

Reptile Survey

Cannon Hall Park
Cawthorne, Barnsley

Plincke Landscape Limited

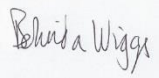
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accessEcology

QUALITY ASSURANCE

REPORT TYPE	SITE NAME	REVISION
Reptile Survey	Cannon Hall, Cawthorne, Barnsley, S75 4AT	final

CLIENT	COMMISSION DATE
Plincke Landscape Limited	16 th August 2017

	NAME	QUALIFICATIONS	POSITION	SIGNATURE	DATE
PRINCIPAL AUTHOR	Belinda Wiggs	BA Hons MCIEEM	Senior Ecologist		15/11/2017
CHECKED BY	Elizabeth McBride	BSc (Hons) MCIEEM	Ecologist		
AUTHORIZED BY	Nick Bonsall	BSc hons MCIEEM	Principal Ecologist / Director		05/12/2017

Access Ecology Ltd

Unit R1B Riverside Block
Sheaf Bank Business Park
Sheffield
S2 3EN
Tel: 0114 258 7819

info@accessecology.co.uk

www.accessecology.co.uk

TABLE OF CONTENTS

A	Introduction.....	4
A.1	Background to Survey.....	4
A.2	Survey validity.....	5
B	Planning policy and legislation	6
C	Methodology	8
C.1	Scope of the Assessment	8
C.2	Desk study	8
C.3	Field survey	8
D	Baseline ecological conditions	10
D.1	Biological Records	10
D.2	Habitats	10
D.3	Species and species groups	11
E	CONCLUSIONS AND RECOMMENDATIONS.....	14
F	References	15
F.1	UK Legislation and Policy Web Addresses:	15

TABLES

TABLE 1.	SITE LOCATION DETAILS	4
TABLE 2.	PRE-EXISTING INFORMATION	5
TABLE 3.	ECOLOGICAL RESOURCES/FEATURES CONSIDERED RELEVANT	8
TABLE 4.	CONSULTED RECORDS ORGANISATION	8
TABLE 5.	SURVEY, DATES, TYPE AND PERSONNEL.....	8
TABLE 6.	REPTILE SURVEY DATES, PERSONNEL AND ENVIRONMENTAL DATA	11
TABLE 7	SUMMARY OF REPTILE PRESENCE/ABSENCE SURVEY RESULTS	12

APPENDICES

APPENDIX A

APPENDIX A. 1 Map showing location of survey tins

A INTRODUCTION

- 1 The principal author of this report is Belinda Wiggs BA Hons MCIEEM (Natural England Protected Species Licence number 2015-15859-CLS-CLS) Senior Ecologist with Access Ecology Ltd.
- 2 Access Ecology Ltd was commissioned on 16th August 2017 by Plincke Landscape Limited to undertake the ecological survey works at the location listed within Table 1.

Table 1. Site location details

SITE ADDRESS	GRID REFERENCE (SITE CENTROID)
Cannon Hall Park, Cawthorne, Barnsley S75 4AT	SE 27485 08124

- 3 The site at Cannon Hall was assessed as having potential to provide suitable habitat for reptiles, particularly along the water course of Daking Brook.
- 4 The purpose of the survey is to identify the presence or likely absence of any protected or notable species, with particular reference to reptiles, within the grounds of Cannon Hall Park, Cawthorne, Barnsley prior to the proposed dredging works in February 2018.
- 5 This report has been designed to comply with standard reporting guidelines provided within both the *British Standard Biodiversity – Code of practice for planning and development – BS 42020:2013* (BSI, 2013) and the *Chartered Institute of Ecology and Environmental Management Guidelines for Ecological Report Writing* (CIEEM, 2015).

