scientific interest.
Position in an ecological/ geographical unit	Relationship of site to adjacent areas of conservation value. Sites that have no function as wildlife corridors or refuges within similar surroundings often have low ecological value.
Potential value	Potential of site to support species of conservation concern or to develop greater conservation interest through management or natural change. Sites with no or minimal potential are generally of low conservation value.
Intrinsic appeal	Popular species or groups of species (e.g. birds or orchids) may have a greater intrinsic value than others. Sites that support a low diversity of popular species are likely to be perceived as having low ecological value.

3.3.6 In evaluating each existing SINC site/potential SINC site based on these criteria, reference was also made to other relevant sources of information and guidance to provide context and supporting evidence including:

- Natural Character Area descriptions from Natural England;
- Ancient Woodland Inventory;
- Habitat and Species Action Plans.

3.3.7 To simplify this complex of evaluation criteria, a modified version of the process for assessing the biodiversity value of habitats requiring offsetting as a result of development was adopted based on Defra guidance (2012) and illustrated in Table 2.

Table 2: Matrix for assessing habitat distinctiveness and condition

	Habitat Distinctiveness		
Habitat Condition	**Low**	**Medium**	**High**
Good			e.g. lowland calcareous grassland habitat parcel that is grazed.
Moderate		e.g. semi – improved grassland that has been appropriately managed by cutting or grazing.	
Poor	e.g. species poor improved grassland that has been regularly mown.		

3.3.8 The key factor used in determining the value of each site was the distinctiveness of its habitats. Distinctiveness is described by Defra (2012) as, "*a collective measure of biodiversity and includes parameters such as species richness, diversity, rarity and the degree to which a habitat supports species rarely found in other habitats".* Distinctiveness therefore is a convenient way of summarising many of the key criteria used to evaluate local sites and summarised in Table 1 earlier.

3.3.9 Each habitat parcel on each existing SINC/ potential SINC site surveyed was assigned to one of the three distinctiveness bands based on the habitat type, species richness, diversity, rarity and naturalness, etc (see Appendix 2 for further details). Based on Defra guidance (2012) habitats of high distinctiveness are predominantly those which have been identified as habitats of principal importance for nature conservation under Section 41 of the NERC Act 2006. A list of these habitats is shown in Appendix 3.It should be noted that this list has been edited for the purposes of this report to remove coastal and marine habitats since none of these habitats occur in Croydon.

3.3.10 In defining habitats of high distinctiveness, strict interpretation of the habitat descriptions in the UK Biodiversity Action Plan Priority Habitat Descriptions (JNCC 2008 and 2011 http://jncc.defra.gov.uk/PDF/UKBAP_PriorityHabitatDesc-Rev2011.pdf) was adhered to. Where there were doubts as to the fit of the habitat with these descriptions, account was taken of factors such as the site location, history and land use, and adjacent habitats. Where such evidence was not conclusive, the habitat was not defined as being of high distinctiveness.

3.3.11 Condition assessments were also used as supporting evidence in defining the level of habitat distinctiveness. For example the grasslands condition assessment in the FEP Handbook (Natural England 2010) includes a key for the identification of grasslands of high distinctiveness. However, it should be noted that the actual physical condition of the habitat, while being recorded, was not used to determine the value of habitats. This was because condition is capable of being improved by for example changes in management, while distinctiveness is

inherent and generally cannot be changed in this way. Therefore a habitat of high distinctiveness that was in poor condition was still evaluated as being of high distinctiveness.

3.3.12 Habitats of high distinctiveness set the benchmark for evaluations and all such habitats were evaluated as Borough Grade I habitats, those of medium distinctiveness Borough Grade II habitats and those of low distinctiveness Local Grade as illustrated in Table 3 below.

Table 3: The relationship between habitat distinctiveness and habitat evaluation

3.3.13 It is important to note that no site was evaluated as being higher than Borough Grade I or lower then Local Grade. This was because the evaluation process has to continue to be consistent and comparable with that used by local planning authorities in Greater London which all use the same hierarchy. Furthermore, as the brief did not include a review of SMIs in the borough, it was not possible to compare the existing SINC sites/potential SINC sites surveyed with those attaining the Metropolitan standard. It may therefore be that some of the best Borough Grade I sites are comparable to SMI's. This matter is discussed further later in this report. Finally, Local Grade was the lowest grade on the hierarchy of sites in Greater London and it was felt that any site that has some biodiversity interest should not be evaluated lower than this level. Such sites can be significant in the local context where for example they may be the only semi natural areas surrounded by built development and therefore act as important stepping stones for the dispersal of species.

3.3.14 In relation to this last comment, it is important to note that all evaluations were based strictly on ecological criteria and ecological evidence collected from field surveys. No other factors were taken into consideration such as the value of sites in providing access to nature for local communities. The potential for combining such considerations into the evaluation process are discussed further later in this report.

3.3.15 After each defined component habitat type within each existing SINC site/ proposed SINC site had been evaluated as described above, the valuations for all the habitat parcels were then considered in aggregate to establish an evaluation for the whole site. In most cases the dominant habitat type (that covering the greatest proportion of the site) was used to evaluate the site as illustrated in the example below in Table 4 and Table 5.

