

**INVASIVE SPECIES METHOD
STATEMENT**

at

**Land off Beaumont Park Road
Huddersfield
West Yorkshire
HD4 5JT**

Client:

M Bains

Client Address:

Client Contact:

JCA Ref:

21434d/ADo

Date of Report:

25/09/2024



Quality Assurance

Version	Site Surveyed:		Report Completed:		Checked:	
	Date	Name	Date	Name	Date	Name
Planning	08/04/24	Alex Donovan	23/09/24	Alex Donovan	25/09/24	Richard Westwood
		James Foster			25/09/24	Adam West

This report has been prepared and provided in accordance with the *British Standard 42020: Biodiversity – Code of practice for planning and development* and the *CIEEM's Code of Professional Conduct*.

Risk Assessment Completed	
Bio-security Procedure Completed	
Lone Worker Procedure Completed	



Summary

A report is required at **Land off Beaumont Park Road, Huddersfield, HD4 5JT** in order to investigate the presence or absence of invasive species, and, if confirmed, to provide recommendations for the removal/management of any such species.

An invasive species is any non-native animal or plant that has the ability to spread, causing damage to the environment, the economy, our health, and the way we live.

In the UK, there are a number of species designated as invasive and fall under legislation (see **Appendix 1** and **Section 1.6**). Invasive species are listed under **Schedule 9** of the **Wildlife and Countryside Act 1981 (as amended)**. Invasive plant species are of particular concern for development projects, and include, but are not limited to, giant hogweed, Japanese knotweed, Himalayan balsam, and floating pennywort.

It is an offence to plant or cause to grow in the wild any of the species outlined within this legislation. In addition to this, in January 2015 the **EU Invasive Alien Species Regulation (1143/2014)** came into force, banning fourteen non-native invasive plants (**Appendix 1, Table 3**). It is an offence to keep, cultivate, breed, transport, sell or exchange any of these species or release them, intentionally or unintentionally, into the environment anywhere within the EU. The Regulation was retained in UK law post-Brexit by the **European Union (Withdrawal) Act 2018**, and amended by **The Invasive Non-native Species (Amendment etc.) (EU Exit) Regulations 2019** to ensure operability following the exit from the EU, but applying to Great Britain only.



Contents

1. Introduction	5
1.1 Purpose of the Report	5
1.2 Terms of Reference	5
1.3 Site Description	5
1.4 Details of Proposed Development	5
1.5 Common Invasive Plant Species	5
1.6 Invasive Species and the Law	6
2. Methodology	7
2.1 Site Survey Methodology	7
2.2 Survey Conditions	7
3. Results	8
3.1 Site Survey	8
4. Conclusions and Recommendations	9
5. References	16
Appendix 1: Non-native Invasive Species	19
Appendix 2: UKHab Habitat Map	21
Appendix 3: Photographic Evidence	23
Appendix 4: Author Qualifications	24



1. Introduction

1.1 Purpose of the Report

- 1.1.1 A report is required at **Land off Beaumont Park Road, Huddersfield, HD4 5JT** in order to investigate the presence or absence of invasive plant species, such as Japanese knotweed, giant hogweed and Himalayan balsam on the site.
- 1.1.2 The aim of the report is to determine the scale of the invasion and inform how the proposed development should approach the invasion. This will allow the invasion to be reduced or controlled and have a lower impact on the development and biodiversity in the area.

1.2 Terms of Reference

- 1.2.1 JCA Ltd. were instructed by **M Bains** to visit the site and prepare findings in a report.

1.3 Site Description

- 1.3.1 **Land off Beaumont Park Road** is located at Ordnance Survey (OS) National Grid Reference **SE 13137 14855**, with nearby postcode **HD4 5JT**.
- 1.3.2 The site is bordered to the north by urban residential areas and sports fields, and urban residential and deciduous woodland on all other sides.

1.4 Details of Proposed Development

- 1.4.1 The development proposed on this site is to build a residential dwelling.

1.5 Common Invasive Plant Species

- 1.5.1 An invasive plant species is any plant that has the ability to spread causing damage to the environment, the economy, our health and the way we live. In the UK there are a number of species designated as invasive and fall under legislation (see **Appendix 1** and **Section 1.6**). Those most commonly encountered are:

1.5.2 **Japanese knotweed** (*Fallopia japonica*):

Japanese knotweed is an invasive non-native weed, found mainly in urban areas and adjacent to waterways, it is considered a nuisance in property development. As plants can re-grow from rhizomes, they can grow through gaps in flooring in conservatories and patios. All waste containing Japanese Knotweed comes under the control of Part II of the Environmental Protection Act 1990.

1.5.3 **Giant hogweed** (*Heracleum mantegazzianum*):



Giant Hogweed has a natural defence mechanism that can result in severe health problems. The stems, leaves and sap contain various photosensitizing furanocoumarins which will cause burning to skin when combined with ultraviolet light. Symptoms can persist for days, months or even years depending on each individual's sensitivity to giant hogweed compounds.

1.5.4 Himalayan balsam (*Impatiens glandulifera*):

Himalayan balsam is an invasive non-native weed that can tolerate low light levels, and therefore shades out other vegetation and reduces biodiversity. Each plant can produce up to 800 seeds, which can shoot out and disperse up to 7m away.

1.5.5 New Zealand pygmyweed (*Crassula helmsii*):

Also known as Australian swamp-stonecrop, New Zealand Pygmyweed is an invasive non-native plant that grows in ponds, lakes, reservoirs, canals, and ditches as well as on damp mud on the margins of ponds and reservoirs. It tolerates a wide range of conditions and is invasive throughout most of England.