A.1 Background to Survey

- 6 Cannon Hall is a stately home, with associated parkland grounds which is open to the public throughout the year.
- 7 The main habitats on site consist of mixed broad leaved woodland and plantation, scattered parkland trees, a central area of amenity grassland surrounded by species rich hedgerow along the boundaries.
- 8 The Daking Brook flows west to east across the southern part of the site, the banks of which are vegetated by tall ruderals, wetland plants, scrub and trees. Three weirs or cascades have been installed along the brook creating three ponds along the water course.
- 9 The survey was commissioned to inform the proposal to carry out dredging works on the lakes along the brook. The Cannon Hall Lakes Restoration - HCP/GS/KLT/CP/08/18 report outlines the plans for restoration dredging works to the Daking Brook.
- 10 Access Ecology Ltd was provided with the plans and background information as shown within Table 2.

Table 2. Pre-existing information

TYPE	ITEM TITLE / REFERENCE	DATE ISSUED / PUBLISHED
Report	Cannon Hall Lakes Restoration - HCP/GS/KLT/CP/08/18	10 th March 2010
Map	Ordnance Survey mapping with the permission of Her Majesty's Stationery Office. - Licence number 100022264 (2006)	27 th Feb 2013
Map	Cannon Hall Field map	10 th July 2015
Map	141113_110bCannon Hall Master plan	Feb 2015

A.2 Survey validity

- 11 The results of the survey written about in this report are considered to be valid for up to two years of the date of publication: December 2017.

B PLANNING POLICY AND LEGISLATION

- 12 This legal information is presented in summary form and is intended for general guidance only. It is recommended the original documentation is referred to for detailed and definitive information. Web addresses are located in section F.1.

Reptiles

- 13 All reptiles are protected under the Wildlife and Countryside Act 1981 (as amended), making it illegal to intentionally kill or injure a common reptile. **Rare** reptiles (**smooth snake** and **sand lizard**) also receive legal protection under the Conservation of Habitats and Species Regulations 2010.

Habitat Regulations

- 14 The Conservation of Habitats and Species Regulations 2010 transpose Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna (Habitats Directive) into English law, making it an offence to deliberately capture, kill or disturb wild animals listed under Schedule 2 of the Regulations. It is also an offence to damage or destroy a breeding site or resting place of such an animal (even if the animal is absent at the time).

Wildlife & Countryside Act 1981

- 15 The Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way Act (CRoW) 2000 and the Natural Environment and Rural Communities Act (NERC) 2006 (which also places a duty on authorities to have due regard for biodiversity and nature conservation) consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the Conservation of Wild Birds (Birds Directive), making it an offence to:
- 16 Intentionally kill, injure or take any wild bird or their eggs or nests (with certain exceptions) and disturb any bird species listed under Schedule 1 to the Act, or its dependent young while it is nesting;
- 17 Intentionally kill, injure or take any wild animal listed under Schedule 5 to the Act; intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any wild animal listed under Schedule 5 to the Act; intentionally or recklessly disturb certain Schedule 5 animal species while they occupy a place used for shelter or protection;
- Pick or uproot any wild plant listed under Schedule 8 of the Act.
 - Plant or otherwise cause any species listed in part 2 of Schedule 9 (Which includes Japanese Knotweed) to grow in the wild.

National Planning Policy Framework

- 18 The NPPF outlines government planning policies and how they should be applied within local authorities. The framework places an emphasis on sustainable development, encouraging the re-use of land that has previously been developed over using land that has a higher environmental value and by minimising impacts on biodiversity. The NPPF states that developments should aim to conserve or enhance biodiversity and encourages opportunities to incorporate biodiversity in and around developments.

Biodiversity Action Plans

- 19 The original objective of the UK Biodiversity Action Plan (UKBAP) was to fulfil the requirements of the Rio Convention on Biological Diversity in 1992, to which the UK is a signatory. A list of national priority species and habitats has been produced with specific action plans defining the measures considered necessary to ensure their conservation. Regional and local BAPs have also been developed for species/habitats of nature conservation importance both regionally and locally.

Local Structure Plans

- 20 County, District and Local Councils have Structure Plans and other policy documents that include targets and policies which aim to maintain and enhance biodiversity through the planning system.

