

Photo 5: Location of the proposed electrical substation.



Appendix 3: Data Search

Table 3: West Yorkshire Ecology's records of protected and notable species within a 2km radius of the site. An asterisk * denotes records that are within 500m of the site.

Group	Common Name	Scientific Name	No. of Records	Most Recent Record
Amphibian	Common Toad	<i>Bufo bufo</i>	10	2016
	Common Frog	<i>Rana temporaria</i>	4	2012
	Great-crested Newt	<i>Triturus cristatus</i>	11	2016
	Smooth Newt	<i>Triturus vulgaris</i>	17	2016
Bird	Skylark	<i>Alauda arvensis</i>	24	2012
	Kingfisher	<i>Alcedo atthis</i>	19	2015
	Shoveler	<i>Anas clypeata</i>	1	1987
	Teal	<i>Anas crecca</i>	22	2016
	Wigeon	<i>Anas penelope</i>	2	2010
	Gadwall	<i>Anas strepera</i>	15	2016
	Pink-footed Goose	<i>Anser brachyrhynchus</i>	9	2014
	Meadow Pipit	<i>Anthus pratensis</i>	14	2011
	Tree Pipit	<i>Anthus trivialis</i>	2	2011
	Pochard	<i>Aythya ferina</i>	2	1990
	Lesser Redpoll	<i>Carduelis cabaret</i>	3	2011
	Linnet	<i>Carduelis cannabina</i>	17	2016
	Goldfinch*	<i>Carduelis carduelis</i>	51	2015
	Twite	<i>Carduelis flavirostris</i>	1	1987
	Little Ringed Plover	<i>Charadrius dubius</i>	7	2010
	Ringed Plover	<i>Charadrius hiaticula</i>	1	1988
	Stock Dove	<i>Columba oenas</i>	1	2009
	Cuckoo	<i>Cuculus canorus</i>	17	2013
	Mute Swan	<i>Cygnus olor</i>	8	2012
	House Martin	<i>Delichon urbica</i>	19	2015
	Corn Bunting	<i>Emberiza calandra</i>	1	2009
	Yellowhammer	<i>Emberiza citrinella</i>	22	2013
	Reed Bunting	<i>Emberiza schoeniclus</i>	30	2013
	Peregrine	<i>Falco peregrinus</i>	1	2010
	Hobby	<i>Falco subbuteo</i>	1	2008
	Kestrel	<i>Falco tinnunculus</i>	20	2016
	Snipe	<i>Gallinago gallinago</i>	39	2015
	Oystercatcher	<i>Haemotopus ostralegus</i>	5	2011
	Swallow	<i>Hirundo rustica</i>	12	2014
	Common Gull	<i>Larus canus</i>	1	2013
	Lesser Black-backed Gull	<i>Larus fuscus</i>	2	2012
	Grasshopper Warbler	<i>Locustella naevia</i>	14	2011
	Jack Snipe	<i>Lymnocyptes minimus</i>	14	2014
	Red Kite	<i>Milvus milvus</i>	1	2011
	Grey Wagtail	<i>Motacilla cinerea</i>	3	2010
	Yellow Wagtail	<i>Motacilla flava</i>	3	2009

Bird	Spotted Flycatcher	<i>Muscicapa striata</i>	4	1987
	Curlew	<i>Numenius arquata</i>	3	2013
	Willow Tit	<i>Parus montanus</i>	26	2014
	House Sparrow*	<i>Passer domesticus</i>	77	2015
	Tree Sparrow	<i>Passer montanus</i>	5	2015
	Grey Partridge	<i>Perdix perdix</i>	12	2013
	Cormorant	<i>Phalacrocorax carbo</i>	4	2013
	Redstart	<i>Phoenicurus phoenicurus</i>	5	2009
	Wood Warbler	<i>Phylloscopus sibilatrix</i>	1	1987
	Willow Warbler	<i>Phylloscopus trochilus</i>	24	2011
	Green Woodpecker	<i>Picus viridis</i>	13	2014
	Golden Plover	<i>Pluvialis apricaria</i>	4	2011
	Dunnock*	<i>Prunella modularis</i>	57	2015
	Bullfinch	<i>Pyrrhula pyrrhula</i>	34	2016
	Water Rail	<i>Rallus aquaticus</i>	38	2015
	Goldcrest	<i>Regulus regulus</i>	8	2016
	Sand Martin	<i>Riparia riparia</i>	4	2011
	Woodcock	<i>Scolopax rusticola</i>	2	2013
	Turtle Dove	<i>Streptopelia turtur</i>	1	1986
	Starling*	<i>Sturnus vulgaris</i>	50	2014
	Shelduck	<i>Tadorna tadorna</i>	2	2010
	Greenshank	<i>Tringa nebularia</i>	2	1987
	Green Sandpiper	<i>Tringa ochropus</i>	6	2011
	Redshank	<i>Tringa totanus</i>	4	2009
	Redwing	<i>Turdus iliacus</i>	20	2016
	Blackbird*	<i>Turdus merula</i>	96	2015
	Song Thrush	<i>Turdus philomelos</i>	28	2016
	Fieldfare	<i>Turdus pilaris</i>	9	2015
	Mistle Thrush	<i>Turdus viscivorus</i>	21	2016
	Lapwing	<i>Vanellus vanellus</i>	14	2016
Crustacean	White-clawed Crayfish	<i>Austropotamobius pallipes</i>	2	2010
Insect - Butterfly	Small Heath	<i>Coenonympha pamphilus</i>	9	2013
	Dingy Skipper	<i>Erynnis tages</i>	5	2013
	Wall	<i>Lasiommata megera</i>	1	2009
Insect - Moth	Dusky Brocade	<i>Apamea remissa</i>	1	2016
	Small Square-spot	<i>Diarsia rubi</i>	1	2016
	Buff Ermine	<i>Spilosoma luteum</i>	1	2016
	Cinnabar	<i>Tyria jacobaeae</i>	1	2013
Reptile	Slow Worm	<i>Anguis fragilis</i>	1	2000
Terrestrial Mammal	Water Vole	<i>Arvicola terrestris</i>	71	2012
	Unknown Bat Species	<i>Chiroptera</i>	2	1994
	Hedgehog	<i>Erinaceus europaeus</i>	2	2012
	Otter	<i>Lutra lutra</i>	4	2012
	Badger	<i>Meles meles</i>	4	2012
	Harvest Mouse	<i>Micromys minutus</i>	1	1992
	Myotis Bat Species	<i>Myotis sp.</i>	1	1988

