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Appendix 7I

Riparian Mammal Survey
Wintering Bird Report

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Welsh Government
**Global Centre for Rail Excellence
(GCRE)**
Riparian Mammal Survey Report

Rev A | 9 July 2020

This report takes into account the particular instructions and requirements of our client.
It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 264904

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Job title		Global Centre for Rail Excellence (GCRE)		Job number	
				264904	
Document title		Riparian Mammal Survey Report		File reference	
Document ref					
Revision	Date	Filename	Nant Helen_Riparian Mammal Report_v1.docx		
Draft 1	5 Nov 2019	Description	First draft		
			Prepared by	Checked by	Approved by
		Name	Martyn Owen		
		Signature			
Draft 2	6 Nov 2019	Filename	Nant Helen_Riparian Mammal Report_v2.docx		
		Description	Second draft		
			Prepared by	Checked by	Approved by
		Name	Martyn Owen	Richard Moores	
		Signature			
Issue	15 Nov 2019	Filename	Nant Helen_Riparian Mammal Report_v2.docx		
		Description	Issue		
			Prepared by	Checked by	Approved by
		Name	Martyn Owen	Claire Pooley	
		Signature			
Rev A	09 Jul 2020	Filename	GCRE_Riparian Mammal Report_Rev A.docx		
			Updated for GCRE		
			Prepared by	Checked by	Approved by
		Name	Kathryn Jones	Claire Pooley	Paul Clack
		Signature			

Issue Document verification with document



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1 Introduction

1.1 Background

Ove Arup & Partners Ltd (Arup) was commissioned by the Welsh Government (WG) to undertake a range of consultancy services in relation to the Global Centre for Rail Excellence (GCRE), hereafter referred to as ‘the Project’.

As part of that commission, a range of ecological surveys have been undertaken to identify the baseline ecological conditions of the Project area, to inform the assessment of impacts as part of the Environmental Impact Assessment (EIA) process.

This document describes the riparian mammal surveys undertaken for the Project.

1.2 Objectives

The objectives of the riparian mammal surveys were to ascertain the following:

- The suitability of watercourses and waterbodies within the Project area for otter (*Lutra lutra*) and water vole (*Arvicola amphibius*); and
- The presence and distribution, or likely absence, of otter and water vole within the Project area.

2 Project Description and Context

The WG are proposing to develop a rail testing, maintenance, research, development and storage facility (also referred to as the Global Rail Centre for Excellence) at the site of the Onllwyn washery and Nant Helen open cast mine site. The site for development is approximately 475 ha.

The proposed site is currently being mined by Celtic Energy, who will cease extraction operations in 2021, at which point Celtic Energy will be required to restore the land in accordance with regulatory requirements and agreements with Powys County Council (PCC) and Neath Port Talbot County Borough Council (NPTCBC). This includes Section 106 planning obligations and planning conditions that need to be discharged.

Celtic Energy has submitted two recent planning applications for the site, including: the revised restoration strategy for approval (Planning reference number: 19/1899/REM) which would change the existing approved restoration scheme (for planning application ref 18/1070/REM). And, the Nant Helen complementary earthworks application for approval (Planning reference number: 20/0738/FUL) The purpose of these applications is to allow for a ‘flexible and adaptable landform for a variety of future uses on restoration, including the use of the site as a rail testing and storage facility, proposed by the WG.

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3 Site Description

The site is within the Dulais Valley located within Powys and Neath Port Talbot, with the Brecon Beacons National Park Authority boundary immediately to the north. Nearby settlements include Onllwyn, Seven Sisters, Ystradgynlais, Caehopkin, Abercrave or Coelbren.

The site is predominantly brownfield land that has been heavily worked by open cast mining. Much of the site has been revegetated.

5 Study Area

The study area (Figure 1) encompasses the majority of land within the Nant Helen open cast operational site, which at the time of commencing the ecological surveys was considered to be the likely boundary of the project site.

6 Legislation

6.1 Otter

Otters *Lutra lutra* are protected within the UK as a European Protected Species (EPS) under The Conservation of Habitats and Species Regulations 2017 (as amended) (the Habitats Regulations). The Habitats Regulations transposes the Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (the Habitats Directive) into UK Law.