1.6 Invasive Species and the Law

1.6.1 Invasive species are listed under **Schedule 9** of the **Wildlife and Countryside Act 1981 (as amended)** (please refer to **Appendix 1, Table 1-2**) or described on the Non-Native Species Secretariat (NNSS) website. Invasive plant species (**Schedule 9, Part II**) are of particular concern for development projects, and include but are not limited to, giant hogweed, Japanese knotweed, Himalayan balsam, and floating pennywort.

Subject to the provisions of this Part, if any person plants or otherwise causes to grow in the wild any plant which is included in Part II of Schedule 9, they shall be guilty of an offence.

1.6.2 In addition to this, in January 2015 the **EU Invasive Alien Species Regulation (1143/2014)** came into force, banning fourteen non-native invasive plants (see **Appendix 1, Table 3**). The Regulation was retained in UK law post-Brexit by the **European Union (Withdrawal) Act 2018**, and amended by **The Invasive Non-native Species (Amendment etc.) (EU Exit) Regulations 2019** to ensure operability following the exit from the EU, but applying the Great Britain only. The Regulation imposes strict restrictions on a list of species known as "species of Union concern". These are species whose potential adverse impacts across the European Union are such that concerted action across Europe is required. It is an offence to keep, cultivate, breed, transport, sell or exchange any of these species or release them, intentionally or unintentionally, into the environment anywhere within the EU. Eight of these are popular plants and six are less known in the UK.



2. Methodology

2.1 Site Survey Methodology

2.1.1 The entire site was walked over by Alex Donovan (JCA Graduate Ecologist) and James Foster (JCA Assistant Ecologist) during the Preliminary Ecology Appraisal (PEA) survey conducted on 26/10/2023 (21434/ADo). All invasive species found were mapped and described.

2.2 Survey Conditions

2.2.1 The weather conditions during the site visit were clear, but with light rain in the hours preceding the survey. The weather did not hinder or obscure the site survey.



3. Results

3.1 Site Survey

3.1.1 A map showing the location of the development site and the location of invasive plant species can be found at **Appendix 2**.

3.1.2 The following invasive species were identified at the site:

- Montbretia *Crocsmia x crocosmiiflora*

3.1.3 During the desk study conducted for the PEA, the following records of invasive species were received from West Yorkshire Ecological Services (WYES):

Scientific Name	Common Name	Designation	Latest date	Number of records	Distance of closest record from site (m)
<i>Fallopia japonica</i>	Japanese knotweed	WCA	2021	190	265
<i>Heracleum mantegazzianum</i>	Giant hogweed	WCA	2016	2	1749
<i>Impatiens glandulifera</i>	Himalayan balsam	WCA	2021	6	1087
<i>Pacifastacus leniusculus</i>	Signal crayfish	WCA	2019	5	1514
<i>Rhododendron luteum</i>	Yellow azalea	WCA	2015	1	1275
<i>Rhododendron ponticum</i>	Rhododendron	WCA	2015	1	1382
<i>Sciurus carolinensis</i>	Grey squirrel	WCA	2021	4	1345

Key: WCA: Schedule 9 of the Wildlife & Countryside Act 1981 (as amended)



4. Conclusions and Recommendations

4.1.1 During the site investigation, montbretia was confirmed as being onsite, and records of five other invasive plant species were located within the surrounding areas. The following eradication strategies are recommended by complete eradication of the invasive species identified.

4.1.2 It is recommended that any eradication programme and subsequent disposal of invasive species be conducted by a trained and qualified specialist. Any removal undertaken incorrectly may lead to the spread of invasive species, causing a breach of legislation and resulting in hefty fines.

4.1.3 **Montbretia Crocosmia x crocosmiiflora**

Montbretia was confirmed onsite towards the east and northeast of the site, within parcels broadleaved woodland and bramble scrub.

Montbretia is a deciduous perennial flowering plant with long, spear-shaped bright green to yellow leaves, and distinctive red to orange flowers. Montbretia forms dense clumps up to 1.5m tall that push out and out compete native plants. This species can often be found in gardens and thus, be spread through fly-tipping or improper disposal of garden waste. It can also spread via underground propagation of corms and rhizomes.

The active growth season for montbretia is typically March to September, with flowering June to September.

Further information can be found on the NNS website and factsheet:

<https://www.nonnativespecies.org/non-native-species/information-portal/view/1040>

https://www.nonnativespecies.org/assets/Uploads/ID_Crocosmia_crocosmiiflora_Montbretia.pdf

Hand pulling: Efficient for small clumps if corms and underground stems can be removed. Hand tools may be required to remove all corms.

Chemical eradication: Application of a herbicide treatment, such as 2% glyphosate solution, before flowering occurs. This method is efficient and effective over longer time periods than mechanical eradication, but is non-selective so may harm other plants. Repeated treatments may be required to reach all corms.

Mechanical eradication: Remove plant material and soil containing stolons to a minimum depth of 75cm, carried out over the area where growth occurs. This method is quicker, but expensive, and risks damaging other plants, particularly tree roots.



Disposal: Compost or allow to dry and burn (if permitted). Plants and soils containing stolons can be buried at a depth of 2m or sent to a suitably licenced waste-disposal facility, as they are classed as contaminated waste (PCA 2018).

Monitoring: Survey annually for at least three years of no regrowth (PCA 2018).

4.1.4 **Japanese knotweed *Fallopia japonica***

Japanese knotweed was not confirmed onsite, however, the records returned by WYES indicate it is prevalent in the surrounding area, with the closest records located within 300m of the site. Japanese knotweed may spread to the site; therefore, precautionary advice is given.