Table 4: Example of an actual summary site evaluation table

Habitat Parcel	Habitat Distinctiveness [1]	Habitat Condition[2]	Total Area (ha) / Percentage of Total Site Area	Habitat Valuation
Species poor semi-improved grassland	Medium	Moderate	24.3ha/64.76%	Grade II
Broadleaved parkland/scattered trees	High	Moderate	3.5ha/9.33%	Grade I
Broadleaved parkland/scattered trees, poor semi-improved grassland mosaic	Low	Moderate	6.1ha/16.26%	Local
Mixed woodland	Medium	Moderate	1.46ha/3.89%	Grade II
Standing open water (Ponds)	High	Good HSI	0.04ha/0.12%	Grade I
Species-rich hedgerow with trees	High	Moderate	480m	Grade I

[1] Natural Character /Recreatability/Rarity and Importance

[2] Good, moderate, Poor – based on condition assessment

Table 5: Example of an actual final site evaluation table (for the same site as Table 4 above)

%age of site Grade I	%age of site Grade II	%age of site Local Grade	Size[4]	Overall Habitat Diversity	Protected and Priority Species[3]	Connectivity	Overall Valuation
9.37	68.65	16.26	37.52ha Large	Good. 6 habitats	Badger setts on site. Potential for amphibians. HSI score 0.72 (Good). Potential for reptiles and bats.	Good. Site adjoins railway embankment to the west which is also a Grade II SINC site (CrBII 26) and to CrBII05 and a Site of Metropolitan Importance to the south.	**Borough Grade II**

[3] Actually recorded and potential

[4] Scale of small (below 5ha), medium (5 to 20ha) and large (above 20ha)

3.3.16 In the above site example, the final evaluation of the site was a SINC Borough Grade II, even though the site contained habitat features evaluated as Borough Grade I. This assessment was based on the fact that over two thirds of the site was evaluated as Borough Grade II habitat.

3.3.17 There were cases where it was not appropriate to adopt the above approach because it would lead to sites being undervalued. For example, at one SINC that was reviewed, while only 30% of

the site was evaluated as being Grade I, the whole site was evaluated at that grade. In this case the reason was that the lowland calcareous grassland of high distinctiveness was being encroached to a significant extent by scrub. It was concluded that the scrub was occupying land that was formerly calcareous grassland (44% of the total site area) and that therefore there remained viable calcareous grassland habitat under the scrub. Adding the scrub area to the calcareous grassland therefore meant that 70% of the site was Grade I, or had the potential to be Grade I.

3.3.18 Other key evaluation criteria including overall habitat diversity, evidence of protected and priority species and connectivity of the site (see Appendix 2) were applied at this stage. These criteria were in some cases used to assist in determining whether sites on the margins between grades should be attributed to the higher or the lower grade. For the purposes of determining connectivity, Figures 2a and 2b were used, which show the evaluated existing SINC sites/potential SINC sites in their wider ecological context.

4. Results

4.1 Background

4.1.1 This section summarises the findings of the evaluation process described in Section 3. The key deliverables required by the project brief within the project timeframe were to include, but not be limited to the following:

- Description of each existing SINC site and potential SINC its current condition;
- Description of each site's habitat(s) including flora and fauna to be found on site;
- Qualitative justification for continued designation new designation as a SINC (if it exists) based on a consistent assessment criteria and methodology; and
- Any other recommendation on future planning designations of each site.

4.2 Review and Assessment of SINC Sites in Croydon – Evaluations

4.2.1 Appendices CrBI01 to CrL24 detail the field survey results and condition assessments and ecological evaluations for each current SINC site reviewed, based on the methodology described in Section 3. Appendices CrP01 to CrP09 detail the field survey results and condition assessments and ecological evaluations for each of the potential SINC sites.

4.2.2 A summary of the provisional evaluation for each SINC site reviewed is given in Figures 3a and 3b and in Table 6 below:

Table 6: Summary of the review of current SINC sites/ potential SINC sites

Site Name	Area (Ha)	Site Reference	Current Evaluation	Review Evaluation
Current SINC sites				
Foxely Wood	11.28	CrBI02	Grade I	Grade I
Rowdown and Birch Wood	28.25	CrBI03	Grade I	Grade I
Littleheath Woods	25.81	CrBI04	Grade I	Grade I
Coulsdon Common	57.07	CrBI05	Grade I	Grade I
Kingswood Shaw, Mossy Hill & Beech Way Woodland	21.95	CrBI06	Grade I	Grade I
Addington Court Golf Course	25.75	CrBI07	Grade I	Grade I
Coulsdon Court Wood & Betts Mead	108.64	CrBI08	Grade I	Grade I
Chipstead Chalk Pasture	18.59	CrBI09	Grade I	Grade II
Brickfields Meadow Doorstep Green	4.43	CrBI10	Grade I	Grade I
Bradmore Green Pond	0.54	CrBI11	Grade I	Grade I
Sanderstead Pond	1.30	CrBI12	Grade I	Grade II