It is an offence, under Regulation 43 of the Habitats Regulations, to:

- Deliberately capture, injure or kill any wild animal of a EPS;
- Deliberately disturb wild animals of such a species;
- Deliberately take or destroys the eggs of such a species;
- Damage or destroy a breeding site or resting place of such an animal.

Disturbance in the context of the offences above is disturbance which is likely to impair the ability of the animals to survive, to breed or reproduce, to nurture their young, to hibernate, to migrate; or to affect significantly the local distribution of the species.

The otter is also identified as a species that is a priority for nature conservation (Priority Species) within the ‘UK Post-2010 Biodiversity Framework’ Biodiversity Action Plan (UKBAP).

The Environment (Wales) Act 2016 includes a duty on all public authorities to have regard to the conservation of biodiversity in the exercise of their functions. This duty applies to government bodies, local authorities and statutory undertakers. The Act also requires lists to be published of Habitats and Species considered to be of Principal Importance for the Conservation of Biological Diversity. These are referred as Section 7 habitats and species after the sections of the Act which require the publication of lists in each devolved area. Otters are listed as a Section 7 Species.

Natural Resources Wales (NRW) issues licences that can permit works that disturb/damage places of rest for otter for development purposes, though these are subject to strict conditions.

6.2 Water Vole

Water voles *Arvicola amphibius* are fully protected under both Schedule 5 and Section 9 of the Wildlife and Countryside Act 1981 (as amended) (WCA).

It is an offence, under the WCA, to:

- Intentionally capture, kill or injure water voles;

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- Damage, destroy or block access to their places of shelter or protection (on purpose or by not taking enough care);
- Disturb them in a place of shelter or protection (on purpose or by not taking enough care);
- Possess, sell, control or transport live or dead water voles or parts of them (not water voles bred in captivity).

The water vole is also a species of ‘Principal Importance for the Conservation of Biological Diversity’ in Wales in response to Section 7 of the Environment (Wales) Act 2016 and is also identified as a species that is a priority for nature conservation (Priority Species) within the ‘UK Post-2010 Biodiversity Framework’ Biodiversity Action Plan (UKBAP).

NRW cannot issue licences for the specific purpose of development. However, in some circumstances a licence may be issued in relation to a development proposal if the licensed action is going to provide a conservation benefit for water voles.

The reader should refer to the original legislation for the definitive interpretation.

7 Habitat Requirements

7.1.1 Otter

Otter favour still (lakes, lochs, ditches and gravel pits) and flowing (rivers and streams) freshwater systems and are capable of long overland journeys between watersheds. Radio-tracked otters were found to spend over half of their time within, or alongside woodland¹.

7.1.2 Water Vole

Water voles are usually found within 2m of water's edge. Prime sites occur most frequently along densely vegetated banks of ditches, rivers, streams and marshes, generally where the current is slow, but water is present throughout the year¹. Steep banks for burrowing, the presence of a berm (ledge at water level), nest building opportunities in vegetation above water level, the year-round availability of food sources and a lack of disturbance (through poaching, grazing and/or recent management) are also positive habitat features².

¹ Harris, S & Yalden, D. (2008). *Mammals of the British Isles: Handbook*, 4th edition.
² Harris, J., Markwell, H., Raybould, B. (2009). *A Method for Assessing Water Vole Habitat Suitability*. In Practice, bulletin of the Institute of Ecology and Environmental Management.

8 Methodology

8.1 Desk Study

An ecological data search was carried out to identify otter and water vole records within 5 km of the site’s centre point. Such data was obtained from the Biodiversity Information Service for Powys & Brecon Beacons National Park (BIS). Data was obtained on 21 November 2018 and is also presented within the Extended Phase 1 Habitat Survey Report in relation to the Project³.

In addition, existing data for the site is available in the form of a riparian mammal survey undertaken in 2010, to inform the 2011 Environmental Statement for a western extension to the Nant Helen (Extension) Surface Coal Mine⁴.