Japanese knotweed, and closely related species, are perennial, herbaceous plants that form dense thickets, up to 3-5m tall. The stems are hollow, bamboo-like, green, and flecked with purple. The leaves are large, shield-shaped, with smooth edges, a flat base, and grow alternatively, in a zig-zag pattern along the branches.

Japanese knotweed spreads naturally through underground rhizomes, or is capable of regrowing from rhizome, crown, or stem fragments. Spread is typically human assisted, whether intentionally or not, through fly-tipping of contaminated soil, rhizome fragments on excavators, or other machinery, or lodged in tyre treads. It is not known to produce seeds in the UK.

Japanese knotweed can out-compete native plants, contribute to bank erosion, and increase flood risk. A main issue of Japanese knotweed is the infrastructure and structural damage that can result from its growth. The rapid growth of new shoots can be extremely damaging, capable of breaking through concrete, cavity walls, weak mortar, sewers, and drains, leading to high repairs costs.

It is legally required to eradicate Japanese knotweed.

The active growth period is typically from mid-March to mid-November, and flowering occurs from mid-August to mid-October.

Further information can be found on the NNSS website and factsheet:

<https://www.nonnativespecies.org/non-native-species/information-portal/view/1495>

https://www.nonnativespecies.org/assets/Uploads/ID_Fallopia_japonica_Japanese_knotweed.pdf

Management advice – <https://www.nonnativespecies.org/non-native-species/management-guidance/terrestrial-plants-2/#Fallopiajaponica>

There are several strategies available for the safe control and removal of Japanese knotweed. The treatment method employed will usually reflect the speed at which Japanese knotweed removal is required.

Single Season Herbicidal Treatment: This method involves targeting weaknesses



in the plant's physiology with the use of herbicides over a six-month period during the active growing period. Sites adjacent to water courses and trees must be treated using a tailored environmentally sensitive herbicide programme, approved by the Environment Agency.

Environmentally Sensitive Areas: This method will involve a site-specific eradication program in order to protect any environmentally sensitive features, such as watercourses, designated sites, woodlands and other ecologically important areas. This method will take two years to complete and will typically involve consultation with the Environment Agency and Natural England.

Integrated on Site Treatment: This method will involve excavating Japanese Knotweed from sections of the site required for immediate development and then relocating this to a more convenient part of the same site. The Knotweed will then be placed on a plastic membrane and allowed to re-grow to a size sufficient for herbicidal treatment (preferably the following growing season). Once this spoil has been fully treated it can be re-introduced to the site.

Soil Screening: This method is a sustainable, time efficient and effective method of removing vegetation from excavated soil. The soil is passed through a screening process after which spoil can be transported to a licensed land fill site, incinerated or taken to a biomass power station for fuel. The separated soil is then re-introduced to the same site. This method is only suitable for larger sites (in excess of 1,000m²).

On Site Burial: Suitable for sites in which on site space is limited and urgent removal is required. This is dependant however on features such as water table level and soil type. This method involves excavating the areas of Japanese Knotweed, treating it once with a non-persistent herbicide and then transferring the spoil to a 5m deep pit located on site. The spoil is covered in a membrane and the pit in-filled.

Cell Encapsulation: This method is similar to the above (on site burial), but instead the pit need only be 2m deep and is lined with a heat joined membrane. Further heat joined membrane is laid on top of the spoil and the edges are sealed and the pit in filled. This method is only suitable where the burial site will not be excavated in the future. The exact location of this pit must be mapped, and the information stored.

Off Site Disposal: This method involves excavating the areas of Japanese Knotweed and burying the spoil in a licensed land fill site. This method will require detailed monitoring and post excavation herbicidal treatment. This is less cost efficient, but yield fast results.

4.1.5 **Rhododendron species *Rhododendron spp.***

Rhododendron *R. ponticum* and yellow azalea *R. luteum* are closely related species. These species were not confirmed onsite but have records from the surrounding area, and may be spread to the site, therefore, precautionary advice



is given. Advice is aimed at management of rhododendron, but is applicable to yellow azalea.

Rhododendron is an evergreen shrub often reaching 4-5m height at maturity, or even higher in the right conditions (PCA 2018). The leaves are dark green and lathery, elliptical in shape, are up to 22cm in length, and grow in whorls around the stem. When in flower, flowers vary in colour from pink to purple. This species primarily spreads through seed dispersal, each flower head can produce 3000-7000 seeds, which can be spread via wind, water, animals, and in the topsoil. Regeneration is also possible through suckering from the existing root network or through the movement of large roots or stumps. Flowering generally occurs May-June, and seed dispersal occurs around February-March, with seeds viable up to 1 year after dispersal.

Rhododendron negatively impacts native plant communities by out-competing and shading out other species, obliterating ground vegetation and preventing regeneration and regrowth of trees in woodland areas. It can also be a host to *Phytophthora ramorum* and *P. kernoviae*, water moulds that can cause diseases and death in oaks, beeches, and other trees and woody shrubs.

Further information can be found on the NNSS website and factsheet:

<https://www.nonnativespecies.org/non-native-species/information-portal/view/3004>

<https://www.nonnativespecies.org/non-native-species/information-portal/view/3003>

https://www.nonnativespecies.org/assets/Uploads/ID_Rhododendron_ponticum_Rhododendron.pdf

Management advice – <https://www.nonnativespecies.org/non-native-species/management-guidance/terrestrial-plants-2/#Rhododendronponticum>

Chemical and Physical Eradication: Being a deep-rooted species complete removal by physical excavation is not the preferred strategy. Instead, a combination of physically removing above ground vegetative matter and the application of an herbicide is considered best practice. Once the plant has been trimmed and cut back to the stump, ammonium sulphate or glyphosate should be applied to holes drilled into the plant's exposed stump.

