

Q6.1 - APPENDIX 2 - SUMMARY OF SURVEYS

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Survey	Consultancy	Date	Notes
Extended Phase 1 Habitat Survey	Whitcher Wildlife Ltd	April 2012	Survey of initial Project site plus buffer to inform the list of detailed surveys required. Used to delineate habitat types and confirm the need for further surveys. No important vegetation communities or invasive plant species were recorded.
	Whitcher Wildlife Ltd	April 2013	To cover additional land-take plus buffer due to extension of the Project site to include provision for construction laydown. Used to delineate habitat types and confirm the need for further surveys. No important vegetation communities or invasive plant species were recorded.
	ERM	July 2014	To cover jetty area ('Jetty site'). Himalayan balsam was recorded in this area. No further survey requirements were identified as: <ul style="list-style-type: none"> • No trees were within the young plantation woodland in this area that had bat roost potential. • No signs of water vole were recorded during the survey and the riparian area at this location is sub-optimal and of negligible potential as water vole habitat. • No evidence of otter was recorded. • No evidence of badger was recorded. • No important vegetation communities were recorded. • No GCN ponds were identified within 500 m of the jetty site during the extended phase 1 habitat survey. • Habitats at the site were assessed to have low potential for reptiles.
Breeding birds	Keystone Environmental Ltd	Mid-May to early July 2013	<p>A modified Common Birds Census (CBC) survey of the Project site was conducted over 4 visits in 2013 (mid-May to early July), as previous CBC data for the area was by then four years old (the breeding bird survey conducted for the Ouse REP EIA was conducted in 2009). Survey results were similar to the 2009 survey, which recorded 47 bird species.</p> <p>In 2013, 49 species were recorded on or adjacent to the site, nine of which are listed as Species of High Conservation Concern on the Birds of Conservation Concern Red List. 12 of the species recorded are England Biodiversity Priority Species and of these birds which were recorded as probably/possibly breeding were bullfinch, dunnock, grasshopper warbler, linnet, reed bunting and yellow hammer.</p> <p>Of <i>Schedule 1</i> species, no suitable nest sites for barn owl were recorded within any of the potential development areas, though one individual was seen foraging on the site. In addition, a pair of peregrine falcon was observed during one survey visit and there is a possibility that they have been breeding within the main power station site.</p>
Badger	Whitcher Wildlife Ltd	2012 and 2013	Initial surveys to search for and map signs of badger within the Project site, as although they are known to be active in the area (from results of surveys in 2007 and 2009 for the Ouse REP EIA, 2011 for the Lytag EIA and from routine monitoring of Barlow Mound), this species is highly mobile.

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Water vole	Keystone Environmental Ltd	October 2013	<p>Surveys in both 2012 and 2013 found two badger setts within the Project site; located in an area within the working Drax Power Station. Both setts were assessed as outlying badger setts at the time of survey. An additional sett was identified approximately 120 m outside the Project site.</p> <p>Mammal paths and badger prints were identified during the surveys showing that badgers were active around the entire Project site.</p>
			<p>Given the badger activity recorded on the Project site and the routine monitoring information from Barlow Mound which shows large number of badger setts within the surrounding area, and the possibility that further badger setts were possible under dense areas vegetation within the Project site itself, a further badger survey of all land within the Drax ownership boundary was undertaken following vegetation dieback in autumn 2013. This survey was supplemented by data held by NGC for land outside the Drax ownership boundary, but within the Project site buffer zone. A total of 43 setts were found, 32 being active or likely active and 11 disused. One active main sett was recorded, with 2 further potentially historic, main setts also found.</p>
			<p>Since badgers are a highly mobile species and to ensure planned mitigation is based on recent information, an update badger survey was conducted in March 2015. Evidence from this survey suggests that the Project site forms part of the territories of up to three badger clans. A possible additional main sett, three subsidiary setts, three annex setts and four outlier setts were recorded in the Project site and surrounds.</p>
	Ecosulis	March 2015	<p>To help define clan boundaries, and to ascertain the need for provision of an artificial sett, a bait marking survey is currently ongoing and is due for completion on 8th May 2015.</p>
	Whitcher Wildlife Ltd	April 2012 and 2013	<p>NEYEDC do not hold recent data (past 5 years) for water vole in the area (their most recent record being from 2002); however they are known from routine monitoring of Barlow Mound, and were found on Carr Dyke during 2007 and 2009 surveys for the Ouse REP EIA and in the general area in 2011 during surveys for the Lytag EIA. Water vole surveys of the Project site were therefore conducted.</p> <p>No evidence of water voles was found around any of the waterbodies on the main site or construction laydown areas during 2012 or 2013. Although otter surveys were scoped out on the basis of previous EIA surveys and NEYEDC data Whitcher also surveyed for otter during the water vole surveys. No evidence of otter presence was found.</p>
Keystone Environmental Ltd	September 2013	<p>Given that water voles have previously been recorded in the area and since current guidance recommends visits at either end of the season (one visit in mid-April, May or June, and a second visit in July, August or September), this second visit in 2013 was conducted to improve the robustness of the results. No evidence of water vole was found</p>	