8.2 Field Surveys

The otter/water vole field survey involved surveying all waterbodies (25 ponds and nine streams/ditches) present within the study area that had been identified during the Extended Phase 1 Habitat Survey or Ordnance Survey data (Figure 2). Three otter/water vole surveys (spring, summer and autumn) were completed of each of these waterbodies between May and September 2019 (inclusive) (Table 1). Due to the cross-over in habitat requirements and survey methodology both species were surveyed for at the same time.

The water vole survey was completed in accordance with the standard survey guidelines^{5,6}. The survey comprised walking the ditch banks to search for signs of water vole presence, including but not limited to burrows, latrines, footprints, feeding remains and sightings of animals.

The otter survey was conducted in line with relevant survey guidance⁷. This involved accessing the watercourse and walking in-channel (where possible), to search for evidence of otter presence such as resting places, spraints, food remains, prints, slides and holts. Terminology used to describe the resting areas for otters used the standard terminology, such as either a holt (usually a hole in the ground covered by vegetation or under the roots of a bankside tree) or couches (an uncovered laying up or nest-like structure). Natal dens refer to a hidden, secure place where the female rears her young.

³ Arup (2019). Nant Helen Complementary Restoration Earthworks. *Extended Phase 1 Habitat Survey Report*.

⁴ Celtic Energy (2011). *Environmental Statement*.

⁵ Strachan R, Moorhouse T and M Gelling (2011). *Water vole conservation handbook, Third edition*, Wild Cru.

⁶ Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016). *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series)*. The Mammal Society.

⁷ Chanin, P. (2003). *Monitoring the Otter Lutra lutra. Conserving Natura 2000 Rivers Monitoring Series No. 10*. English Nature. Peterborough

When encountered field signs were recorded on maps, with the location logged using a Global Positioning System (GPS) unit, and photographs taken when required.

Camera traps (Minox DTC 650) were installed at four locations within the survey area (Table 2, Figure 2) to provide additional data on usage of identified features, or where a complete survey of waterbodies/courses was difficult (due to dense vegetation). The images obtained were checked for otter and water vole.

Surveying was avoided for at least three days after any heavy rain, in order to ensure that field signs were not washed away and that the water level was not too high to obscure any field signs of the two species.

8.2.1 Surveyors

All surveys were undertaken by two surveyors, at least one of them being an experienced ecologist competent in undertaking surveys for these species and identifying their field signs.

Surveys were led by Martyn Owen MCIEEM who has over 20 years’ experience in the completion of riparian mammal surveys. Support was provided by Stuart Thomas MCIEEM and Steven Forrester.

Table 1: Riparian mammal survey dates and weather conditions.

Survey Visit	Date	Surveyors	Temp. (°C)	Wind Speed (Beaufort) / Direction	Cloud cover (oktets)	Precipitation
1	24/05/19	Martyn Owen MCIEEM Stephen Forrester	14-16	1-2W	3-8	Infrequent light showers
	12/06/19	Martyn Owen MCIEEM Stuart Thomas MCIEEM	11-14	1-2 SE	4-8	Nil
2	22/07/19	Martyn Owen MCIEEM Stephen Forrester	19-20	1 S	8	Nil
	23/07/19		22-24	2 S	4	Nil
	24/07/19		17-19	3 S	4	Nil
3	18/09/19	Martyn Owen MCIEEM Stephen Forrester	20	1 SE	0-1	Nil
	19/09/19		18	1 SE	0	Nil
	23/09/19		15	2 S	7-8	Occasional light showers
	24/09/19		13-16	2-3 S	7-8	Occasional light showers

Table 2. Camera trap deployment details.

Reference	Location (Figure 2)	Date Deployed	Date Collected
1	P27	12/06/2019	24/09/2019
2	S4	22/07/2019	24/09/2019
3	S2	22/07/2019	24/09/2019
4	S1	22/07/2019	24/09/2019

8.3 Limitations

Full access to waterbodies P27, S2 and S1 was not possible due to the density of marginal/bankside vegetation. These waterbodies were surveyed so far as practicably possible, and camera traps were deployed to supplement the field survey data. It is considered that these complementary methods assist to provide a robust data set in relation to these waterbodies.