Site Name	Area (Ha)	Site Reference	Current Evaluation	Review Evaluation
Bramley Bank	10.34	CrBI13	Grade I	Grade I
Mitchley Wood	35.38	CrBI14	Grade I	Grade I
Purley Downs Golf Course	53.12	CrBI16	Grade I	Grade II
Bear's Wood	4.24	CrBI17	Grade I	Grade I
Convent Wood	4.15	CrBI18	Grade I	Grade II
Beulah Hill Pond	0.24	CrBI20	Grade I	Grade I
Duppas Hill	6.53	CrBI21	Grade I	Local
Coulsdon Quarry & Wood	4.79	CrBI23	Grade I	Uncertain
Lloyd Park & Coombe Farm	37.52	CrBII01	Grade II	Grade II
Cane Hill Hospital	27.11	CrBII02	Grade II	Grade II
Kenley House Pastures	9.70	CrBII03	Grade II	No Access
Hooley Farm Pastures	22.53	CrBII04	Grade II	No Access
Royal Russell School and Ballards Plantation	38.82	CrBII05	Grade II	Grade II
Spring Park Wood	3.11	CrBII06	Grade II	Grade II
Heavers Meadow and Norbury Brook	3.41	CrBII07	Grade II	Grade II
Ashen Grove	2.98	CrBII08	Grade II	Grade II
Whitgift School Wood	1.39	CrBII09	Grade II	Grade II
The Ruffet	1.24	CrBII10	Grade II	Grade I
Kenley Aerodrome	62.69	CrBII11	Grade II	Local
Sanderstead Plantation	8.47	CrBII12	Grade II	Grade I
Stonefield and Bleakfield Shaws	3.65	CrBII13	Grade II	Grade I
The Glade	1.23	CrBII14	Grade II	Grade I
Spring Park Ponds	1.42	CrBII16	Grade II	Grade I
Long Lane Wood	6.27	CrBII17	Grade II	Grade II
Biggin Wood	5.18	CrBII18	Grade II	Grade I
Purley Beeches	7.27	CrBII19	Grade II	Grade I
Beaulieu Heights	6.87	CrBII20	Grade II	Grade II
Southeastern tip of Croham Hurst Golf Course	1.39	CrBII21	Grade II	Grade II
Selhurst Railway Triangle	13.82	CrBII22	Grade II	No Access
South Norwood Lake and Surrounds	9.69	CrBII23	Grade II	Grade I
The Lawns	4.34	CrBII24	Grade II	Grade II

Site Name	Area (Ha)	Site Reference	Current Evaluation	Review Evaluation
Addiscombe Railway Park & Selsdon & Addiscombe railsides	10.94	CrBII26	Grade II	No Access
Shirley Triangle	0.44	CrBII27	Grade II	Grade II
Wandle Park	8.60	CrL02	Local	Local
Waddon Ponds	3.09	CrL03	Local	Local
Haling Grove Park	3.76	CrL04	Local	Local
Norbury Park and Norbury Brook	14.16	CrL05	Local	Local
Oaklands, Kenley	0.57	CrL06	Local	Local
Park Hill	6.85	CrL08	Local	Local
Pinewoods	4.15	CrL09	Local	Grade II
Whitehorse Meadow	1.44	CrL11	Local	Local
Grangewood Park	11.22	CrL13	Local	Grade II
Croydon Cemetery Complex	20.48	CrL14	Local	Local
Pollards Hill	1.58	CrL15	Local	Local
Norbury Hall	2.86	CrL16	Local	Local
Upper Norwood Recreation Ground	7.82	CrL17	Local	Local
Westow Park	2.58	CrL18	Local	Local
Norwood Grove and Nettlefold Field	9.38	CrL19	Local	Local
Oakland Wood	0.39	CrL22	Local	Grade II
Parkfields Woodland	0.94	CrL23	Local	Local
Land at Kent Gateway	14.15	CrL24	Unknown	No Access
Potential SINC sites				
Copse Hill Spinney	0.40	CrP01	None	Local
Falconwood Meadow	1.70	CrP02	None	Grade II
Grounds of Heathfield House	6.04	CrP03	None	Grade II
Hamsey Green Pond	0.07	CrP04	None	Grade II
Ladygrove	0.28	CrP05	None	Local
Stream and Pond at Shirley Park Golf Course	22.89	CrP06	None	Grade II
Spices Yard Tree Belt	0.08	CrP07	None	Local
Temple Avenue Copse	0.53	CrP08	None	Grade II
Whitgift Pond	0.07	CrP09	None	Grade II
Land off Poppy Lane	1.43	CrP10	None	No Access

Site Name	Area (Ha)	Site Reference	Current Evaluation	Review Evaluation
Unknown	14.15	CrP11	None	No Access

4.2.3 Of the 56 existing SINC sites that were surveyed and reviewed, 39 sites have been evaluated at the same grade (70%). In total 17 sites (30%) have been evaluated at a different grade with 13 sites (23%) having increased in grade and 4 sites (7%) having reduced in grade.

4.2.4 Without any detailed information on previous surveys (such as Phase 1 habitat survey maps and related species lists) and without knowing the exact process by which grades were previously evaluated, it is not possible to identify specific reasons as to why some grades have changed. Undoubtedly, the evaluation methodology used for this project will account for some change since the process is based on identifying habitats of principal importance for nature conservation under Section 41 of the NERC Act 2006 – legislation which was not in place at the time of the original surveys.

4.2.5 However in some cases – especially where sites have been downgraded - it would appear that the change in grade may be attributable to a reduction in the ecological interests of the sites concerned as a result of either changes in land use or land management.