C METHODOLOGY

C.1 Scope of the Assessment

C.1.1 Zone of Influence

- 21 The whole site is 36.6ha
- 22 The predicted zone of influence is considered to be the habitats adjacent to the Daking Brook and the immediate surrounding area. However, for the purposes of the data search, the potential zone of influence for mobile species such as reptiles has been considered up to 2km from the site.

C.1.2 Ecological resources/features considered relevant

- 23 Table 3 lists the ecological resources/features that are considered within this report. These resources/features are considered relevant to the site and type of development proposed.

Table 3. Ecological resources/features considered relevant

RESOURCE/FEATURE
Internationally Designated Wildlife Sites (within a 2km radius)
Nationally Designated Wildlife Sites (within a 2km radius)
Locally Designated Wildlife Sited (within a 2km radius)
European Protected Species (Specify)
Habitats and species of principal importance for conservation of biodiversity
UKBAP Species and Barnsley LBAP species

C.2 Desk study

C.2.1 Records Data Search

- 24 Ecological record information for the site and surrounding area (up to two kilometres) was requested from the organisations included within Table 44.

Table 4. Consulted Records Organisation

DATE CONSULTED	ORGANISATION	RECORDS REQUESTED
August 15	Barnsley Biological Records Centre	Reptile records within 2km of the site

C.3 Reptile presence / absence survey

- 25 Table 5 lists the habitat surveys carried out on site and the personnel who undertook them. Summary methodologies are provided below.

Table 5. Survey, Dates, Type and Personnel

DATE(S)	SURVEY TYPE	PERSONNEL
21/08/2017	Reptile survey	Belinda Wiggs BA Hons MCIEEM Senior Ecologist

DATE(S)	SURVEY TYPE	PERSONNEL
	Deploying reptile tins	Miles Watchman Assistant Ecologist BSc
05/09/2017	Reptile survey visit 1	Belinda Wiggs
07/09/2017	Reptile survey visit 2	Belinda Wiggs
13/09/2017	Reptile survey visit 3	Belinda Wiggs
15/09/2017	Reptile survey visit 4	Belinda Wiggs
18/09/2017	Reptile survey visit 5	Belinda Wiggs
19/09/2017	Reptile survey visit 6	Belinda Wiggs
26/09/2017	Reptile survey visit 7	Belinda Wiggs
	Collecting Tins	Aran Leaf BSc Grad CIEEM Ecologist

- 26 The reptile survey included seven site visits and was conducted using two methodologies outlined in the Reptile Management Handbook (Edgar et al, 2010) to establish the presence/absence of reptiles across the site.

C.3.1 Visual Encounter Surveys

- 27 Visual Encounter Surveys involved the surveyor slowly inspecting the areas between the refugia across the site for signs of reptile activity e.g. sloughed skins.
- 28 Also each refugia was observed from a distance using binoculars to try to observe reptiles basking in the sun without disturbing them. Following this, each refuge was approached cautiously and turned over to observe any reptiles sheltering under the artificial refugia.

C.3.2 Artificial Refugia Searches

- 29 50 sheets of corrugated metal approximately 0.5m² and painted black on the upper side were deployed across the suitable habitats; tall ruderals, un-cut grassland, hedgerow bottom adjacent to the water course along the Daking Brook. The locations of the refugia were logged using GPS and then left in-situ throughout the survey period. Please refer to APPENDIX A.1 for a plan detailing reptile tin numbers and placement locations.
- 30 There is currently no definite guidance for the recommended density of tins required for a reptile population assessment. However it is generally accepted that between 5 and 10 tins per hectare of suitable habitat (Froglife, 1999); (Hill, et al., 2007) is considered reasonable to determine presence/absence.
- 31 The tins were deployed and left in situ for two weeks. Following the interim settling in period, seven inspections of the refugia were undertaken by a suitably experienced ecologist SQE in September 2017, in weather conditions conducive to reptile activity (sunny, partially cloudy and between 10-20°C). The survey dates, personal and environmental data are provided in Table 6.