Disposal: Green vegetation, seeds, and rhizomes can be stockpiled, desiccated, and burnt, or disposed of by a suitably licensed waste-disposal facility. Woody material can be chipped and retained onsite (PCA 2018).



Monitoring: Survey annually until 2 full seasons have passed without regrowth, with further visits every 2 years for 6 years (PCA 2018).

4.1.6 **Giant hogweed *Heracleum mantegazzianum***

This species were not confirmed onsite but has records from the surrounding area, and may be spread to the site, therefore, precautionary advice is given.

Giant hogweed is a large herbaceous plant, growing 2-3m tall, with flowering umbels up to 80cm in diameter, and basal leaves often 1m or more in size. The stem has purple blotches down its length. Identification of full-grown plant is easy due to their size, however, when still growing and much smaller, giant hogweed is easily confused with native relatives such as common hogweed *Heracleum sphondylium* and cow parsley *Anthriscus sylvestris*.

Giant hogweed is spread via seeds, primarily transported by wind, but also by water, or attached to animals, clothing, footwear, equipment, etc. An individual plant can produce 5000-100,000 seeds, with the flowering typically occurring June-August, and seed dispersal August-October.

WARNING: The sap of giant hogweed contains a toxic chemical which causes photosensitivity in the skin, leading to severe blistering when exposed to sunlight (phytophotodermatitis). This reaction can recur for many years. Wash any skin that comes in contact with the plant thoroughly and immediately. Seek medical advice and do not expose the area to sunlight for a few days.

Further information can be found on the NNSS website and factsheet:

<https://www.nonnativespecies.org/non-native-species/information-portal/view/1705>

https://www.nonnativespecies.org/assets/Uploads/ID_Heracleum_mantegazzianum_Giant_Hogweed-2.pdf

<https://www.woodlandtrust.org.uk/blog/2022/06/giant-hogweed-facts/>

There are several strategies available for the safe control and removal of giant hogweed. Incorrect treatment of giant hogweed can result in hefty penalties should you inadvertently cause it to spread into other areas. Below is a summary of the options available:

Root Cutting: This is most suitable for minor infestations involving small numbers of plants. This method involves cutting the tap root to around 15cm below ground level and treating any remaining roots with herbicides. Any re-growth should be cut and disposed of safely.



Seed/flower Head Removal: This method involves cutting the flower heads off after the seeds have formed, but before they mature. This should be placed in a suitable plastic bag and disposed of safely.

Cutting and Mowing: This method is suitable for large infestations and involves mowing plants whilst young and continuing throughout the growing season. Do not mow plants that have flower or seed heads as this will aid dispersal. This method will require cutting at least 3 times a year over several growing periods.

Cutting and Covering: This method involves cutting plants down to ground layer and covering the spoil with a plastic membrane. This should be left for several years before being removed and re-planted.

Herbicidal Control: This will require 1 to 2 herbicidal treatments during the growing period and removing flower/seed heads. Plants can be sprayed with appropriate herbicides during the growing season, preventing re-growth the following year.

Disposal: Green vegetation can be reliably composted. Berries (seeds) and rootstock can be desiccated and burnt, buried at 2m, or disposed of at a suitable licenced waste-disposal facility. Be very aware of risk of contact with plant by humans and animals (PCA 2018).

Monitoring: Survey annually (April-August) until 3 full growth seasons have passed without regrowth, with a further visit 2 years later (PCA 2018).

4.1.7 **Himalayan balsam *Impatiens glandulifera***

This species were not confirmed onsite but has records from the surrounding area, and may be spread to the site, therefore, precautionary advice is given.

Himalayan Balsam is a widespread invasive species found throughout the UK, primarily along riverbanks or other waterways, in damp forests and woodlands, and other damp habitats. Himalayan balsam can grow quickly in shaded and low-light areas, reaching heights up to 2m tall that quickly overshadow and out-compete native species. It is characterised by pink flowers, tall, hollow stems, and shallow roots which allow it to be easily uprooted by hand. Dispersal is entirely via seeds, which are transported via wind and water, after being ejected as far as 6m from seed pods that explode on touch when ripe.

Himalayan balsam is an annual plant which means it completes its lifecycle from germination through growth, flowering, and the production of seed within the year and then dies without any regeneration of that plant. Thanks to this, it is quite simple to stop any further spread of the plant in the coming seasons.

Flowering generally occurs around June-July, with seed production and dispersal occurring from mid-July to late-September. Seeds remain viable for up to 2 years. Management should ideally be completed before flowering and seed production to prevent re-colonisation.



Further information can be found on the NNSS website and factsheet:

<https://www.nonnativespecies.org/non-native-species/information-portal/view/1810>

https://www.nonnativespecies.org/assets/Uploads/ID_Impatiens_glandulifera_Himalayan_Balsam-1.pdf

Management advice – <https://www.nonnativespecies.org/non-native-species/management-guidance/terrestrial-plants-2/#Impatiensglandulifera>

Management options include:

Hand Pulling: Effective method when still growing and before flowering and seed production begins. Due to their shallow root, they are easily uprooted. This method is targeted and avoids using herbicides but is often labour-intensive and time-consuming. Multiple attempts are required until the seed bank in the soil is depleted.

Chemical Eradication: It is possible to use non-residual herbicides which are safe to use near watercourses. However, this method requires repeated applications every 3-4 weeks from late March until late July, and other non-chemical alternatives are available which require similar timeframes.