4.2.6 Of the nine potential SINC sites surveyed and evaluated, no sites were evaluated as being of Borough Grade I, six sites (67%) were evaluated at Grade II and three sites (33%) at Local Grade.

5. Legislation and Planning Policy Issues

5.1 Relevant Legislation and Planning Policy

5.1.1 Croydon London Borough Council, as local planning authority for Croydon, has a duty to prepare a Local Plan for the area and the Council is currently in the process of preparing the Croydon Local Plan: Detailed Policies and Proposals (CLPDPP). In preparing this Local Plan, the Council must be guided by the National Planning Policy Framework (NPPF, DCLG, March 2012). Therefore the CLPDPP must demonstrate compliance with the NPPF and produce evidence to support this.

5.1.2 The Government's objectives for conserving and enhancing the natural environment, as set out in the NPPF are:

- Protecting and enhancing valued landscapes, geological conservation interests and soils;
- Recognising the wider benefits of ecosystem services; and
- Minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.

5.1.3 In particular, the NPPF requires that:

"Local planning authorities should set criteria based policies against which proposals for any development on or affecting protected wildlife or geodiversity sites or landscape areas will be judged. Distinctions should be made between the hierarchy of international, national and locally designated sites, so that protection is commensurate with their status and gives appropriate weight to their importance and the contribution that they make to wider ecological networks".

5.1.4 Furthermore, the NPPF requires that:

"To minimise impacts on biodiversity and geodiversity, planning policies should:

- *Plan for biodiversity at a landscape-scale across local authority boundaries;*
- *Identify and map components of the local ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them and areas identified by local partnerships for habitat restoration or creation;*
- *Promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets, and identify suitable indicators for monitoring biodiversity in the plan;*
- *Aim to prevent harm to geological conservation interests; and*
- *Where Nature Improvement Areas are identified in Local Plans, consider specifying the types of development that may be appropriate in these Areas".*

5.1.5 In addition to this national planning policy, Croydon Council also has legal obligations and duties for biodiversity. Table 7 below summarises the main legal considerations for planning in Croydon:

Table 7: The legal obligations and duties of local authorities for biodiversity conservation

Legislation	Principal Requirements
Conservation of Habitats and Species Regulations, 2010 (as amended by the 2012 Regulations)	Part 2, the protection of European Sites, especially Section 39 Part 3,the protection of flora and fauna of European importance (European Protected Species, EPS) included in Schedules 2 and 5 Part 5, licensing arrangements for activities affecting EPS Part 6, especially Chapters 1 and 2 consideration of plans and projects affecting European Sites in planning applications and Chapter 8 consideration of European Sites in land use plans The Regulations, as amended in 2012, now requires local authorities to *"preserve, maintain and re-establish habitat for wild birds".*
Wildlife and Countryside Act 1981(as amended)	Part 1, protection of wildlife including the flora and fauna in Schedules 1, 5 and 8 Part 2, nature conservation including the protection of Sites of Special Scientific Interest (SSSIs). All local authorities are Section 28G authorities for the purposes of this Part. Section 39 provides discretionary powers for local authorities to enter into management agreements with landowners for the purposes of nature conservation.
Countryside and Rights of Way Act 2000 (CRoW Act)	Part 3, noting that Section 74 has been repealed
Natural Environment and Rural Communities Act 2006 (NERC Act)	Especially Sections 40, 41 and 42 which replace Section 74 of the CRoW Act. Section 40 places a duty on all statutory bodies to conserve biodiversity. Section 41 requires the Secretary of State to publish lists of the habitats and species of principal importance for nature conservation (See Appendix 3).
National Parks and Access to the Countryside Act 1949	Section 21 provides discretionary powers to enable local authorities to establish and manage local nature reserves (LNRs). Under the Conservation of Habitats and Species Regulations (Amendment) 2012, these powers have been extended from preserving flora and fauna to include enabling or facilitating its recovery or increase.
Protection of Badgers Act 1992	All parts. Badgers and their active setts are fully protected by law.
Wild Mammals (Protection) Act 1996	All parts. This Act makes it an offence to cruelly treat any wild mammal.

5.1.6 The ecological surveys undertaken for this project will support Croydon London Borough Council in meeting its duties and obligations under the NPPF and other relevant legislation as summarised above. In particular, the survey results and the site evaluations will assist the Council in:

- *Planning for biodiversity at a landscape-scale across local authority boundaries* – The site evaluation process is consistent with the framework adopted by the LWSB for all local authorities across Greater London;
- *Identify and map components of the local ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them and areas identified by local partnerships for habitat restoration or creation* – The results of the ecological survey and evaluation process will assist the Council in identifying the key components of the local ecological network including identifying locally designated sites of importance for biodiversity; and
- *Promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets, and identify suitable indicators for monitoring biodiversity in the plan* – The results of the ecological surveys have identified and mapped habitats of principal importance for nature conservation and identified sites which have the potential to support legally protected species and species of principal importance for nature conservation. The condition assessments of these habitat s will assist the Council in identifying and prioritising future management of these sites to improve their biodiversity value and potential and to address factors which are currently limiting these.