C.3.3 Other Protected Notable Species

The presence of or evidence of, other protected and notable species were recorded by the surveyors if encountered during the survey.

D BASELINE ECOLOGICAL CONDITIONS

D.1 Biological Records

32 Barnsley Biological Records Centre (BBRC) was contacted in 2015 for a data search of all species within a 2km point and radius.

33 Five Amphibian records were found within the site boundary; 2 common toad *bufo bufo* and one common frog *Rana temporaria* records were found to the north eastern end of the site. On 1st June 2005 1 gravid female smooth newt *Triturus vulgaris* plus 10 more were recorded emerging from the base of the wall at the “walled garden pond” towards the north eastern end of the site.

34 **No records of reptiles were returned.**

D.2 Habitats

35 The following habitats occur adjacent to the Daking Brook water course and offer potential cover for reptiles.

Woodland

36 The younger trees and scrub along the brook include birch *Betula pendula*, alder *Alnus glutinosa*, crack willow *Salix fragilis*, goat willow *Salix capraea*, hazel *Coryllus avellana*, ash *Fraxinous excelsior*, elm *Ulmus glabbra*, sycamore, wild plum *Prunus* sp. rowan *Sorbus aucuparia*, There are also several large standing dead wood trees.

37 Along the southern boundary there is another area of mixed woodland south of the river. The species here are mature oak *Quercus petraea*, horse chestnut *Aesculus hippocastanum*, ash, Scot's pine *Pinus sylvestris*, silver birch, hornbeam *Carpinus betulus* and extensive areas of blackthorn *Prunus spinosa* scrub. The ground flora here is dominated by uncut grasses of Yorkshire fog *Holcus lanatus*, false oat grass *Arrhenatherum elatius*, creeping bent *Agrostis stolonifera*, with occasional tall ruderals of creeping thistle *Cirsium arvense* and rosebay *Chamerion angustifolium*.

Scrub

38 Scattered scrub occurs mainly as an understorey along the water course including blackthorn, holly, goat willow, and regeneration of other species such as sycamore, ash, oak, elm and birch.

Tall ruderal

40 Along the banks of the river the uncut vegetation is dominated by tall ruderals such as creeping thistle, hogweed *Heracleum sphondilium*, greater willow herb *Epilobium hirsutum*, cow parsley *Anthriscus sylvestris*, broad leaved dock *Rumex obtusifolius*, rosebay, meadowsweet *Filipendula ulmaria*, greater bird's foot trefoil *Lotus pedunculatus*, marsh

woundwort *Stachys palustris*, common hemp nettle *Galeopsis tetrahit* and valerian *Valeriana officianalis*.

- 41 Closer to the river are plants more indicative of wetland habitats such as three species of rushes *Juncus* sp. brooklime *Veronica beccabunga*, water plantain *Plantago alisima-aquatic*, water mint *Mentha aquatica*, marsh cudweed *Gnaphalium uliginosum* and skullcap *Scutellaria galericulata*.

Swamp

- 42 In some areas the tall ruderal habitat is more reminiscent of swamp which contains tall emergent vegetation typical of the transition between open water and exposed land.
- 43 Downstream, in the lower lake, the channel is dominated by large swathes of common reed *Phragmites australis* forming reed beds / swamp.

Running water

- 44 The running water is the Daking Brook that flows from west to east across the southern part of the site, over two cascades forming three lakes. In the central lake are large rafts of yellow water lilies *Nympha lutea*. Downstream, in the lower lake, the width of the river is dominated by beds of common reed.

Hedgerow

- 45 The intact species rich hedgerow occurs along the southern boundary and is dominated by uncut field maple *Acer campestre*, ash, elm, sycamore and large patches of blackthorn.