Terrestrial Mammal	Daubenton's Bat	<i>Myotis daubentonii</i>	53	2013
	Noctule	<i>Nyctalus noctula</i>	7	2013
	Common Pipistrelle*	<i>Pipistrellus pipistrellus</i>	20	2012
	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>	1	2011

Appendix 4: Site Map

Figure 1: Google Maps image of **Land off Catherine's Walk, Barnsley**, showing the survey site in relation to the surrounding landscape and habitats.



Appendix 5: Protected Species Information

The following species are protected under EU law, such as the Conservation (Natural Habitats, &c.) Regulations (2010):

- All UK bat species
- Dormouse
- Great Crested Newt and Natterjack Toad
- Large Blue Butterfly
- Otter
- Pine Marten
- Polecat
- Scottish Wild Cat
- Smooth Snake and Sand Lizard
- Various aquatic and plant species

These species are afforded the highest protection in the UK. Under this protection it is an offence to; deliberately capture, injure or kill any wild animal of a European protected species; deliberately disturb wild animal of any such species; deliberately take or destroy the eggs of such an animal, or damage or destroy a breeding site or resting place of such an animal.

In addition to this it is an offence to be in possession of, or to control, transport, sell or exchange, or to offer for sale or exchange, a European Protected species.

The following species are protected under UK law, such as the Wildlife and Countryside Act 1981:

- Badger
- Nesting birds
- Red Squirrel
- Reptiles (Adder, Common lizard, Grass snake, Slow worm)
- Water Vole
- White Clawed Crayfish
- Various bird species i.e. Barn Owl
- Various plant species

Therefore under this protection it is an offence to; kill, injure or take any of the above species.

Nesting birds are only protected during the breeding season whilst on their nest. In addition to the adults being protected, the eggs, young and nest itself whilst in use are protected.

The Wildlife and Countryside Act 1981 also contains measures to prevent the establishment of non-native species which may be detrimental to native wildlife, prohibiting the release of animals and planting of plants listed in Schedule 9 in England and Wales (e.g. Japanese Knotweed and Himalayan Balsam).

Badgers are protected under The Protection of Badgers Act 1992. Under this legislation it is an offence to; take, injure, kill, or cruelly ill-treat a badger; interfere with a badger sett; sell or possess a live badger; or mark or ring a badger.

The following habitat types are protected under UK Law:

- Habitats that are used by protected species
- Habitats that fall within designated sites
- Hedgerows
- Individual trees/woods can be protected under Tree Preservation Orders

Appendix 6: Survey Calendar

Figure 2: Survey calendar for protected species and habitat surveys.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Extended Phase 1 Habitat												
Botanical												
Bat Scoping												
Bat Activity												
Bat Hibernation												
Great Crested Newt (Habitat Assessment)												
Great Crested Newt (Presence/Absence)												
Reptiles												
Badger Initial												
Badger Bait-marking												
Water Vole												
Otter												
Birds (winter)												
Birds (nesting)												
White Clawed Crayfish Night-torching												
White Clawed Crayfish Trapping												
White Clawed Crayfish Manual search												
Dormouse												
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC

	Optimal Survey Time
	Sub-optimal Survey Time
	Survey Not Possible

Appendix 7: Author Qualifications

Principal Consultant and Managing Director

Jonathan Cocking *F.R.E.S., Tech. Cert. (Arbor.A), PDipArb (RFS) FArborA CBiol MSB. MICFor.* Jonathan is a Registered Consultant and Fellow of the Arboricultural Association and sits on its Professional Committee. He has 31 years experience in the Arboricultural profession and served for eight years as Senior Arboriculturist with a large local authority before establishing JCA in 1997. Jonathan has since developed JCA's portfolio of services and its extensive client base. He is a Chartered Biologist, a Chartered Arboriculturalist and an Expert Witness with much experience of litigation work.

