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Parc Cybi

Horizon Nuclear Power

Parc Cybi: Phase 1 Habitat Survey

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Jacobs U.K. Limited

Churchill House
Churchill Way
Cardiff, CF10 2HH
United Kingdom
T +44 (0)29 2035 4200
F +44 (0)29 2035 3222
www.jacobs.com

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Executive Summary

This factual report provides an account of the findings of the preliminary ecological survey carried out at Parc Cybi in August 2015.

The specific aims of the surveys undertaken were to:

- identify the broad habitats present within the site;
- identify evidence of protected species and habitats that may support protected species; and
- report on the findings.

The habitats identified at Parc Cybi A include poor semi-improved grassland, gorse-dominated continuous scrub, bare ground, hard standing and semi-improved neutral grassland. Parc Cybi B comprised poor semi-improved and improved grassland with areas of dense, continuous scrub, broad-leaved semi-natural woodland, small patches of tall ruderals and scattered scrub.

Habitat features with the potential to support the following protected species was identified during these surveys:

- foraging and commuting bats;
- reptiles;
- nesting birds;
- water vole (*Arvicola amphibius*) (Parc Cybi B only); and
- amphibians, including great crested newt (*Triturus cristatus*) (Parc Cybi B only).

Evidence of the following protected species was found during these surveys:

- water vole (Parc Cybi B only).

1. Introduction

Jacobs UK Ltd (Jacobs) was commissioned by Horizon Nuclear Power Ltd. (Horizon) to undertake a preliminary ecological survey of two sites at Parc Cybi (See Figure 1, Appendix A) which form part of the associated development (AD) sites required for the Wylfa Newydd Project.

This report is intended to provide a factual account of the findings of the preliminary ecological surveys undertaken.

1.1 Site Description

Parc Cybi is in west Anglesey and lies approximately 1.5km to the south-east of Holyhead just off Junction 2 of the A55 road (See Figure 1, Appendix A).

The Parc Cybi site is found in two nearby locations. An unnamed road separates the sites through Parc Cybi and runs parallel to the A55. Parc Cybi A (National Grid Reference: SH258806) is located between these roads and is bounded by grass fields with buildings to the north-west and woodland to the south-east. An ancient burial chamber is located in the southern corner of the site.

The Parc Cybi B site (National Grid Reference: SH252808) lies to the west of the Parc Cybi A site within a field bounded by the unnamed road in the north-east, grass fields to the north-west and south-west and a recently developed truck stop in the south-east. This site appears to have been subjected to disturbance recently from the development work in the area.

1.2 Study Aims and Objectives

The purpose of this factual report is to provide an account of the findings of the preliminary ecological survey of the Parc Cybi sites.

The specific aims of the surveys undertaken were to:

- identify the broad habitats present within the site;
- identify evidence of protected species and habitats that may support protected species; and
- report on the findings.

2. Methodology

2.1 Desk Study

A 2km search for statutory designated sites was undertaken using the online resource MAGIC[1]. The local biological records centre, (COFNOD), was contacted for protected, rare and notable species, habitat records and non-statutory site information within 2km.

2.2 Field Survey

A walkover survey was undertaken at both sites by experienced Jacobs Ecologists on Tuesday 4 and Wednesday 5 August 2015. This recorded broad habitat types using the standard Phase One Habitat method of survey (JNCC, 2010). Any potential for the presence of protected or Species of Principal Importance in Wales was also recorded. [2] Target notes were used to provide supplementary information on areas of interest, for example, dominant plant species and current land management. The habitats and target notes were mapped onto paper plans and then digitised using ArcGIS software.

The land immediately within the footprint of the proposed development formed the survey area as shown in Figure 1, Appendix A.

2.3 Limitations

This report records flora and fauna found on the date of the site surveys. It does not record any plants or animals that may appear at other times of the year and were therefore not evident at the time of visit.

It should be borne in mind that the behaviour of animals can be unpredictable and may not conform to standard patterns recorded in scientific literature. Therefore, this report cannot predict with absolute certainty that animal species will occur in apparently suitable locations or habitats, or that they will not occur in locations or habitats that appear unsuitable.

2.3.1 Parc Cybi A

Additional survey limitations at this site included the fact that the entire site was subject to heavy grazing by sheep and goats which made identification of some plant species difficult.

2.3.2 Parc Cybi B

The attenuation pond in the north-west of the survey area could not be accessed as it was bordered by tall, dense scrub and fencing; this is indicated in Figure 2, Appendix A.

[1] http://www.magic.gov.uk/

[2] Protected Species are those that are listed under schedule 1 (incl. ZA1, A1 & 1A), schedule 5 or schedule 8 of the Wildlife and Countryside Act (1981) as amended and schedule 2 or schedule 5 of the Conservation of Habitats and Species Regulations (2010) as amended. Section 42 species are those the Welsh Government considers are of principal importance for the purpose of conserving biodiversity as defined by the Natural Environment and Rural Communities Act (2006) as amended.