D.3 Species

D.3.1 Reptiles

Table 6. Reptile Survey Dates, Personnel and Environmental Data

Surveyors:		Belinda Wiggs Senior Ecologist Miles Watchman Ecologist Aran Leaf Ecologist					
Tins deployed		21/08/16					
Visit number	1	2	3	4	5	6	7
Date	05/09/2017	07/09/2017	13/09/2017	15/09/2017	18/0/2017	19/09/2017	26/09/2017
Time start	12.25	10.50	10.00	13.00	14.00	14.00	14.00
Time finish	14.00	12.30	11.40	14.40	15.40	15.30	15.30
Temperatur	18 °C	17 °C	12 °C	14 °C	15 °C	17 °C	17 °C

e °C							
Beaufort – wind	3	4	7	2	1	2	1
Cloud cover %	100	80	50	100	100	20	100
Precipitation	light	0	0	0	light	0	0

Table 7 Summary of Reptile Presence/Absence Survey Results

Visit number	1	2	3	4	5	6	7
Date	13/09/16	15/09/16	19/09/16	21/09/16	23/09/16	26/09/16	28/09/16
Tin number							
226	Nil	Nil	2 toads	Nil	1 mouse	Nil	1 toad
153	Nil	Nil	Nil	Nil	Nil	Nil	Nil
177	Nil	Nil	Nil	Nil	Nil	Nil	Nil
X	Nil	Nil	Nil	Nil	Nil	Nil	Nil
X	Nil	Nil	Nil	Nil	Nil	Nil	Nil
207	Nil	Nil	Nil	Nil	Nil	Nil	Nil
175	Nil	Nil	Nil	Nil	Nil	Nil	Nil
197	Nil	Nil	Nil	Nil	Nil	Nil	Nil
152	Nil	Nil	1 bank vole	Nil	Nil	Nil	1 bank vole
196	Nil	Nil	Nil	Nil	Nil	Nil	Nil
157	Nil	Nil	Nil	Nil	Nil	Nil	Nil
188	Nil	Nil	Nil	Nil	Nil	Nil	Nil
18	Nil	Nil	Nil	Nil	Nil	Nil	Nil
X	Nil	Nil	Nil	Nil	Nil	Nil	Nil
13	1 frog	Nil	Nil	Nil	Nil	Nil	1 toad
2	1 frog	Nil	Nil	Nil	Nil	Nil	2 toads
R32	Nil	Nil	Nil	1 toad	Nil	Nil	Nil
x	Nil	Nil	Nil	Nil	Nil	Nil	Nil
R77	1 toad	4 toads	4 toads 1 frog	5 toads	1 toad	6 toads	Mouse nest
R45	Nil	Nil	Nil	2 toads 1 frog	1 toad 1 frog	1 toad	Nil
R31	Nil	Nil	Nil	Nil	Nil	Nil	Nil