Technical Director

Toby Thwaites *BSc (Hons), HND (Arboriculture).* Toby joined JCA in 1998 after graduating in Ecology at the University of Huddersfield and has since graduated in Arboriculture at the University of Central Lancashire. A former JCA team leader and Consulting Arboriculturist, Toby is now Technical Director and oversees all office and on-site activities at JCA and is on hand to offer technical support and advice.

Consulting Staff: Arboriculture

Toby Parsons *Cert. Arb. (RFS), Tech. Cert. (Arbor.A).* Toby joined JCA after spending 6 years working as a senior climber for various Arboricultural contractors in the East Midlands and the South-West. He has gained the Level 2 Certificate in Arboriculture (RFS) and an Arboricultural Technicians Certificate. Toby is LANTRA certified in Professional Tree Inspection.

Scott Reid *ND (Arboriculture and Forestry).* Scott joined JCA after working with other consultancy companies in the south of England. He specialises in trees in relation to development and holds a National Diploma, various NPTC qualifications and is currently studying for his Level 4 Diploma in Arboriculture.

Andrew Bussey. Andrew joined JCA having spent 12 years working as a tree surgeon for various private companies and a Local Authority. He has various NPTC qualifications, is QTRA qualified and is currently studying for his Arboricultural Technicians Certificate.

Phil Humeniuk *FdSc (Arboriculture).* Phil joined JCA having spent 3 years working for various tree surgery companies and as a Tree Officer for a Local Authority. He also has several years experience working as a consultant both for JCA and for another consultancy. Phil obtained his foundation degree in Arboriculture at the University of Central Lancashire and has various NPTC's and is LANTRA certified in Professional Tree Inspection.

Emily Wilde *FdSc (Arboriculture).* Emily joined JCA having previously worked for various private tree surgery and consultancy companies over the past 8 years. She initially obtained a ND in Forestry & Arboriculture, followed by a FdSc in Arboriculture at Askham Bryan College, York. Emily has various NPTC certificates and is QTRA qualified.

Mick Eltringham *ND (Forestry).* Mick joined JCA after spending 12 years working in the industry for various private companies in the north and south of England. He has also spent the last five years working as a consultant for two canopy research projects in the Amazon Rainforest, working with Oxford University and the University of Arizona. He has various NPTC Qualifications.

Charles Cocking *(FdSc Arboriculture).* Charles joined JCA in January 2014 as an Apprentice having previously worked for the company on a part time basis during 2013. Charles obtained his Foundation Degree in Arboriculture at Askham Bryan College, York, and is now part of our qualified Arboricultural consultancy team.

Consulting Staff: Ecology

Josie Collier *BSc (Hons) Ecology.* Josie joined JCA's ecology department and brings with her a degree in Ecology and Environmental Biology from the University of Leeds. Josie has gained experience from working with a local authority and is seeking to become a member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

David Bodenham *BSc Ind (Hons) Zoology, MSc Biodiversity and Conservation.* David joined JCA as an addition to the expanding ecology department. An advocate of evidence based conservation, he studied Zoology (Ind) at University and moved onto an MSc in Biodiversity and Conservation where he gained the myriad of skills needed as an ecologist. With over 7 years of experience, David specialises in bat and amphibian ecology.

Jenny Butler *Bsc (Hons) Environmental Science.* Jenny joined JCA's ecology department in 2017, bringing with her a bachelor degree in Environmental Science from Bangor University. Jenny has previously worked as an Environmental Consultant for an Agri-Environment company and as a freelance ecological consultant. Jenny specialises in great crested newt and bat ecology.

Administrative Staff

Sue Guest Administrative Team Leader.
Catherine Cocking Accounts Manager.

Simeon Haigh *BSc (Hons).* IT Director.
Lorraine Spink Administrative Assistant.

The information which we have prepared and provided is true, and has been prepared and provided in accordance with the CIEEM's Code of Professional Conduct. We confirm that the opinions expressed are our true and bona fide opinions.

Signed



Josie Collier, *BSc (Hons) Ecology, GradCIEEM*

30th October 2017

Proofread by

.....*S. Haigh*.....

Simeon Haigh, *BSc (Hons)*

31st October 2017

For and on behalf of **JCA Ltd**

Registered Office:

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

**Tel. 01422 376335
Fax. 01422 376232
Email: jon@jcaac.com**

www.jcaac.com

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- Tree Root Identification

Veteran Tree Management

- Ancient Woodland Management
- Veteran Tree Management

Advice for Local Authorities and Social Housing

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

Tree Health and Pest and Disease Management

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

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

Ecological Post-Planning Services

- Biodiversity Enhancement Plans
- Protected Species Mitigation
- Ecological Management (Bat and Bird box installation and inspection)

HEAD QUARTERS:

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

Tel: 01422 376335
Mobile: 07778 391986
Email: jon@jcaac.com
Website: www.jcaac.com