3. Results

3.1 Desk Study

3.1.1 Statutory Designated Sites

Parc Cybi lies within the boundary of Ynys Mon/Anglesey Area of Outstanding Natural Beauty. Beddmanarch-Cymyran Site of Special Scientific Interest (SSSI) also lies 1.5km to the west of Parc Cybi.

3.1.2 Non-statutory Designated Sites

Parc Cybi does not lie within any non-statutory designated sites. There are ten ancient woodland sites within 2km of Parc Cybi including areas of ancient semi-natural woodland as near as 1.4 km to the west of Parc Cybi. There are four Regionally Important Geological Sites within 2km of Parc Cybi in the south west and two Wildlife sites; Anglesey A11: Arfordir Bwth Corwgl – Bae Trearddur which lies approximately 1.6km to the south-west and Anglesey B03: Rhostir Mynydd Celyn which lies about 1.6km to the west of Parc Cybi.

3.1.3 Protected and Notable Species

The records supplied by COFNOD confirmed the presence of numerous protected and notable species within 2km of the site, including:

Amphibians

There were several records of great crested newt (*Triturus cristatus*) approximately 1.8km to the north-west of Parc Cybi recorded between 1991 and 2005.

Reptiles

Two reptile species have been previously recorded within 2km of the site including five records of slow worm (*Anguis fragilis*) from 1903 to 2011 approximately 500m from Parc Cybi and 12 records of common lizard (*Zootoca vivipara*), four of which were recorded as recently as 2014.

Birds

The data search returned records of approximately 150 bird species within 2km of Parc Cybi. Several of these are Species of Principal Importance in Wales, four of which have been recorded within Parc Cybi B and include cuckoo (*Cuculus canorus*), dunnock (*Prunella modularis*), grasshopper warbler (*Locustella naevia*) and reed bunting (*Emberiza schoeniclus*). Lapwing (*Vanellus vanellus*) and kestrel (*Falco tinnunculus)* have also been recorded within the immediate vicinity of Parc Cybi.

Bats

The data search returned four species of bats including recent records (< 10 years) of Daubenton's bat (*Myotis daubentonii*) and Whiskered or Brandt's bat (*Myotis mystacinus/brandtii*), both of which lie approximately 2 km to the east of Parc Cybi neat the coast. There is a 2004 record of brown long-eared bat (*Plecotus auritus*) recorded approximately 1.2km to the north-west of Parc Cybi and a 2012 record of common pipistrelle (*Pipistrellus pipistrellus*) recorded approximately 1 km to the south-west of Parc Cybi.

Otter and water vole

The data search returned four records of otter (*Lutra lutra*) within 2km of the site between 2006 and 2011 including an individual recorded in 2010 just 225m from Parch Cybi A near the A55 road.

There is also a single water vole record from 2008 located within the attenuation pond in the north of Parc Cybi B.

Badger

The data search returned numerous records of badger (*Meles meles*) within 2km of Parc Cybi recorded between 1994 and 2015. Field signs of badger and a casualty have been found along the A55 road. A 2004 record notes a badger path within Parc Cybi B along the north-eastern boundary of the field in the south-east which leads to the adjacent broad-leaved woodland in the south-east.

Other notable species

Brown hare (*Lepus europaeus*) has been recorded approximately 350m to the south-east of Parc Cybi A and marsh fritillary (*Euphydryas aurinia*) has been recorded approximately 1.25km to the south-west of Parc Cybi B.

3.2 Parc Cybi A Site

3.2.1 Habitats

The Phase One Habitat map is shown in Figure 2, Appendix A. The site was predominantly poor semi-improved grassland with areas of gorse-dominated scrub, bare ground, hard standing and semi-improved neutral grassland. Full species lists and target notes are given in Table B.1 and Table B.2, Appendix B and detailed descriptions are given below. The plates referred to in this section shown in Appendix C.

A2.1 Dense/Continuous Scrub

The southern edge of the study area was comprised of dense, continuous scrub dominated by gorse (*Ulex europeaus*) (Plate 1). Other species included common nettle (*Urtica dioica*), bramble (*Rubus fruticosus*) ivy (*Hedera helix*) foxglove (*Digitalis purpurea*), creeping thistle (*Cirsium arvense*), Yorkshire fog (*Holcus lanatus*) and cock's-foot (*Dactylis glomerata*).

Much of this this habitat was present on top of a mound with bare rock and dry stone walling in places (Target Note 1, Figure 1, Appendix A).

A2.2 Scattered Scrub

There was scattered gorse scrub with the poor semi-improved field (Plate 2).

B2.2 Semi-improved Neutral Grassland

There was a small patch of semi-improved neutral grassland surrounding a disused well in the north of the study area (Target Note 2), (Plate 3). This area was surrounded by temporary fencing preventing the animals on site from grazing the vegetation and thus comprised a more diverse range of flora than the rest of the site. Species included creeping cinquefoil (*Potentilla reptans*), greater plantain (*Plantago major*), common sorrel (*Rumex acetosa*), white clover (*Trifolium repens*), perennial rye-grass (*Lolium perenne*), cut-leaved cranesbill (*Geranium dissectum*), young blackthorn (*Prunus spinosa*), common nettle and bramble.