The findings presented in this study represent those at the time of survey and reporting, and data collected from available sources. Ecological surveys are limited by factors which affect the presence of flora and fauna, factors such as the time of year and natural behaviour of the animals. Nevertheless, these surveys were conducted at the optimal survey periods and using methodologies which are in accordance with published guidelines.

9 Results

9.1 Desk Study

9.1.1 Previous Survey Data

Three watercourses (Nant Penrhos, Nant Gyrlais and an unnamed watercourse) were surveyed in July and September 2010⁴ for their suitability to support otters and for any signs of otter presence, including spraints, feeding remains and holts. No signs of otter were identified in proximity to any of watercourses that were surveyed.

These watercourses were also surveyed for signs of water voles. The watercourses were found to be generally unsuitable due to being dry for extended periods. No signs of water vole were identified in proximity to any of watercourses that were surveyed.

9.1.2 Biological Records

The biological records search yielded 27 records of otter within 5km of the site, the closest of which was 1.8km distant.

There were no recent (i.e. within the last 20 years) records of water vole within the search area.

9.2 Field Survey

9.2.1 Otter

All watercourses within the study area were surveyed; signs of otter presence were identified at a number of locations along watercourse S4. Details of these signs are provided within Table 3 with the locations shown on Figure 2.

No potential holts or natal dens were identified.

Table 3: Otter survey results.

Reference	Survey Period	Location	Details
A	Spring	S4	Spraint
B	Summer	S4	Spraint
C	Summer	S4	2 x spraints

In addition to the above, five spraints and a potential couch were identified incidentally to the southwest of the study area (Photograph 1, Figure 2, Camera Trap Location 2). A camera trap was deployed at this location (Figure 2, Camera Trap Location 2), although it did not capture any images of otter. Furthermore, there were no images of otter captured on any of the other deployed camera traps.

Photograph 1. Location of possible couche marginally outwith the survey area



9.2.2 Water Vole

Streams in the north of the site (S7, P44, P57) were manmade with stone/brick substrate, a steep gradient and consequent fast flow with little marginal vegetation (due to substrate). A network of ditches (S60) were found to be dry throughout the survey period with the exception of small, isolated areas of standing water in depressions. In the south of the site, S4 exhibited a rapid flowrate with stone substrate while S5 was steep in gradient, rendering these watercourses unsuitable for water vole (see Section 1.4.2).

The majority of ponds within the survey area were considered unsuitable, predominantly due to the poorly developed marginal vegetation and water quality/disturbance as a consequence of current site operations.

Streams S1 and S2 were considered to be potentially suitable for water voles (see Section 1.4.2), along with ponds P23, P25, P26, P27, P48, P55 and U . However, comprehensive surveys failed to find any evidence of water vole presence.

There were no images of water vole captured on any of the deployed camera traps.

10 Conclusions

The comprehensive suite of surveys recorded otter presence on the river in the south of the study area (S4), including a possible couch marginally outside the study area. No active breeding sites were found, and survey results indicated that the potential presence of otter within the site with any regularity is unlikely.

Water vole is considered likely absent from the study area due to the absence of records during the site survey and desk study, combined within the limited availability/extent of potentially suitable habitat.

A full ecological impact assessment will be included within the Environmental Statement for the project and this will include an assessment of the significance of impacts from the project on otter/water vole. This will also detail any mitigation or compensation measures required to ensure there is no significant effect on otter/water vole within the site.

This report is the result of the survey work undertaken between May and September 2019. This report refers, within the limitations stated, to the condition or proposed works of the site at the time of the surveys. Changes in legislation, guidance, best practice, etc. may necessitate a re-assessment/survey. No warranty is given as to the possibility of future changes in the condition of the site.

The results of these surveys are considered valid for a minimum of 18 months to a maximum of 3 years. If more than 18 months elapses before any planning application is submitted, the requirement for repeat surveys should be reviewed⁸.

⁸ Chartered Institute of Ecology and Environmental Management (2019). *Advice Note on the Lifespan of Ecological Reports and Surveys*.