Mechanical Eradication: There is a choice of methods including trampling by machine or foot or whacking with a stick or cane. Following the destruction of the initial plant other seeds will have the opportunity to grow where the Himalayan balsam grew before. It is also possible that residual Himalayan balsam seeds may germinate, so this method should be repeated every 4 weeks.

Whichever method is chosen, the simple rule to follow is to not let the plant flower. Pollination of the flowers is the process that leads to seed production. As with most flowering plants which grow from seed, some seed remains in the soil beyond the first season which has the potential to grow in subsequent seasons. Best practice would check for the presence of Himalayan balsam every April/May for the following 3-5 years. As long as the plant is not permitted to re-seed, the number plants each year will reduce significantly.

It is recommended that if a mechanical eradication method is used, then the Himalayan balsam must be physically removed from the site. This is best achieved by a specialist contractor.

Disposal: Not only the plants themselves but also the soil in which they were growing and to which their seeds may have spread must be considered contaminated waste. This can only be transported by an appropriately licenced waste carrier and disposed of at an appropriately licenced waste treatment facility (PCA 2018).

Monitoring: Annual surveying in the summer should be undertaken for at least two years with no regrowth, as re-colonisation is highly likely (PCA 2018).



5. References

Reports

JCA Ltd. – Preliminary Ecological Appraisal (PEA), November 2023 (21434/ADo).

JCA Ltd. – Biodiversity Accounting Assessment (BAA), June 2024 (21434a/ADo).

Guidelines for surveys and report writing:

British Standards Institute (BSI), (2013) *BS 42020:2013, Biodiversity - Code of practice for planning and development*. London.

Chartered Institute of Ecology and Environmental Management (CIEEM), (2015) *Guidelines for Ecological Report Writing*. Winchester.

Joint Nature Conservation Committee (JNCC), (2010) *Handbook for Phase 1 habitat survey: A technique for environmental audit*.

Invasive Species and Biosecurity

Property Care Association (PCA). (2018). *Practical Management of Invasive Non-Native Weeds in Britain and Ireland*. Packard Publishing Limited, Forum House, Stirling Road, Chichester, West Sussex, PO19 7DN.

British Standards Institute (BSI), (2015) *BS 3882:2015, Biodiversity Specification for topsoil*. London.

Department for Environment, Food & Rural Affairs, (2015) *Species Control Provisions: Draft Code of Practice for England*.

Environment Agency, (2013). Bristol: Environment Agency.

GB non-native species secretariat (2016) *Nonnativespecies.org*. Available at: <http://www.nonnativespecies.org/home/index.cfm>.

Plantlife (2016) *Plantlife.org.uk*. Available at: <http://www.plantlife.org.uk/>.

Prevent harmful weeds and invasive non-native plants spreading – Detailed guidance (2014) Gov.uk. Available at: <https://www.gov.uk/guidance/prevent-the-spread-of-harmful-invasive-and-non-native-plants>.

Non-Native Species Secretariat – Check Clean Dry <https://www.nonnativespecies.org/what-can-i-do/check-clean-dry/>

Forest England – Keep it Clean <https://www.forestryengland.uk/biosecurity>

Relevant Legislation:

Wildlife and Countryside Act 1981

- <http://jncc.defra.gov.uk/page-3614>
- <https://www.legislation.gov.uk/ukpga/1981/69/contents>

The Conservation of Habitats and Regulations 2017.

- <https://www.legislation.gov.uk/uksi/2017/1012/contents/made>

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

- <https://www.legislation.gov.uk/uksi/2019/579/contents/made>



Protection of Badgers Act 1992

- <https://www.legislation.gov.uk/ukpga/1992/51/contents>

Countryside and Rights of Way Act 2000

- <https://www.legislation.gov.uk/ukpga/2000/37/contents>

The Hedgerows Regulations 1997

- <https://www.legislation.gov.uk/uksi/1997/1160/contents/made>

Environmental Protection Act 1990

- <https://www.legislation.gov.uk/ukpga/1990/43>

Regulation (EU) No 1143/2014 of the European Parliament and of the Council

- <https://www.legislation.gov.uk/eur/2014/1143/contents>

European Union (Withdrawal) Act 2018

- <https://www.legislation.gov.uk/ukpga/2018/16/contents>

The Invasive Non-native Species (Amendment etc.) (EU Exit) Regulations 2019

- <https://www.legislation.gov.uk/ukdsi/2019/9780111176269/contents>



Appendices

Appendix 1: Non-native Invasive Species

Table 1: Invasive animal species listed in Part I, Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