B6 Poor Semi-improved Grassland

The majority of the site comprised poor semi-improved grassland (Plate 4) dominated by sweet vernal-grass (*Anthoxanthum odoratum*) and common bent (*Agrostis capillaris*). Other grass species included perennial rye-grass, Yorkshire fog, meadow foxtail (*Alopecurus pratensis*) and crested dogstail (*Cynosurus cristatus*).

The area was subject to heavy grazing by sheep and goats which were present at the time of the survey (Target Note 3). The area to the south-east of the site had also been recently developed and part of the site appeared to have been impacted by this as indicated by the large areas of bare ground running through the field (Plate 5). There were a low number of forbs with creeping thistle and common nettle dominating some areas with spear thistle (*Cirsium vulgare*), pineapple-weed (*Matricaria discoidea*), creeping buttercup (*Ranunculus repens*) and white clover. Soft rush (*Juncus effusus*) also dominated wetter areas along the north-west border of the site with compact rush (*Juncus conglomeratus*).

C3.1 Tall Ruderal

There was a narrow strip of common nettle on the south-west edge of the site (Plate 6).

J2 Boundaries

The site was within a field bordered by wire fencing and a blackthorn dominated species-poor intact hedge on the south-west edge. There was a dry ditch and dry stone walling running along part of the hedge (Target Note 4) (Plate 7).

A new fence was recorded bordering the new development in the south east along which were recently planted young saplings (Target Note 5) (Plate 8), comprising gorse, hawthorn (*Crataegus monogyna*), hazel (*Corylus avellana*) and rose (*Rosa* sp.).

3.2.2 Species

Parc Cybi Site A was found to support or offer suitable habitat for reptiles, breeding birds, and foraging bats.

Reptiles

The grassland and scrub interfaces offer sub-optimal habitat favourable to reptiles such as slow worm and grass snake (*Natrix natrix*) although the area was subjected to heavy grazing. The bare ground and hard standing areas offer areas for basking, particularly in the southern area of the site where there was bare ground and dry stone walling along the dry ditch and scrub nearby to offer cover.

Breeding Birds

The scrub within and surrounding the site was considered to offer suitable habitat for breeding birds.

Bats

There were no trees or buildings within the site offering potential for roosting bats but it is likely that bats will the site for foraging and possibly commuting. The scrub along the dry ditch outside the site in the south forms a linear feature that bats will be likely to use.

3.3 Parc Cybi B Site

3.3.1 Habitats

The Phase One Habitat map is shown in Figure 3, Appendix A. The site was predominantly poor semi-improved and improved grassland with areas of dense, continuous scrub, broad-leaved semi-natural woodland, small patches of tall ruderals and scattered scrub. Full species lists and target notes are given in Table B.3 and Table B.4, Appendix B and detailed descriptions are given below. The plates referred to in this section shown in Appendix C.

A1.1.1 Broad-leaved Semi Natural Woodland

There was a small area of semi-natural woodland dominated by sycamore (*Acer pseudoplatanus*) in the north-western corner of the site (Plate 9) with common nettle dominating the understorey. Ivy (*Hedera helix*) and pine (*Pinus* sp.) were also present.

There was also a large area of woodland bordering the south-eastern field boundary in the southern corner of the site. This was dominated by hawthorn with bramble and bracken (*Pteridium aquilinum*) abundant in the understory and lower numbers of blackthorn, sycamore and alder (*Alnus glutinosa*) trees. There was also a small patch of woodland to the south of the ancient monument dominated by sycamore with hawthorn and a common nettle understorey.

A2.1 Dense/Continuous Scrub

There was dense gorse-dominated scrub near the hard standing area at the entrance to the site and areas of bramble dominated scrub in the south near the ancient monument.

The attenuation pond near the centre of the north-east boundary of the site was bordered by dense scrub vegetation (Plate 10) which was comprised of mainly bramble and hawthorn with nettle, blackthorn, willow (Salix sp.), reed canary-grass (*Phalaris arundinacea*), hogweed (*Heracleum sphondylium*), cock's-foot and false oat-grass (*Arrhenatherum elatius*).

A2.2 Scattered Scrub

There was scattered gorse near the wet ditch in the north (Plate 11) and around the hard standing area in the west. There were also scattered bramble, hawthorn and alder along the stone wall that was the south-west boundary of the site.

A3 Scattered Broad-leaved and Coniferous Trees

There were scattered sycamore and Scot's pine (*Pinus sylvestris*) trees within the tall ruderal habitat in the north-west and near the ancient monument in the south.

B2.2 Semi-improved Neutral Grassland

Unmanaged areas of semi-improved neutral grassland were recorded surrounding the hard standing area, along the footpath in the west of the site and on the embankment of the A55 road in the north-east.