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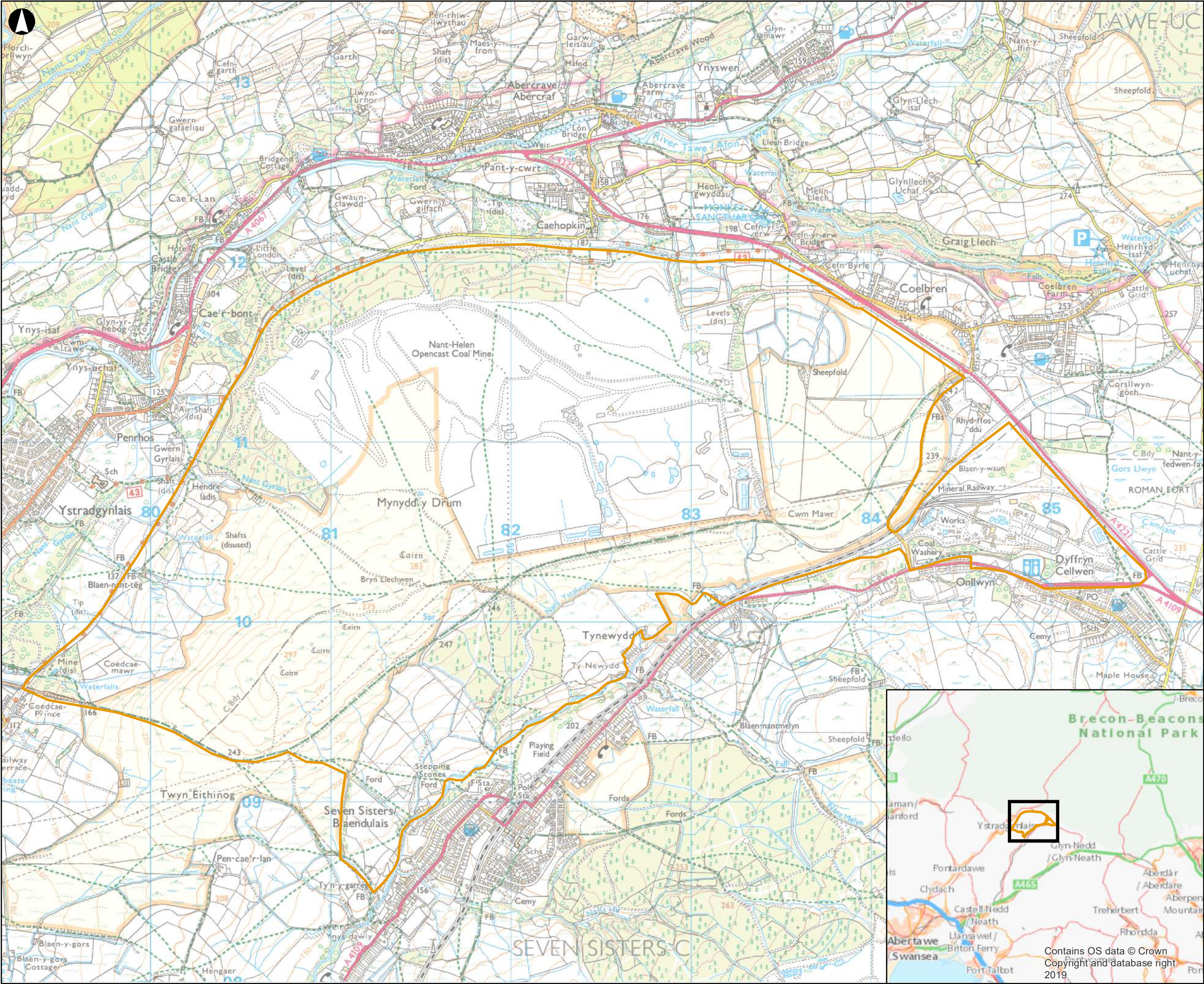
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Figures

- Figure 1 Site Location
- Figure 2 Surveyed Waterbodies and Survey Results

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Legend

Survey Area

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Figure 1
Site Location

Scale at A3

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Job No	Drawing Status
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Drawing No	Issue
001	F1