Common Name	Scientific Name	Common Name	Scientific Name
Bass, Large-mouthed Black	<i>Micropterus salmoides</i>	Limpet, Slipper	<i>Crepidula fornicata</i>
Bass, Rock	<i>Ambloplites rupestris</i>	Lizard, Common Wall	<i>Podarcis muralis</i>
Bitterling	<i>Rhodeus sericeus</i>	Marmot, Prairie (Prairie dog)	<i>Cynomys</i>
Crab, Chinese Mitten	<i>Eriocheir sinensis</i>	Mink, American	<i>Mustela vison</i>
Crayfish, Noble	<i>Astacus astacus</i>	Newt, Alpine	<i>Triturus alpestris</i>
Crayfish, Red Swamp	<i>Procambarus clarkii</i>	Newt, Italian Crested	<i>Triturus carnifex</i>
Crayfish, Signal	<i>Pacifastacus leniusculus</i>	Owl, Eagle	<i>Bubo bubo</i>
Crayfish, Spiny-cheek	<i>Orconectes limosus</i>	Oyster Drill, American	<i>Urosalpinx cinerea</i>
Crayfish, Turkish	<i>Astacus leptodactylus</i>	Parakeet, Monk	<i>Myiopsitta monachus</i>
Deer, Chinese Water	<i>Hydropotes inermis</i>	Parakeet, Ring-necked	<i>Psittacula krameri</i>
Deer, Muntjac	<i>Muntiacus reevesi</i>	Partridge, Chukar	<i>Alectoris chukar</i>
Deer, Sika	<i>Cervus nippon</i>	Partridge, Rock	<i>Alectoris graeca</i>
Deer, any hybrid of Sika	Any hybrid of <i>Cervus nippon</i>	Pheasant, Golden	<i>Chrysolophus pictus</i>
Dormouse, Fat	<i>Glis glis</i>	Pheasant, Lady Amherst's	<i>Chrysolophus amherstiae</i>
Duck, Carolina Wood	<i>Aix sponsa</i>	Pheasant, Reeves'	<i>Syrnaticus reevesii</i>
Duck, Mandarin	<i>Aix galericulata</i>	Pheasant, Silver	<i>Lophura nycthemera</i>
Duck, Ruddy	<i>Oxyura jamaicensis</i>	Pochard, Red-crested	<i>Netta rufina</i>
Flatworm	<i>Kontikia andersoni</i>	Pumpkinseed (Sun-fish)	<i>Lepomis gibbosus</i>
Flatworm	<i>Kontikia ventrolineata</i>	Rat, Black	<i>Rattus rattus</i>
Flatworm, Australian	<i>Australoplana sanguinea</i>	Shelduck, Ruddy	<i>Tadorna ferruginea</i>
Flatworm, New Zealand	<i>Artiposthia triangulata</i>	Snake, Aesculapian	<i>Elaphe longissima</i>
Frog, Edible	<i>Rana esculenta</i>	Squirrel, Grey	<i>Sciurus carolinensis</i>
Frog, European Tree	<i>Hyla arborea</i>	Swan, Black	<i>Cygnus atratus</i>
Frog, Marsh	<i>Rana ridibunda</i>	Terrapin, European Pond	<i>Emys orbicularis</i>
Goose, Bar-headed	<i>Anser indicu</i>	Toad, African Clawed	<i>Xenopus laevis</i>
Goose, Barnacle	<i>Branta leucopsis</i>	Toad, Midwife	<i>Alytes obstetricans</i>
Goose, Canada	<i>Branta canadensis</i>	Toad, Yellow-bellied	<i>Bombina variegata</i>
Goose, Egyptian	<i>Alopochen aegyptiacus</i>	Wallaby, Red-necked	<i>Macropus rufogriseus</i>
Goose, Emperor	<i>Anser canagicus</i>	Wels (European catfish)	<i>Silurus glanis</i>
Goose, Snow	<i>Anser caerulescens</i>	Zander	<i>Stizostedion lucioperca</i>
Heron, Night	<i>Nycticorax nycticorax</i>		

Table 2: Invasive plant species listed in Part II, Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

Common Name	Scientific Name	Common Name	Scientific Name
Few-flowered Leek	<i>Allium paradoxum</i>	Floating Water Primrose	<i>Ludwigia peploides</i>
Three-cornered Garlic	<i>Allium triquetrum</i>	Water Primrose	<i>Ludwigia grandiflora</i>
Hooked Asparagus Seaweed	<i>Asparagopsis armata</i>	Water Primrose	<i>Ludwigia uruguayensis</i>
Water Fern	<i>Azolla filiculoides</i>	Giant Kelp	<i>Macrocystis angustifolia</i>
Fanwort	<i>Cabomba caroliniana</i>	Giant Kelp	<i>Macrocystis integrifolia</i>
Hottentot Fig	<i>Carpobrotus edulis</i>	Giant Kelp	<i>Macrocystis laevis</i>
Green Seafingers	<i>Codium fragile</i>	Giant Kelp	<i>Macrocystis pyrifera</i>
Green Seafingers	<i>Codium fragile tomentosoides</i>	Parrot's Feather	<i>Myriophyllum aquaticum</i>
Hollyberry Cotoneaster	<i>Cotoneaster bullatus</i>	Laver Seaweeds (except native species)	<i>Porphyra spp.except: P. amethystea P. leucosticta</i>
Wall Cotoneaster	<i>Cotoneaster horizontalis</i>		
Entire-leaved Cotoneaster	<i>Cotoneaster integrifolius</i>		



Small-leaved Cotoneaster	<i>Cotoneaster microphyllus</i>		<i>P. linearis</i>
Himalayan Cotoneaster	<i>Cotoneaster simonsii</i>		<i>P. miniata</i>
New Zealand Pygmyweed	<i>Crassula helmsii</i>		<i>P. purpurea</i>
Montbretia	<i>Crocsmia x crocosmiiflora</i>		<i>P. umbilicalis</i>
Purple Dewplant	<i>Disphyma crassifolium</i>	False Virginia Creeper	<i>Parthenocissus inserta</i>
Water Hyacinth	<i>Eichhornia crassipes</i>	Virginia Creeper	<i>Parthenocissus quinquefolia</i>
Waterweeds	<i>Elodea sp.</i>	Californian Red Seaweed	<i>Pikea californica</i>
Japanese Knotweed	<i>Fallopia japonica</i>	Water Lettuce	<i>Pistia stratiotes</i>
Hybrid Knotweed	<i>Fallopia japonica x F. sachalinensis</i>	Japanese Knotweed	<i>Polygonum cuspidatum</i>
Giant Knotweed	<i>Fallopia sachalinensis</i>	Rhododendron	<i>R. ponticum x R. maximum</i>
Shallon	<i>Gaultheria shallon</i>	Yellow Azalea	<i>Rhododendron luteum</i>
Red Algae	<i>Grateloupia luxurians</i>	Rhododendron	<i>Rhododendron ponticum</i>
Giant Rhubarb	<i>Gunnera tinctoria</i>	False-acacia	<i>Robinia pseudoacacia</i>
Giant Hogweed	<i>Heracleum mantegazzianum</i>	Japanese Rose	<i>Rosa rugosa</i>
Floating Pennywort	<i>Hydrocotyle ranunculoides</i>	Duck Potato	<i>Sagittaria latifolia</i>
Himalayan balsam	<i>Impatiens glandulifera</i>	Giant Seafingers	<i>Salvinia molesta</i>
Curly Waterweed	<i>Lagarosiphon major</i>	Japanese Seaweed	<i>Sargassum multicum</i>
Variagate Yellow Archangel	<i>Lamiastrum galeobdolon subsp. Argentatum</i>	Perfoliate Alexanders	<i>Smyrniium perfoliatum</i>
Japanese Kelp	<i>Laminaria japonica</i>	Wakame	<i>Undaria pinnatifida</i>