The grassland habitat around the hard standing (Plate 12) comprised a diverse range of species including common knapweed (*Centaurea nigra*), smooth Hawk's-beard (*Crepis capillaris*), herb-robert (*Geranium robertianum*), oxeye daisy (*Leucanthemum vulgare*), yarrow (*Achillea millefolium*), ribwort plantain (*Plantago lanceolate*) and lesser burdock (*Arctium minus*). Frequent grass species included sweet vernal-grass, Yorkshire fog, perennial rye-grass and common bent. Ragwort (*Senecio jacobaea*) was also abundant on the spoil heap within the hard standing (Target Note 1) and colt's-foot (*Tussilago farfara*) formed localised dominant patches (Target Note 2).

False oat grass dominated the A55 embankment in the north-east which also comprised Canadian fleabane (*Conyza canadensis*), great willowherb, creeping thistle and hogweed.

There was an area of semi-improved neutral grassland between the scrub habitat in the southern corner which was dominated by common bent with creeping bent (*Agrostis stolonifera*), red fescue (*Festuca rubra*), cat's ear (*Hypochaeris radicata*), red clover (*Trifolium pratense*) and yarrow.

B4 Improved Grassland

The south-eastern field was comprised of improved grassland habitat (Plate 13) dominated by perennial rye-grass with a limited number of forbs which included dandelion (*Taraxacum* spp.) meadow buttercup (*Ranunculus acris*) broad leaved dock (*Rumex obtusifolius*), common mouse-ear, ribwort plantain and creeping thistle. There were also small mounds recorded with exposed rock surfaces where common bent-grass dominated (Target Note 3).

B5 Marshy Grassland

There was a large patch of marshy grassland on the north-western boundary of the site (Target Note 4) (Plate 14) dominated by soft rush, occasional compact rush, sharp-flowered rush (*Juncus acutiflorus*), marsh horsetail (*Equisetum palustre*) silverweed (*Potentilla anserine*), lesser spearwort (*Ranunculus flammula*), and water forget-me-not (*Myosotis scorpioides*).

There was also an area of marshy grassland adjacent to the site next to the woodland in the south-east (Target Note 5). Most of this was dominated by soft rush and sharp-flowered rush. The wetter area to the south-east of the ditch was comprised almost entirely of great willowherb, meadowsweet (*Filipendula ulmaria*) and hemlock (*Conium maculatum*). Yellow-rattle (*Rhinanthus minor*), common bird's-foot-trefoil (*Lotus corniculatus*), curled dock (*Rumex crispus*), lesser trefoil (*Trifolium dubium*) and marsh bedstraw (*Galium palustre*) were also present in these areas.

B6 Poor Semi-improved Grassland

The north-western field is comprised of poor semi-improved grassland (Plate 15) dominated by sweet vernal-grass and common bent-grass. Yorkshire fog was also frequent with perennial rye-grass and annual meadow-grass (*Poa annua*) present in some areas. Creeping thistle and common nettle formed dominant patches (Target Note 6) and other frequent species included common mouse-ear (*Cerastium fontanum*), spear thistle and white clover. There was greater diversity along the edges of the field and the bank of the wet ditch on the northern field boundary where additional species included soft rush which was dominant along the ditch, great willowherb (*Epilobium hirsutum*), watermint (*Mentha aquatic*), water forget-me-not, red campion (*Silene dioica*) and hemlock water-dropwort (*Oenanthe crocata*). Gorse, hawthorn and false oat-grass were also abundant along the bank of the ditch. English stonecrop (*Sedum anglicum*) formed a dense cover on the bare rock surfaces both within this habitat and the improved field (Target Note 7).

C3.1 Tall Ruderal

There was tall ruderal vegetation bordering the woodland vegetation in the north-west (Plate 16) and adjacent to scrub vegetation surrounding the attenuation pond. This was dominated by creeping thistle and common nettle. There was a stand of rosebay willowherb (*Chamerion angustifolium*) dominated vegetation in the south (Target Note 8) and in between the two wire fences which divided the two fields near the centre of the site. This comprised of common nettle, false oat-grass, creeping thistle, great willowherb, cleavers (*Galium aparine*), hogweed with scattered hawthorn and bramble scrub.

There was also nettle and great willowherb dominated tall ruderals recorded in the north-east corner of the poor semi-improved field.

G1 Standing Water

There were wet ditches along the northern (Target Note 9) (Plate 17) and south-eastern boundary of the fields, and an attenuation pond north of the site which could not be accessed.

J2 Boundaries

Wire fencing was recorded along the boundaries from south-west to north-east separating the improved and poor semi-improved fields. There was a strip of tall ruderals and scattered scrub between the adjacent fences. There was also fencing along the north-east boundary of the two fields.

There was dry stone walling running along both sides of the footpath down the south-western boundary.

3.3.2 Species

The Parc Cybi B site was found to support or considered to provide suitable habitat for amphibians, reptiles, breeding birds, foraging and commuting bats, and water vole. Figure 4, Appendix A summarises the protected species constraints identified during these surveys.

Amphibians (Including great crested newt)

The ditches offered some potential to support breeding amphibians including great crested newt. The attenuation pond could not be assessed for amphibian potential due to access restrictions, it is possible that this may also offer potential for breeding amphibians. The surrounding grassland and scrub were considered to provide suitable terrestrial habitat.