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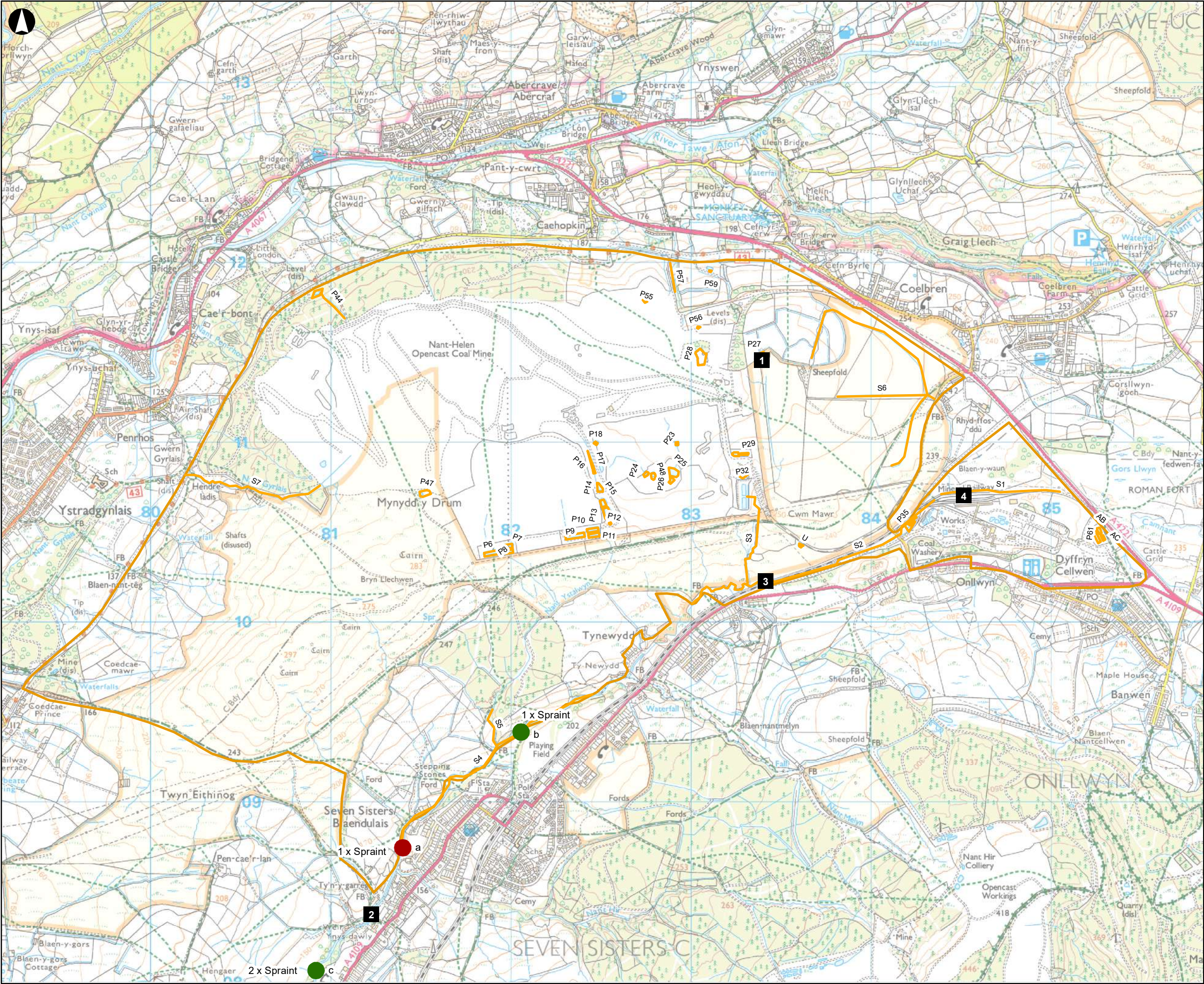
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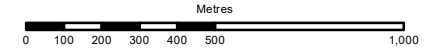
Legend

Otter Field Sign Observations

- Spring Survey Visit
- Summer Survey Visit
- Camera Trap Locations
- Riparian Mammals Waterbodies Surveyed
- Survey Area

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Figure 2
Surveyed Waterbodies and
Survey Results

Scale at A3

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Job No 264904	Drawing Status For Issue
Drawing No 002	Issue F1