R33	Nil	Nil	Nil	Nil	Nil	Nil	Nil
R53	Nil	Nil	Nil	Nil	Nil	Nil	Nil
R54	Nil	Nil	Nil	Nil	Nil	Nil	Nil
192	Nil	Nil	1 mouse	Nil	Nil	Nil	Nil
229	Nil	Nil	Nil	Nil	Nil	Nil	Nil
184	Nil	1 toad 1 frog	Nil	Nil	Nil	1 bank vole	1 bank vole 1 toad
X	Nil	Nil	Nil	Nil	Nil	Nil	Nil
X	Nil	Nil	Nil	Nil	Nil	Nil	Nil
189	1 toad	Nil	Nil	Nil	1 toad	1 frog 1 toad	Nil
185	Nil	Nil	Nil	1 toad 1 frog	1 toad 1 frog	Nil	Nil
155	Nil	Nil	Nil	Nil	1 bank vole	Nil	Nil
209	Nil	Nil	Nil	Nil	Nil	1 bank vole	Nil
157	Nil	Nil	1 bank vole	Nil	Nil	Nil	Nil
X	Nil	Nil	Nil	Nil	1 frog	Nil	Nil
228	Nil	Nil	Nil	2 toads	2 toads	1 toad	Nil
183	Nil	1 toad	1 bank vole	1 toad	1 toad	Nil	Nil
147	Nil	Nil	Nil		Nil	Nil	Nil
B1	1 toad	2 toads	Nil	1 toad	Nil	1 toad 1 frog	Nil
R39	Nil	Nil	Nil	Nil	Nil	Nil	Nil
R40	Nil	2 toads	Nil	2 toads	Nil	1 toad 2 frogs	Nil
R52	Nil	Nil	2 toads	2 toads	2 toads	1 toad	Nil
R51	Nil	Nil	Nil	Nil	Nil	Nil	Nil
R46	1 toad 1 frog	Nil	Nil	Nil	Nil	1 mouse	Nil
R24	Nil	2 toads	1 toad	Nil	2 toads	2 toads	Nil
R80	Nil	Nil	Nil	Nil	Nil	Nil	Nil
R26	Nil	Nil	Nil	Nil	Nil	Nil	Nil
R47	Nil	Nil	Nil	Nil	Nil	Nil	Nil
R42	Nil	Nil	Nil	1 toad	Nil	Nil	Nil
208	Nil	Nil	Nil	Nil	Nil	Nil	Nil

E CONCLUSIONS AND RECOMMENDATIONS

- 46 No records of reptiles were returned within 2km of the site.
- 47 No sightings of reptiles were made during the visual search and no reptiles were recorded under the tins during the survey.
- 48 Therefore it is not unreasonable to conclude that no reptiles use this part of the site and therefore no further considerations are required for reptiles with reference to the proposed dredging works of Daking Brook in February 2018
- 49 However, the mosaic of habitats across the whole site; including, tall ruderals, woodland and scrub which provide cover; open short grassland which provides good basking habitat; and particularly the old walls and piles of refugia in the walled garden and the other water bodies, provide excellent habitat for reptiles.
- 50 Therefore it is recommended that a reptile survey is carried out, following this methodology, in these areas of suitable habitat, if any renovation work is proposed adjacent to these areas, particularly the other water bodies and in the walled garden,

F REFERENCES

ARG UK, 2010. *ARG UK Advice Note 5: Great Crested Newt Habitat Suitability Index*.
s.l.:Amphibian and Reptile Groups of the United Kingdom.

F.1 UK Legislation and Policy Web Addresses:

Conservation of Habitats and Species Regulations 2010:

http://www.opsi.gov.uk/si/si2010/uksi_20100490_en_1

Habitats Directive:

www.europa.eu.int/eur-lex/en/lif/dat/1992/en_392L0043

Wildlife and Countryside Act 1981:

www.opsi.gov.uk/RevisedStatutes/Acts/ukpga/1981/cukpga_19810069_en_1

Countryside and Rights of Way Act 2000:

www.legislation.hmso.gov.uk/acts/acts2000/20000037

Natural Environment and Rural Communities Act 2006:

http://www.opsi.gov.uk/acts/acts2006/ukpga_20060016_en_1

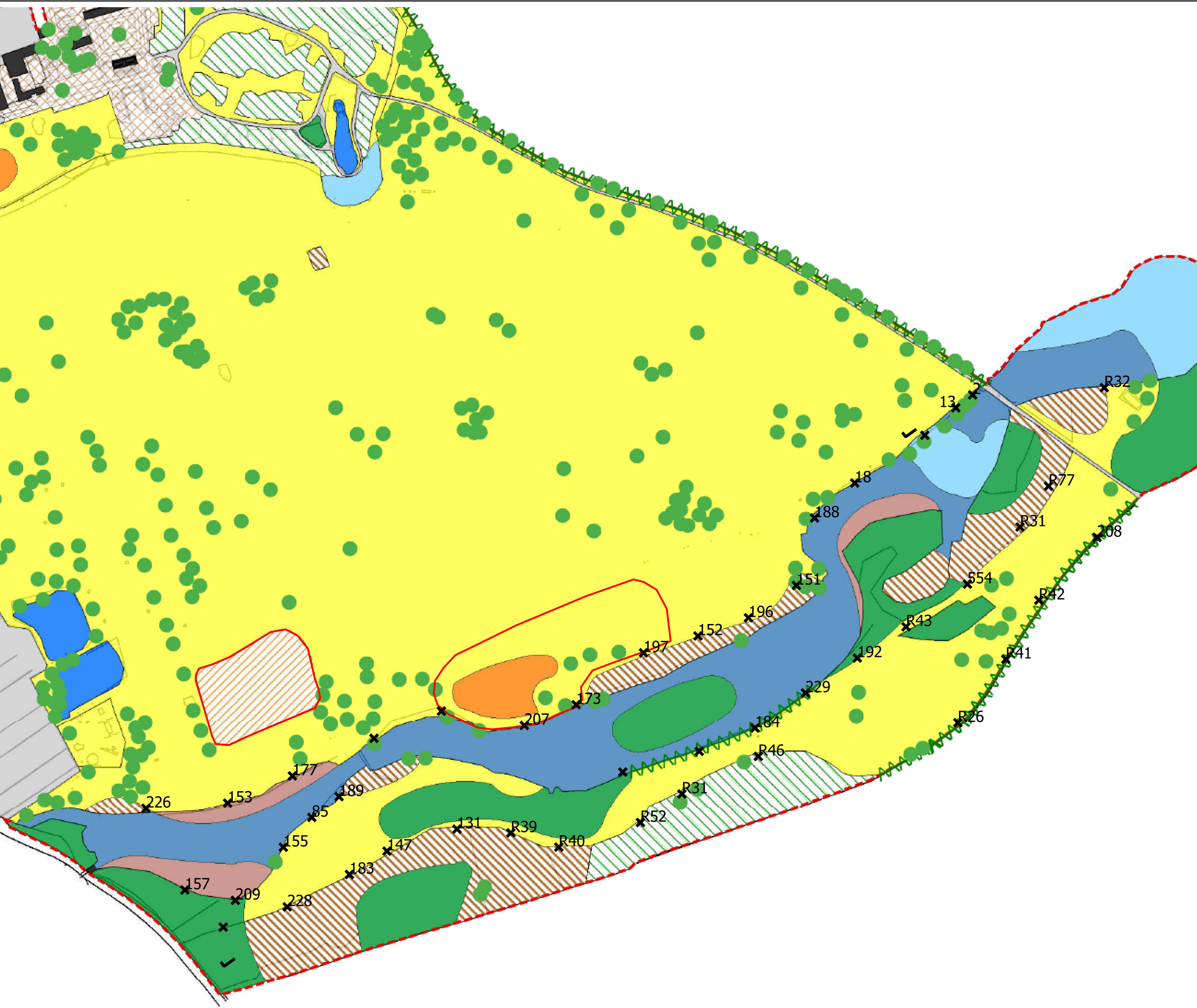
National Parks and Access to the Countryside Act 1949:

http://www.opsi.gov.uk/RevisedStatutes/Acts/ukpga/1949/cukpga_19490097_en_1

National Planning Policy Framework:

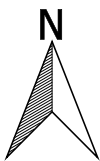
<http://www.communities.gov.uk/publications/planningandbuilding/nppf>

<http://www.gardenstrusts.org.uk/7-archive-cannon-yorkshiregt.html>



Legend

× Tin location



0 100 200 m

accessEcology

AccessEcology Ltd
Unit R1B Riverside Block Sheaf Bank Business Park
Prospect Road Heeley Sheffield
S2 3EN
T: 0114 258 7819 E: info@accessecology.co.uk

Project	Cannon Hall		
Title	Reptile Survey Map		
Site XY	SE 27485 08124		
Client	Plincke Landscape Architects		
Map date	Size	Author	Version
09/17	A3	AL & DT	V1