Reptiles

The site is likely to provide suitable habitat for common lizard, slow worm and grass snake. The dry stone walling bordering the south-west and exposed rock surfaces within the site was considered to provide opportunities for shelter and basking. The grassland and scrub interfaces within the site were also considered favourable to reptiles. The spoil pile within the semi-improved grassland habitat in the south-west of the study area provides potential refugia. The gently sloping bank along the road in the north-east and mounds within the grassland habitat provides south-facing slopes for basking reptiles.

Breeding Birds

The woodland and scrub in and around the site was considered to provide good habitat for breeding birds. Curlew (*Numenius arquata*) was observed flying over the site calling and also loafing in fields within the vicinity of the site. The damp areas within the open fields were considered to offer suitable breeding habitat for this species.

Bats

No trees within the study area were considered to have potential to support roosting bats, although the woodland on the south-east boundary of the site may contain some trees with bat roost potential. This woodland edge was adjacent to a wet ditch and may provide a linear feature and food source for commuting and foraging bats.

The woodland, scrub, ditches and grassland were also considered to offer good foraging habitat for bats.

Water Vole

Field signs of water vole (Plate 18) were recorded within the marshy grassland habitat on the north-west boundary of the site. The steep sided ditches and availability of grass and other vegetation for food and nesting was considered to provide suitable habitat for this species.

4. Conclusion

This report details the results of the preliminary ecological survey carried out in August 2015 at the two proposed AD sites at Parc Cybi. A site walkover was carried out at each site and broad habitat types recorded using the Phase One Habitat survey methodology (JNCC, 2010).

The habitats identified at Parc Cybi A include poor semi-improved grassland, gorse-dominated continuous scrub, bare ground, hard standing and semi-improved neutral grassland. Parc Cybi B comprised poor semi-improved and improved grassland with areas of dense, continuous scrub, broad-leaved semi-natural woodland, small patches of tall ruderals and scattered scrub.

Evidence of or habitat features with the potential to support the following protected species was identified during these surveys:

- reptiles
- amphibians, including great crested newt (Parc Cybi B only);
- breeding birds;
- foraging and commuting bats; and
- water vole (Parc Cybi B only).

Field signs of water vole were found at Parc Cybi B.

5. References

JNCC (2010). Handbook for Phase 1 Habitat Survey - a technique for environmental audit. JNCC.