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Bat scoping survey	Whitcher Wildlife Ltd	2012 and 2013	during this survey. <i>However, given the mobile nature of water vole and their recent presence in the Barlow Mound area, pre-construction surveys for this species will be required.</i> North Yorkshire bat group returned records of a number of bat species in the area around the Project site, including pipistrelle, Daubentons, brown long eared, whiskered, noctule, natterer's and <i>Myotis</i> spp. These are mainly roosts associated with residential buildings and churches; though some were records of bats in flight over the existing Drax Power Station. Most of these species are also known to forage and commute over Barlow Mound and bats are known to be active over the Project site from past EIA surveys. A scoping survey was therefore carried out as part of Extended Phase 1 surveys. This found no mature trees or buildings with bat roost potential are present within the Project site; however mature trees adjacent to the site were noted to have roosting potential.
Bat tree assessment	Keystone Environmental Ltd	29 and 30 August and 6 September 2013	Since the scoping study had identified trees suitable for roosting bats in the immediate surrounds of the Project site, all mature trees within a 200 m buffer zone of the Project site were rated for their potential to support roosting bats.
Bat - dusk emergence survey of trees	Keystone Environmental Ltd	Four nights between 24 September and 1 October 2013	The twenty trees rated during the above survey as being Category 1 or 1* were subject to dusk emergence survey. A small number of common pipistrelle were recorded as highly likely to be emerging from a barn outside the Project site on a working farm (Drax Abbey Farm); however no bats were recorded emerging from any of the surveyed trees and no activity indicative of occupied roosts was observed. Dusk emergence and dawn swarming surveys of trees in the surrounding area as part of the Ouse REP EIA also reported no evidence of tree roosts. A single common pipistrelle roost was recorded in a tree in surrounding land during 2011 surveys for the Lytag EIA; however at that time no other bats were observed either emerging from or entering any of the other trees and no activity indicative of a potential roost was observed.
Bat activity survey - automated bat detector survey	Whitcher Wildlife Ltd	June 2012	Four Anabat detectors were installed in hedgerows overnight, to record bat movements around the site and supplement the transect surveys detailed below. The Anabat detectors were installed during the 2012 Phase 1 survey. Species recorded were common pipistrelle, noctule and an unidentified <i>Myotis</i> sp. Surveys to date have shown relatively low levels of bat activity across the site, with most activity concentrated along Carr Dyke.
Bat activity survey - transect surveys (x 6)	Whitcher Wildlife Ltd	26 July and 22 August 2012; 30 May, 1 July, 6 August and 5 September 2013	Overall, these surveys recorded relatively low levels of bat activity (largely common pipistrelle) over the Project site; likely due to the site being dominated by large open areas of arable and semi-improved grassland with limited areas of habitat suitable for foraging and commuting. It is considered likely that bats use the linear habitat features across the Project site as a commuting route to the richer foraging habitat available on Barlow Mound; over which a more diverse bat fauna has been recorded during routine monitoring. Richer foraging is also present in another area immediately adjacent to but outside the Project site; this being the mature woodland and pond area at Drax Abbey Farm. As an incidental observation during the dusk emergence surveys, Keystone Environmental recorded activity over this pond and woodland including brown long-eared, common pipistrelle, Daubenton's, <i>Myotis</i> sp, noctule and