5.1.7 The survey results have enabled the identification of the habitats of principal importance for nature conservation under Section 41 of the NERC Act 2006 in Croydon. However, it should be noted that as the surveys were confined to 56 existing SINCs sites and nine potential SINC sites, it is likely that there are other habitats of principal importance in Croydon which lie outside of the currently designated sites. Croydon Council has requested that any suggestions for additional sites be made as part of the consultation on the Croydon Local Plan: Detailed Policies (Preferred and Alternative Options) in autumn 2013.

6. Potential Further Ecological Issues

6.1 Overview

6.1.1 The ecological surveys included the collection of incidental records of fauna or evidence of fauna species .This included for example:

- Habitat Suitability Index assessment (HSI) of all ponds to establish their potential to support amphibians and in particular the European Protected Species, great crested newt; and
- Recording badger setts found.

6.1.2 Furthermore, ecological surveys identified sites with potential for other legally protected and priority species including bats and reptiles and some with potential for dormouse, etc. However, the presence or absence of these species can only be confirmed through additional surveys targeted at these species. Nevertheless, where sites have been identified as having evidence or potential for protected and priority species, it will enable the Council to take these into consideration in the planning process.

7. Recommendations

7.1 Site Designation

7.1.1 The LWSB guidance for assessing sites of local importance refers to such sites as 'Sites of Importance for Nature Conservation' or SINCs. The current saved polices of the Local Plan however refer to them as Sites of Importance for Nature Conservation (SNCIs). It is therefore recommended, that to be consistent with other local authorities in Greater London, the Council adopts the same description in its future plans.

7.1.2 Based on the review of protected sites in Croydon, it is recommended that the Council identifies the sites in Table 6 as Sites of Importance for Nature Conservation (SINCs) with the revised evaluation grade, following consultation with the LWSB.

7.1.3 It is important to note that all evaluations were based strictly on ecological criteria and ecological evidence collected from field surveys. No other factors were taken into consideration such as the value of sites in providing access to nature for local communities. If the Council wishes to consider incorporating such considerations into the evaluation process, it is recommended that these be in addition to and separate from the ecological evaluations to maintain a robust ecological evidence base to support their designation.

7.1.4 It is important to note that no site was evaluated as being higher than Borough Grade I as the brief did not include a review of Sites of Metropolitan Importance (SMI's) in the borough. It was not possible therefore to compare the SINC sites surveyed with those attaining the Metropolitan standard. It may therefore be that some of the best Borough Grade I sites are comparable to SMI's. So that the full hierarchy of locally important sites has been reviewed and evaluated in the same way, the Council may therefore wish to consider either:

- Obtaining existing detailed ecological survey information for these sites; or
- Commissioning Thomson Ecology to re-survey these sites under the existing contract.

7.1.5 It has not been possible to survey some sites due to difficulties in securing access. It is therefore recommended that ecological surveys for those sites that it was not possible to gain access to in 2013 and 2014, be surveyed in 2015, if access arrangements can be negotiated. If access to these sites cannot be obtained, it is recommended that they continue to be evaluated as shown in the current Local Plan saved policies or for sites that are not current SINC's, that they are identified as potential SINC's.

7.2 Other Recommendations

7.2.1 The survey results have enabled the identification of the habitats of principal importance for nature conservation under Section 41 of the NERC Act 2006. However, it should be noted that as the surveys were confined to existing SINC sites, it is likely that there are other habitats of principal importance in Croydon which lie outside of the currently designated sites. The Council may therefore wish to consider commissioning Thomson Ecology to assist in identifying other habitats of principal importance in Croydon under the existing contract.

7.2.2 The survey results have identified sites that have high potential to support both legally protected and/or species of principal importance. It is recommended that the Council should take the possibility that protected species may exist on these sites as part of the planning process and should seek further detailed surveys for such species in the future if:

- Such sites are subject to future planning applications for development;
- Land adjacent to such sites is subject to future planning applications for development; and
- The landowners are considering changing the management of these sites.

8. Conclusion

8.1.1 The survey and assessment methodology employed for the purposes of this project provides a consistent approach to the review and evaluation of SINC sites in Croydon and is based on legal and national planning policy considerations. The results should therefore provide the Council with a robust basis on which to plan for the natural environment and biodiversity conservation in Croydon.

8.1.2 The ecological surveys and assessments undertaken for this project will support Croydon London Borough Council in meeting its duties and obligations under the NPPF and other relevant legislation.

8.1.3 The survey results have enabled the identification of the habitats of principal importance for nature conservation under Section 41 of the NERC Act 2006 in Croydon. However, it should be noted that as the surveys were confined to current SINC sites, it is likely that there are other habitats of principal importance in Croydon which lie outside of the currently designated sites.