Appendix A. Figures

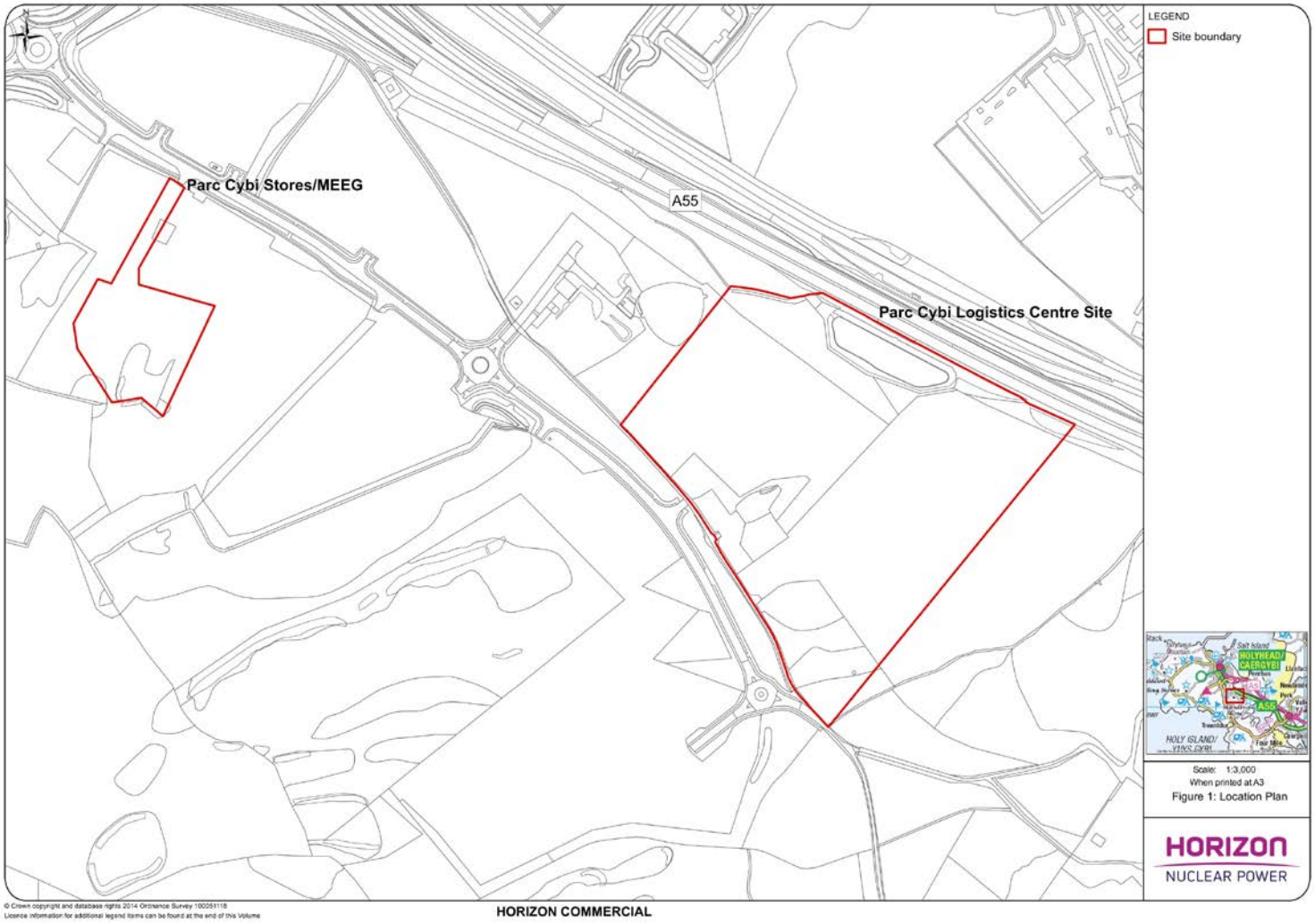

Figure 1: Parc Cybi sites Location Plan

Figure 2: Parc Cybi A Phase One Habitat Survey

Figure 3: Parc Cybi B Phase One Habitat Survey

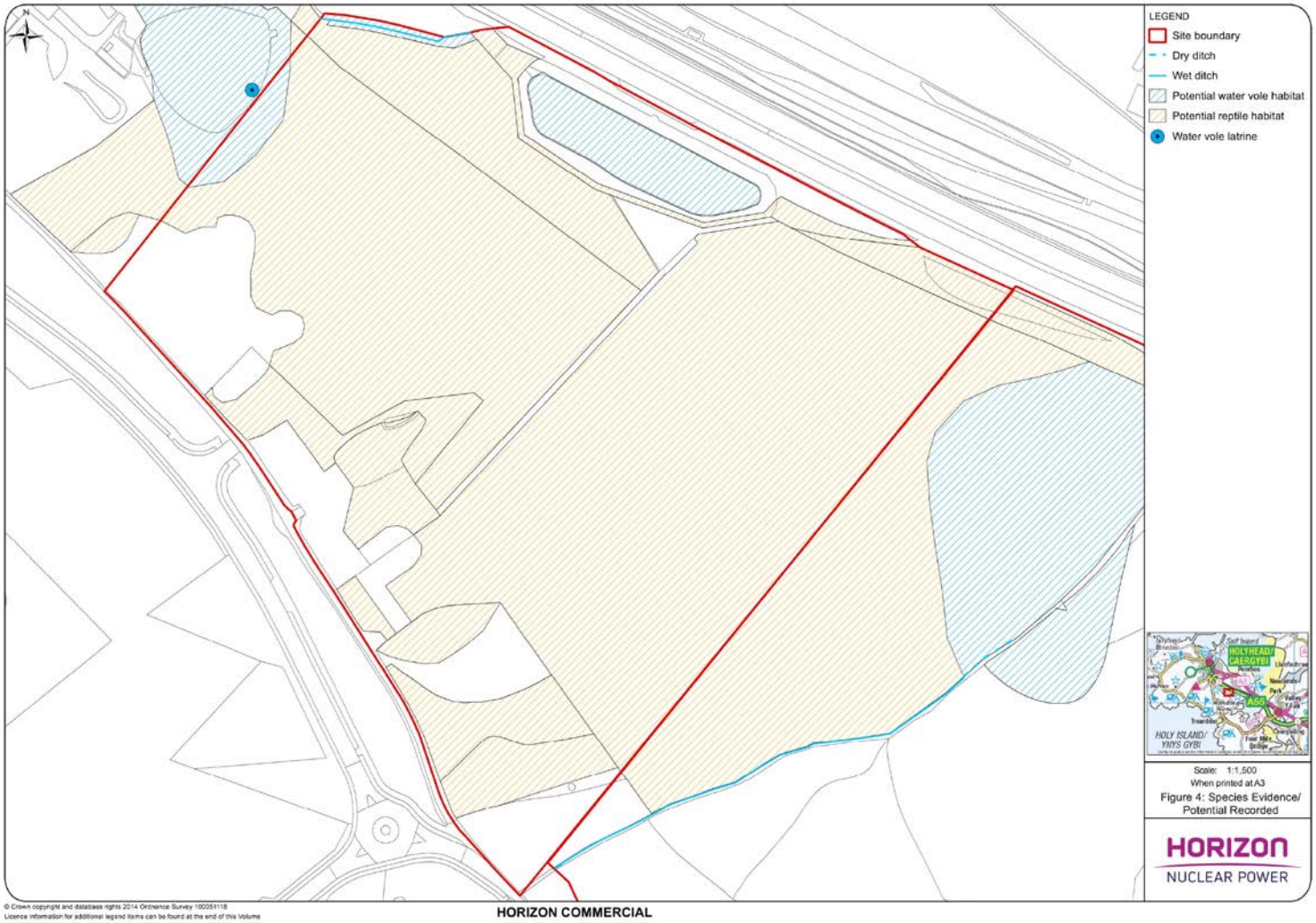

Figure 4: Species Evidence/Potential Recorded

Appendix B. Habitat Species List and Target Notes

Table B.1 : Species list and occurrence within each habitat at Parc Cybi A

Scientific Name	Common Name	Dense Scrub (A2.1)	Scattered Scrub (A2.2)	SI Neutral Grassland (B2.2)	Poor SI Grassland (B6)
Agrostis capillaris	Common Bent				X
Agrostis stolonifera	Creeping bent				X
Alopecurus pratensis	Meadow foxtail				X
Anthoxanthum odoratum	Sweet vernal-grass				X
Cirsium arvense	Creeping thistle	X			X
Cirsium vulgare	Spear thistle				X
Cynosurus cristatus	Crested dogstail				X
Dactylis glomerata	Cock's-foot	X			
Digitalis purpurea	Foxglove	X			
Geranium dissectum	Cut-leaved cranesbill			X	
Hedera helix	Ivy	X			
Holcus lanatus	Yorkshire fog	X			X
Juncus conglomeratus	Compact rush				X
Juncus effusus	Soft rush				X
Lolium perenne	Perennial rye grass			X	X

Scientific Name	Common Name	Dense Scrub (A2.1)	Scattered Scrub (A2.2)	SI Neutral Grassland (B2.2)	Poor SI Grassland (B6)
Matricaria discoidea	Pineapple weed				X
Plantago major	Greater plantain			X	
Potentilla reptans	Creeping cinquefoil			X	
Prunus spinosa	Blackthorn			X	
Ranunculus repens	Creeping buttercup				X
Rubus fruticosus	Bramble	X		X	
Rumex acetosa	Common sorrel			X	X
Trifolium repens	White clover			X	X
Ulex europeaus	Gorse	X	X		
Urtica dioica	Common nettle	X		X	X

Table B.2 : Target Notes for Parc Cybi A

Target Note	Description
1	Dry stone wall and bare rock
2	Historical structure - surrounded by vegetation and fencing.
3	Recently disturbed and grazed by sheep and goats
4	Dry ditch along dry stone walling with intact blackthorn hedge
5	Plantation gorse, hawthorn, hazel, rose - young saplings recently planted