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Reptile Surveys	Whitcher Wildlife Ltd	Refuges were checked for the presence of reptiles on seven occasions between 10 May 2012 and 20 June 2012	<p>soprano pipistrelle.</p> <p>The recent survey findings are consistent with the low levels of foraging activity recorded at the Project site during surveys for the Ouse REP EIA, when it was concluded that the amount of foraging and commuting habitat within the Project site was a very small proportion of that available on Barlow Mound and within the wider landscape. The adjacent Lytag site was assessed as being from 'Local' to 'less than Local' value for foraging and commuting bats in 2011.</p> <p>NEYEDC hold one grass snake record from the Drax Power Station site from 2003, and there is anecdotal evidence of single sightings from 2008 and 2009 and Barlow Mound records also show the species is present. One area within the Project site was identified during the habitat surveys which appeared optimal for reptiles, due to the presence of suitable basking sites and abundant areas of suitable refugia. This was surveyed in 2012. Only one grass snake was recorded during the seven survey visits. This is in keeping with the results of the past survey within the Project site in 2007 which was conducted for the Ouse REP EIA, which also recorded one grass snake, suggesting a small population.</p> <p>A survey conducted for the Lytag EIA in 2011 in land adjacent to the site recorded seven individuals over the course of the survey, suggesting a medium population, which may be explained by the continuous suitable habitat across the Lytag site.</p>
Great Crested Newt - Habitat Suitability Index (HSI) assessment	Whitcher Wildlife Ltd	May 2012 and April 2013	NEYEDC hold no recent records of GCN within 2 km of the site; however since GCN are known to have been present historically, HSI of all ponds within the Project site plus a 500 m buffer was undertaken.
Great Crested Newt - presence/absence survey	Whitcher Wildlife Ltd	Four visits between 9 May to 25 May 2012 (ponds 1-10) and 22 April to 11 June 2013 (at ponds A, B, and C).	<p>Surveys of ponds and wet ditches within the initial Project site and a 500 m buffer were conducted in 2012. Eleven waterbodies were found to be present in this area. One pond in a private garden could not be accessed at the time of survey; however surveyors for NGC access this area and noted a 'Poor' HSI score. Of the remaining ten waterbodies, only two had an HSI score of 'Good'. Two were 'Average' and the others 'Poor'. One of the 'Poor' scoring ponds was not surveyed due to its large size and abundant waterfowl activity; however all other waterbodies for which HIS was performed were subject to presence/absence survey and no great crested newts were found. This includes the two ponds with a 'Good' HSI score.</p> <p>In 2013, three additional ponds were surveyed as these are within the 500m buffer zone of the additional land required as construction laydown areas. Of these ponds, two were assessed as having a 'Good' HSI score and the other as below average. No previously surveyed ponds in the main site were resurveyed in 2013 due to repeated negative results of surveying for EIAs in this area over a period of years (2007, 2009, 2011 and 2012). Instead, effort was</p>

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Terrestrial invertebrates	Andrew Godfrey	18 June 2012	<p>focussed on the three previously unsurveyed ponds, one of which had been found to contain a single newt during monitoring of Barlow Mound rehabilitation in 2010. However, all three of these ponds were surveyed and no newts were found.</p> <p>The adjacent Lytag project area was found to support <i>Section 41 NERC Act</i> terrestrial invertebrate fauna in 2011; therefore a survey of the Project site was conducted as suitable habitat was noted during the Phase 1 survey. The invertebrate survey recorded relatively high species richness and diversity, with two <i>Section 41</i> species of Lepidoptera, two Nationally Scarce species of Diptera and two Nationally Scarce species of Hymenoptera. No single habitat was found to be outstanding for invertebrates on the site- rather its value for invertebrates appears related to the mosaic of habitats present. Aquatic invertebrate surveys were not conducted as no records of species of conservation interest were returned and surveys conducted at the Project site for the Ouse REP ES concluded that the assemblage was poor.</p>