9. References

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9.1.22 HM Government (2010) *Conservation of Habitats and Species Regulations, (as amended by the 2012 Regulations)*

9.1.23 HM Government (1981) *Wildlife and Countryside Act 1981(as amended)*

9.1.24 HM Government (2000) *Countryside and Rights of Way Act*

9.1.25 HM Government (2006) *Natural Environment and Rural Communities Act*

9.1.26 HM Government (1949) *National Parks and Access to the Countryside Act*

9.1.27 HM Government (1992) Protection of Badgers Act

9.1.28 HM Government (1996) Wild Mammals (Protection) Act

10. Appendix 1 - Criteria Used in Habitat Condition Assessments

Grasslands

Code	Criteria	Result	Notes
G1	Broadleaved herb composition – percentage of total grassland		Good= above 25% Moderate = 15 to 25% Poor = less than 15%
G2	Is the grassland semi-improved or species-rich grassland? Yes/No?		Semi improved = Medium distinctiveness Improved grassland = Low distinctiveness
G3	If semi-improved or species-rich grassland identify BAP type: G02 – Semi-improved grassland G04 – Lowland calcareous grassland G05 – Lowland dry acid grassland G06 – Lowland meadows (incl. coastal and flood plain grazing marsh) G07 – Purple moor grass and rush pasture		These are NERC habitat types = High distinctiveness
G4	Percentage of agricultural weed species in total sward		Less than 5% = Good condition 5-10% = Moderate condition Above 10%= Poor condition
G5	Percentage of bare ground/poached ground (as a generic standard, total extent should be no more than 5% of the sward)		Less than 3% = Good condition 3-5% = Moderate condition Above 5% = Poor condition
G6	Percentage of scrub cover in total sward		Less than 5% = Good condition 5 to 10% = Moderate condition Above 10% = Poor condition
G7	Percentage of bracken cover		Less than 3% = Good condition 3 to 5% = Moderate condition Above 5% = Poor condition
G8	Average sward height (cm)		
G9	Estimate percentage of litter in the sward		Less than 5% = Good condition 5 to 10% = Moderate condition Above 10% = Poor condition
G10a	Grazing? Yes/No?		If no grazing and no hay cutting = Poor condition
G10b	If yes horses/cattle/sheep		
G10c	Hay meadow? Yes/No		
G10d	Other regular cutting? Yes/No		
G10e	Unmanaged? Yes/No		

Woodlands

Code	Criteria	Result	Notes
W1	Percentage of area that has been obviously planted or re-planted e.g. conifers		Less than 10% = High distinctiveness 10 to 25% = Medium distinctiveness Above 25% = Low distinctiveness
W2a	Percentage cover of native species within the canopy layer		90% or more = High distinctiveness 75 to 90% = Medium distinctiveness Less than 75% = Low distinctiveness
W2b	Percentage cover of native species within the understory layer		As above
W2c	Percentage cover of native species within the ground layer		As above
W3	Ditches, banks and other earthworks - Present/Absent/Location		Presence = High distinctiveness
W4	Ancient woodland flora indicators - number of indicator species		Presence = High distinctiveness
W5	Percentage cover of understory layer (2-5m) present over total stand area		50% or more = Good condition 25 to 50% = Moderate condition Less than 25% = Poor condition
W6	Percentage canopy over stand area		Condition assessment based on combination of these factors. A well balanced woodland in good condition will have a proportion of each
W7	Percentage of standing dead wood in canopy		
W8	Percentage coverage of ground layer with fallen deadwood		
W9	Percentage area of bare ground		
W10	Regeneration - mix of age/size classes - good/medium/poor		
W10a	Ground flora, species diversity - number of indicator species		The higher the number the better the distinctiveness and condition providing they are woodland related species.
W11	Evidence of management? Yes/No. If yes what e.g. coppicing, clear felling etc		If none = Poor condition
W12a	Evidence of browsing/grazing? Yes/No		If significant degree of deer browsing = Poor condition
W12b	Degree of browsing/grazing - Significant/Minor		

Standing Water (Ponds and Lakes)

Code	Criteria	Result	Notes
P1	Pond area (m2)		The larger the better
P2	Permanence P2a: Never dries P2b: Rarely dries - Dries no more than two years in ten or only in drought P2c: Sometimes dries - Dries between three years in ten to most years P2d: Dries annually		Never dries = Good condition Rarely/Sometimes dries = Moderate condition Dries annually = Poor condition
P3	Percentage of perimeter of pond with hard edges (concrete, stone, brick etc.)		Less than 20% = Good condition 20 to 50% = Moderate condition Greater than 50% = Poor condition
P4a	Emergent aquatic plant composition - percentage area of open water		A well balanced pond in good condition will have a good proportion of each
P4b	Emergent aquatic plant composition – percentage area of marginal reed swamp/tall herb fen		
P4c	Emergent aquatic plant composition - percentage of floating aquatics		
P5a	Percentage bare mud/ substrate on bottom of pond/lake		A well balanced pond in good condition will have a good proportion of submerged aquatics - but not so much that the pond is choked.
P5b	Percentage cover of submerged aquatics		
P6	Percentage of pond overhung by trees/shrubs/buildings		Up to 20% = Good condition 20 to 40% = Moderate condition Above 40% = Poor condition
P7a	Phase 1 habitat survey code to describe surrounding area		Good – habitat types such as rough grassland, scrub, Brownfield sites and low intensity farmland that cover more than 75% of available area Moderate – habitat offers opportunities for foraging and shelter but may not be extensive (25-75% of available area) Poor – habitat with poor structure that offers limited opportunities for foraging and shelter (less than 25% of available area) None – no suitable habitat around pond
P7b	Habitat assessment for opportunities for foraging and shelter for amphibians and reptiles in surrounding area. -		
P8	Presence of waterfowl: - No evidence - waterfowl absent, moorhens may be present - Minor – waterfowl present, but little indication of impact on pond vegetation. Pond still supports submerged plants and banks not denuded of vegetation. - Major – severe impact of waterfowl, little or no		No or minor evidence = Good condition Major = poor condition