Table B.3 : Species list and occurrence within each habitat at Parc Cybi B

Scientific Name	Common Name	Broadleaved semi-natural Woodland (A1.1.1)	Dense scrub (A2.1)	Scattered scrub (A2.2)	Scattered trees (A3)	SI Neutral Grassland (B2.2)	Improved grassland (B4)	Marshy grassland (B5)	Poor SI grassland (B6)	Tall ruderal (C3.1)
Acer pseudoplatanus	Sycamore	X			X					
Achillea millefolium	Yarrow					X				
Agrostis capillaris	Common bent					X	X	X	X	
Agrostis stolonifera	Creeping bent						X			
Alnus glutinosa	Alder	X		X						
Anthoxanthum odoratum	Sweet vernal grass					X	X		X	
Anthriscus sylvestris	Cow parsley					X				
Arctium minus	Lesser burdock					X				
Arrhenatherum elatius	False oat-grass		X			X		X	X	X
Centaurea nigra	Common knapweed					X				
Centranthus ruber	Red valerian					X				
Cerastium fontanum	Common mouse-ear						X		X	
Chamerion angustifolium	Rosebay willowherb	X				X				X
Cirsium arvense	Creeping thistle					X	X		X	X
Cirsium vulgare	Spear thistle					X		X	X	

Scientific Name	Common Name	Broadleaved semi-natural Woodland (A1.1.1)	Dense scrub (A2.1)	Scattered scrub (A2.2)	Scattered trees (A3)	SI Neutral Grassland (B2.2)	Improved grassland (B4)	Marshy grassland (B5)	Poor SI grassland (B6)	Tall ruderal (C3.1)
Conium maculatum	Hemlock							X	X	
Conyza canadensis	Canadian fleabane					X				
Crataegus monogyna	Hawthorn	X	X	X					X	X
Crepis capillaris	Smooth Hawk's-beard					X				
Dactylis glomerata	Cock's-foot		X			X				
Digitalis purpurea	Foxglove					X				
Epilobium hirsutum	Great willowherb	X				X		X	X	X
Equisetum palustre	Marsh horsetail							X		
Festuca rubra	Red fescue					X				
Filipendula ulmaria	Meadowsweet							X		
Galium aparine	Cleavers									X
Galium palustre	Marsh bedstraw							X		
Geranium robertianum	Herb-robert					X				
Hedera helix	Ivy	X	X							
Heracleum sphondylium	Hogweed	X	X			X				X
Holcus lanatus	Yorkshire fog					X		X	X	