Table 3: Invasive plant species subject to restrictions set out in Article 7 of the EU Invasive Alien Species Regulations.

Common Name	Scientific Name	Common Name	Scientific Name
Eastern Baccharis	<i>Baccharis halimifolia</i>	Water Primrose*	<i>Ludwigia grandiflora</i>
Green Combomba*	<i>Cabomba caroliniana</i>	Creeping Water-primrose*	<i>Ludwigia peploides</i>
Water Hyacinth*	<i>Eichhornia crassipes</i>	American Skunk Cabbage*	<i>Lysichiton americanus</i>
Persian Hogweed	<i>Heracleum persicum</i>	Parrot's Feather*	<i>Myriophyllum aquaticum</i>
Sosnowski's Hogweed	<i>Heracleum sosnowskyi</i>	Whitetop Weed	<i>Parthenium hysterophorus</i>
Floating Pennywort*	<i>Hydrocotyle ranunculoides</i>	Asiatic Tearthumb	<i>Persicaria perfoliata</i>

* denotes species found growing in the UK. The remaining species are rarely found.



Appendix 2: UKHab Habitat Map

Taken from the Preliminary Ecological Appraisal (PEA), November 2023 (21434/ADo).




Site name & address

**Land off Beaumont Park Road
Huddersfield
HD4 5JT**

Key


 Red Line Boundary

Habitats

 g3c - other neutral grassland

 w1g - other woodland-broadleaved

 h3d - bramble scrub

 h3d - mixed scrub

 u1b6 - other developed land

Secondary codes:

10 - scattered scrub

12 - scattered bracken

32 - scattered trees

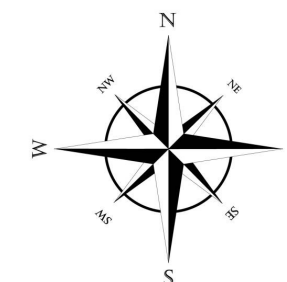
81 - ruderal or ephemeral

114 - dry stone wall

202 - young trees - self set

524 - invasive non-native species

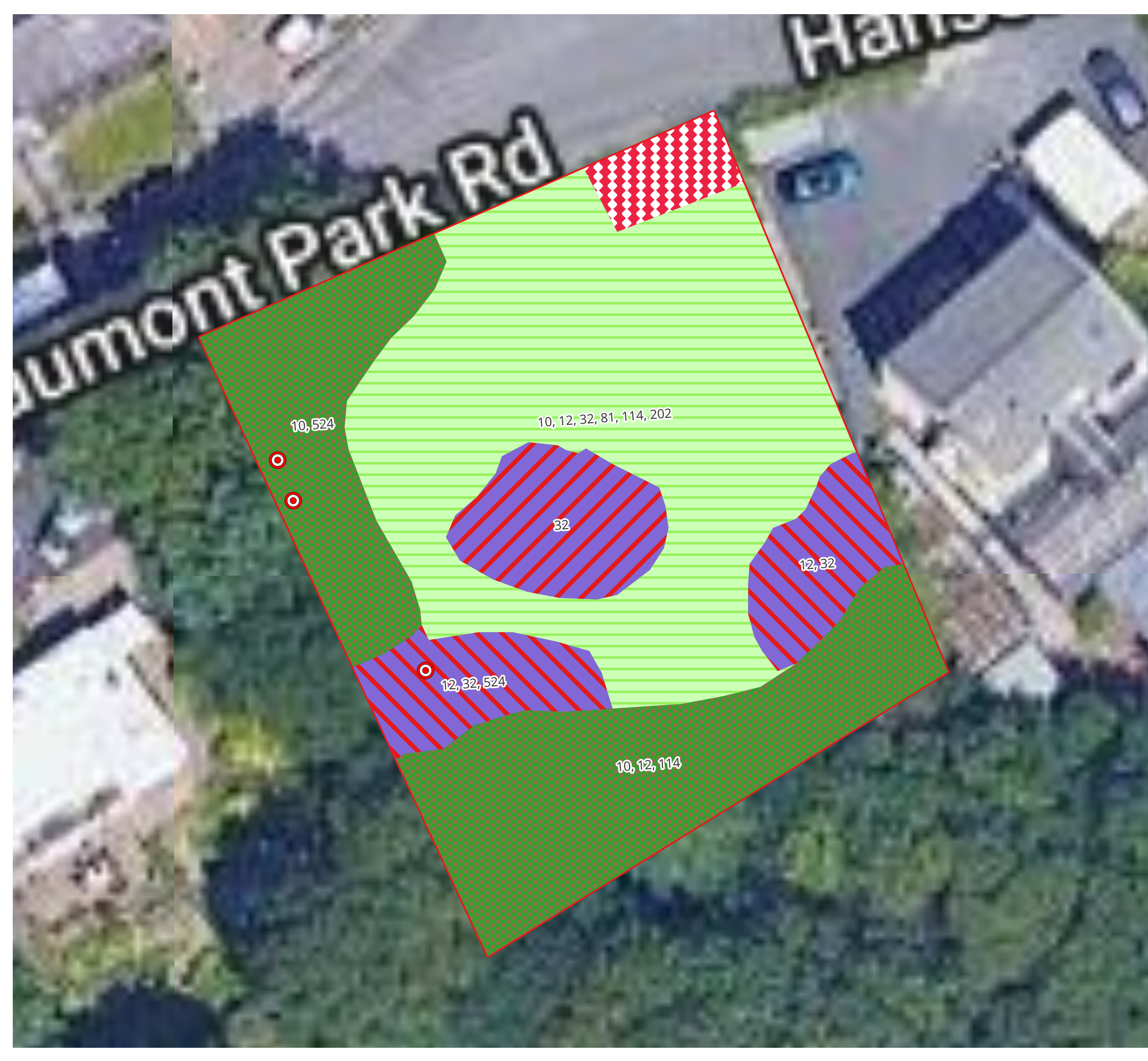
 Target Notes - Montbretia



Scale 0 5 10 m



Site Land off Beaumont Park Road	Client M. Bains
Project PEA	Author ADo
Plan ref 21434	Revision Planning



Appendix 3: Photographic Evidence



Photo 1: Montbretia in western woodland.



Photo 2: Woodland area containing montbretia.



Appendix 4: Author Qualifications

Adam West, Principal Ecologist

BSc (Hons) Animal and Wildlife Management, ACIEEM.

Adam joined JCA to lead the expanding ecology department. Having returned to education as a mature student, Adam studied Countryside Management for two years before undertaking a Bachelor's degree, for which he was awarded First Class Honours. Adam has many years' experience in ecological consultancy, working on projects ranging from individual planning applications to national infrastructure projects. Adam holds a Natural England Level 1 great crested newt survey class licence and a Natural England Level 2 bat survey class licence.

Alex Donovan, Graduate Ecologist

MBIOL, BSc Biology (Industrial).

Alex joined JCA in 2023 after graduating from the University of Leeds with a First Class Honours Integrated Master's degree in Biology. As part of his degree programme, Alex spent an industrial placement year working in the Uplands Research Department of the Game and Wildlife Conservation Trust, assisting on various ecological surveys and projects. Alex is a registered Trainee Bird Ringer, licensed through the BTO, and has previously conducted seasonal bat emergence and transect surveys. Alex is currently working towards a level 1 bat licence, level 1 great crested newt licence, and a barn owl survey licence.

Rick Westwood, Graduate Ecologist

BA (Hons) History and Politics

Rick gained his undergraduate degree in History and Politics in 2001 from Leeds Metropolitan University before going on to complete a PGCE in History at the University of Leeds in 2003. After 18 years in secondary education and the NHS, Rick began assisting on bat emergence surveys in 2023, after which, he gained employment as a Graduate Ecologist at JCA Ltd.



I hope that this report provides all the necessary information, but should any further advice be needed please do not hesitate to contact the author.

Signed

.....
Alex Donovan *MBIOL BSc (Hons)*

23/09/2024

Reviewed by

.....
Rick Westwood *BA (Hons)*

25/09/2024

Reviewed by

.....
Adam West *BSc (Hons), ACIEEM*

25/09/2024



For and on behalf of **JCA Ltd**

Registered Office:

**Unit 80
Bowers Mill
Branch Road
Barkisland
Halifax
HX4 OAD**

Tel. 01422 376335

Fax. 01422 376232

Email: info@jcaac.com

Web : www.jcaac.com





ECOLOGICAL SERVICES

Ecological Pre-Planning Services

- Phase 1 Habitat Surveys
- Great Crested Newt eDNA Sampling
- Protected species: Bat, Wintering and Nesting Bird, Badger, Amphibian, Otter, Water Vole, White-Clawed Crayfish, Dormice and Reptile Surveys.
- Preparation for Environmental Impact Assessment (EIA)
- Invasive Species Surveys
- Code for Sustainable Homes
- Butterfly & Insect Surveys

Ecological Post-Planning Services

- Biodiversity Enhancement Plans
- Protected Species Mitigation
- Ecological Management (Bat and Bird box installation and inspection)
- Planting Schemes
- Monitoring of bird or bat boxes.

ARBORICULTURAL SERVICES

Guidance for Architects & Developers

- British Standard 5837 Surveys
- Arboricultural Implications Assessments (AIA)
- Arboricultural Method Statements (AMS)

Advice for Engineers, Loss Adjusters and Insurers

- Tree Surveys for Subsidence
- Heave Assessment
- Tree Root Identification

Advice for Local Authorities and Social Housing

- Tree Safety Surveys
- Specialist Decay Detection
- Landscape and Orchard Design

Tree Advice for the Legal Profession

- Subsidence Litigation
- Personal Injury and Accident Investigation
- Expert Witness, Planning Inquiries and Appeals

Veteran Tree Management

- Ancient Woodland Management
- Veteran Tree Management

Tree Health and Pest and Disease Management

- Pest and Disease Surveys
- Tree Health Checks
- Disease Mitigation and Control



HEAD QUARTERS

Unit 80 Bowers Mill,
Branch Road,
Barkisland
Halifax, HX4 0AD

Company Reg No: 05005041
VAT No: 686 4674 78