Code	Criteria	Result	Notes
	evidence of submerged vegetation, water turbid, pond banks showing patches where vegetation removed.		
P9	Presence of fish: - Absent - no record of fish stocking - Possible – no evidence of fish, but local conditions suggest that they may be present - Minor – small numbers of crucian carp, goldfish or stickleback known to be present - Major – dense populations of fish know to be present		No or minor evidence = Good condition Major = poor condition
P10	Water quality assessment - Good - Reasonable - Poor Justification based on assessment of : water clarity, rubbish, green algae density, presence of fish, presence of waterfowl etc.		Good = Good condition Reasonable = Moderate condition Poor = Poor condition

Hedgerows

Code	Criteria	Result	Notes
H9a	Undisturbed ground (at least 2m) estimate of the average width of undisturbed ground from the centre-line of the hedgerow/		The wider the undisturbed margin, the better the hedge condition. Over 2m = Good, 1 to 2 m = Moderate, below 1m =Poor
H9b	Herbaceous vegetation (at least 1m) estimate of average width of perennial herbaceous vegetation between the centre line of the hedgerow and adjacent disturbed ground		
H10	Estimate of percentage cover of nettles, cleavers and docks within a 2m wide band alongside the hedgerow.		These species can indicate disturbance or neglect and need to be assessed in conjunction with H9 above.
H11a	Estimate of the cover of all non-native herbaceous species as percentage of area of 2m band extending from centre-line of hedgerow		Higher %age = poorer condition.
H11b	Estimate of the cover of all non-native woody species as percentage area of vertical face of hedgerow		Higher %age = poorer condition.
H13a	Measure of the average height of hedgerow (at least 1m)		Hedgerow height is not necessarily an indication of quality but of maturity and management.
H13b	Measure of the average width at widest point of hedgerow canopy, shoot tip to shoot tip (at least 1.5m)		Hedgerow width is not necessarily an indication of quality but of maturity and management.
H13c	Cross sectional area of hedgerow, given by average height x average width		
H14a	Estimate of the total length of gaps present as a percentage of total hedgerow length or 30m section		Gappiness is a good indication of hedgerow condition. Over 10% = Poor condition
H14b	Record if any gaps >5m wide excluding access points		Large gaps are a good indication of hedgerow condition. If more than one 5m wide gap in a 30m section = Poor condition
H14c	Estimate of the average height from the base of the hedgerow to the lowest leafy growth		Gappiness between the ground and the 'canopy' of the hedge is a good indicator of condition. Less than 20cm = Good, over 50cms = Poor

11. Appendix 2 - Criteria for Site Evaluation

N= Criteria from national guidance contained in Defra, 2006

L= Criteria from the London Wildlife Sites Board, 2013

Size or Extent

N - The ability of a site to support a species depends, in part, upon its extent. The requirements of many species of animal for minimal areas for foraging and territories for breeding may preclude their survival within smaller areas of otherwise suitable habitat. The same may also be true of certain plant species where the long-term viability of populations may require a minimal extent of habitat free from adverse environmental influence, allowing for turnover within local populations Although, for mobile species, including many birds, mosaics of different habitat features or elements at the wider landscape scale are essential, the presence of individual blocks of a particular habitat type of a minimal size can nevertheless be critical.

L - Large sites are usually more important than small sites. They may allow for species with special area requirements. Large sites may be less vulnerable to small-scale disturbance, as recovery is sometimes possible from the undisturbed remainder. They are also more able to withstand visitors, by diluting their pressure within a wider space. Size is also related to the richness of habitat and species, and so is used as a surrogate for these other two criteria where information is incomplete.

Diversity /Species Richness

N - A key principle of nature conservation is to sustain the diversity of wildlife, habitats, geological and geomorphological features. The former includes maintaining genetic diversity within populations of animals and plants as well as the diversity of species and habitats. Some habitats are characteristically more species-rich than others.

L – Species Richness - Generally, sites that are rich in species are to be preferred, as this permits the conservation of a correspondingly large number of species. However, some habitats, such as reed beds, heaths and acid woodlands, are intrinsically relatively poor in species.

Habitat richness- Protecting a site with a rich selection of habitat types not only conserves those habitats, but also the wide range of organisms that live within them and the species that require more than one habitat type for their survival. Rich sites also afford more opportunities for enjoyment and educational use

Naturalness/Ancient Character and Recreatability

N- Human activities past and present have had such an impact that even those parts of the landscape that seem least modified are now more usually described as ‘semi-natural’. In this context, the concept of ‘naturalness’ is probably better considered not as the absence of human intervention or legacy within a site but the degree to which a site supports natural features or demonstrates active or past natural processes.

L- Some sites have valuable ecological characteristics derived from long periods of traditional management, or even a continuity in time to the woodlands and wetlands which occupied the London area before agriculture. Ancient woodlands, old parkland trees and traditionally managed grasslands

tend to have typical species that are rare elsewhere. These habitats deserve protection also because of the ease with which they are damaged by changes in management, ploughing, fertiliser and herbicide treatment.