Scientific Name	Common Name	Broadleaved semi-natural Woodland (A1.1.1)	Dense scrub (A2.1)	Scattered scrub (A2.2)	Scattered trees (A3)	SI Neutral Grassland (B2.2)	Improved grassland (B4)	Marshy grassland (B5)	Poor SI grassland (B6)	Tall ruderal (C3.1)
Hypochaeris radicata	Cat's ear					X				
Juncus acutiflorus	Sharp-flowered rush							X		
Juncus conglomeratus	Compact rush							X		
Juncus effusus	Soft rush							X	X	
Leucanthemum vulgare	Oxeye daisy					X				
Lolium perenne	Perennial ryegrass					X	X		X	
Lotus corniculatus	Common bird's-foot-trefoil					X		X		
Matricaria discoidea	Pineapple weed								X	
Medicago lupulina	Black medick					X				
Mentha aquatica	Watermint							X	X	
Myosotis scorpioides	Water forget-me-not							X	X	
Oenanthe crocata	Hemlock water-dropwort								X	
Phalaris arundinacea	Reed canary-grass		X			X				
Picris echioides	Bristly ox-tongue					X				
Pinus sp.	Pine sp.	X								
Pinus sylvestris	Scot's pine				X					

Scientific Name	Common Name	Broadleaved semi-natural Woodland (A1.1.1)	Dense scrub (A2.1)	Scattered scrub (A2.2)	Scattered trees (A3)	SI Neutral Grassland (B2.2)	Improved grassland (B4)	Marshy grassland (B5)	Poor SI grassland (B6)	Tall ruderal (C3.1)
Plantago lanceolata	Ribwort plantain					X	X			
Plantago major	Greater plantain					X				
Poa annua	Annual meadow-grass								X	
Potentilla anserina	Silverweed		X					X		
Prunus spinosa	Blackthorn	X	X	X						
Pteridium aquilnium	Bracken	X							X	
Ranunculus acris	Meadow buttercup						X			
Ranunculus flammula	Lesser spearwort							X		
Ranunculus repens	Creeping buttercup					X	X	X		
Rhinanthus minor	Yellow-rattle							X		
Rubus fruticosus	Bramble	X	X	X		X			X	X
Rumex acetosella	Sheep sorrel					X				
Rumex crispus	Curled dock							X		
Rumex obtusifolius	Broad leaved dock					X	X			X
Salix sp.	Willow sp.		X							
Sedum anglicum	English stonecrop					X	X			

Scientific Name	Common Name	Broadleaved semi-natural Woodland (A1.1.1)	Dense scrub (A2.1)	Scattered scrub (A2.2)	Scattered trees (A3)	SI Neutral Grassland (B2.2)	Improved grassland (B4)	Marshy grassland (B5)	Poor SI grassland (B6)	Tall ruderal (C3.1)
Senecio jacobaea	Ragwort					X	X			
Silene dioica	Red campion								X	
Stachys sylvatica	Hedge woundwort									X
Taraxacum spp.	Dandelion					X	X			
Trifolium dubium	Lesser trefoil							X		
Trifolium pratense	Red clover					X				
Trifolium repens	White clover					X	X		X	
Ulex europeaus	Gorse		X	X		X			X	
Urtica dioica	Common nettle	X	X			X	X	X	X	X
Vicia sp.	Vetch sp.					X				

Table B.4 : Target Notes for Parc Cybi B

Target Note	Description
1	Ragwort forms dominant patches on spoil heap.
2	Patch dominated by colt's-foot.
3	Small mounds with exposed rock surfaces.
4	Marshy grassland dominated by soft rush.
5	Marshy grassland dominated by great willowherb, hemlock, meadowsweet and soft rush with wet ditch running through it.
6	Patch dominated by creeping thistle.
7	Exposed rock surface.
8	Tall ruderals dominated by rosebay willowherb.
9	Wet, steep-sided ditch with soft rush, greater willowherb, watermint, hemlock and red campion and gorse and hawthorn along bank.

Appendix C. Photographs

C.1 Parc Cybi A

Plate 1: Dense, continuous scrub in the south of the site.

Plate 2: Scattered scrub within the site.

Plate 3: Semi-improved neutral grassland surrounding disused well in the north-east of the site.

Plate 4: Poor semi-improved grassland with bare ground in the south-east of the site.

Plate 5: Bare ground in the eastern corner of the site with recent development in the background.

Plate 6: Tall ruderal vegetation dominated by common nettle skirting the southern edge of the site.

Plate 7: Ditch to the south-west of the site running along dry stone wall with scrub.

Plate 8: Plantation saplings outside site in the south-east.

C.2 Parc Cybi B

Plate 9: Broad-leaved semi-natural woodland adjacent to western border of the field in the north of the site with dominant patch of creeping thistle.

Plate 10: Dense scrub and fencing surrounding attenuation pond in the north of the site.

Plate 11: Scattered gorse scrub within the site.

Plate 12: Semi-improved neutral grassland within the site.

Plate 13: Marshy grassland in the north-west of the site.

Plate 14: Poor semi-improved grassland within the site.

Plate 15: Improved grassland field within the site.

Plate 16: Tall ruderal habitat with scattered trees in the western corner of the site.

Plate 17: Wet ditch along the northern boundary of the site.

Plate 18: Water vole latrine found with marshy grassland habitat in the north-west of the site.