Habitats vary in the ease with which they can be recreated and the length of time required; for example ponds can be created from scratch with reasonable success within a few years, but woods not only take much longer - at least decades - to mature, but even then they do not contain the same flora and fauna as ancient woods on undisturbed soils. In addition to the ecological reasons why certain habitats cannot be recreated, many sites are not capable of being recreated because of practical reasons such as land availability and cost. The more difficult it is to recreate a site's habitats the more important it is to retain it.

Rare or exceptional ecological features

N- This is perhaps the most self evident of the criteria. The local loss of a rare species or habitat may result directly in the reduction in its wider geographical range. For species that are rare, local populations may represent an important part of the total species gene pool. The loss of a local population may result in the irreversible loss of genetic diversity, local races or subspecies and ultimately of species themselves.

L- Habitat rarity- The presence of a rare habitat makes a site important, because the loss of, or damage to, only a few sites threatens the survival of the habitat in the search area.

Species rarity- The presence of a rare species makes a site important in a way that parallels rare habitat.

NB For the purposes of this assessment, the habitats and species considered to be rare or exceptional are those which are protected by law or national policy

Typicalness

N- Generally, Local Sites will not be typical of the landscapes in which they are found; their designation is likely to reflect the fact that they are special in some way. Rather, their value lies in them exemplifying a type of habitat, geological feature, or a population of a species, that is characteristic of the natural components of the landscape in which they are found. Wildlife habitats and geological features play an important role in helping define a 'sense of place' or local distinctiveness. They represent the 'natural character' of an area, especially where this has been lost or eroded from the wider landscape. Similarly, sites may exemplify natural processes past or present whether geological or biological. In this way, Local Sites are likely to typify the best of the natural environment of an area. So what landscape character area does Croydon fall into?

Fragility

N- Fragility should not be construed as susceptibility to development. It is the intrinsic sensitivity of habitats or features that should be considered rather than the site's likelihood to face development. Different types of habitat and geological feature have different sensitivities to change and damage.

Recorded history and cultural associations

N- Because the natural environment has been extensively shaped and influenced by human activity, the natural features that we have inherited and which provide important components of regional and local distinctiveness also represent important parts of our cultural heritage. Past investigation or recording of a

site can add greatly to its value for understanding processes and change in the natural environment. Many sites also have links to historic events or have literary or other associations in art.

L- Sites such as historic gardens with semi-wild areas, garden suburbs, churchyards and Victorian cemeteries which have reverted to the wild may have a unique blend of cultural and natural history.

Connectivity within the landscape

N - Besides being of intrinsic interest themselves and directly supporting wildlife within their boundaries, Local Sites also have an important role in supporting populations of species within the wider landscape. Such species may not depend on any single site or piece of habitat but rather require a habitat resource which is comprised of numerous patches which though dispersed, are accessible and are potentially parts of a functional network. Individual sites need to be considered in terms of the contribution they make to such networks; not simply the quantity of habitat they provide, but its geographical position. The quality of habitat and the nature of the surrounding matrix are also extremely pertinent considerations.

NB In this context it should be noted that Section 39 of the Conservation of Habitats and Species Regulations 2010 requires that when producing planning policies, local planning authorities should produce polices for “encouraging the management of features of the landscape which are of major importance for wild fauna and flora”. For the purposes of this section, features of the landscape which are of major importance for wild fauna and flora are defined as: “those which, by virtue of their linear and continuous structure (such as rivers with their banks or the traditional systems of marking field boundaries) or their function as “stepping stones” (such as ponds or small woods), are essential for the migration, dispersal and genetic exchange of wild species”.

12. Appendix 3 - Natural Environment and Rural Communities (NERC) Act 2006

Section 41: Habitats of Principal Importance in England

Broad habitat	Habitat name
Arable and horticulture	Arable field margins
Arable and horticulture	Traditional orchards
Boundary	Hedgerows
Freshwater	Aquifer-fed naturally fluctuating water bodies
Freshwater	Eutrophic standing waters
Freshwater	Mesotrophic lakes
Freshwater	Oligotrophic and dystrophic lakes
Freshwater	Ponds
Freshwater	Rivers
Grassland	Lowland calcareous grassland
Grassland	Lowland dry acid grassland
Grassland	Lowland meadows
Grassland	Purple moor-grass and rush pastures
Grassland	Upland calcareous grassland
Grassland	Upland hay meadows
Heathland	Lowland heathland
Heathland	Mountain heaths and willow scrub
Heathland	Upland heathland
Inland rock	Calaminarian grasslands
Inland rock	Inland rock outcrop and scree habitats
Inland rock	Limestone pavements
Inland rock	Open mosaic habitats on previously developed land
Wetland	Blanket bog
Wetland	Coastal and floodplain grazing marsh
Wetland	Lowland fens
Wetland	Lowland raised bog
Wetland	Reedbeds

Broad habitat	Habitat name
Wetland	Upland flushes, fens and swamps
Woodland	Lowland beech and yew woodland
Woodland	Lowland mixed deciduous woodland
Woodland	Upland mixed ashwoods
Woodland	Upland oakwood
Woodland	Wet woodland

See http://jncc.defra.gov.uk/page-5706