

Preliminary Environmental Information Report

Appendix 8H: Riparian Mammal Survey

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Future Energy Llanwern Limited

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8.0 Riparian Mammal Survey

8.1 Introduction

8.1.1 This Appendix presents the results of riparian mammal surveys at Future Energy Llanwern in relation to an application for a Development Consent Order (DCO) for the installation of Solar photovoltaic (PV) panels. The surveys were commissioned by Future Energy Llanwern Ltd.

8.1.2 The area within the PEIR Assessment Boundary is hereafter referred to as the 'Site'.

Aims

8.1.3 The aims of this report are to:

- Describe the methods used for collecting ecological baseline data;
- Identify the presence/ absence of otter and water vole, based on desk study data, field data or assumptions based on the information available.

8.2 Legislation

Otter

8.2.1 Otter, their breeding sites and resting places are protected under UK and European legislation; The Conservation of Habitats and Species Regulations 2017 (as amended) and The Wildlife and Countryside Act (W&CA) 1981 (as amended). It is an offence for anyone to intentionally capture, kill, disturb or take otters. It is also an offence to damage, destroy or obstruct access to any place or structure used for shelter or protection by otters.

8.2.2 Otters are also listed on Annexes II and IV of the EC Habitats Directive and Appendix II of the Bern Convention. If a development activity is likely to result in disturbance or killing of an otter, damage to its habitat etc., then a licence will usually be required from the relevant Statutory Nature Conservation Organisation (SNCO) e.g. Natural Resources Wales (NRW).

8.2.3 Otters are listed as are listed as a Species of Principal Importance (under Section 7 of the Environment (Wales) Act 2016). Otter is a Biodiversity Action Plan (BAP)

priority species for both Monmouthshire and Newport, both Local Planning Authorities cover the Site.

Water Vole

- 8.2.4 Water voles, their breeding sites and resting places are protected under UK legislation; The Wildlife and Countryside Act (W&CA) 1981 (as amended). It is an offence to intentionally capture, kill, disturb or take water voles. It is also an offence to damage, destroy or obstruct access to any place or structure used for shelter or protection by water voles.
- 8.2.5 Water voles are listed as a Species of Principal Importance (under Section 7 of the Environment (Wales) Act 2016). Water vole is a Biodiversity Action Plan (BAP) priority species for both Monmouthshire and Newport.

8.3 Methods

Survey Methods

- 8.3.1 Riparian mammal surveys were undertaken over a two-week period in March 2024 by Lee Jenkins (County recorder of otters for SEWBRReC, NRW personnel Otter license no. S093108/1) and a health and safety assistant Justin Gibson or Elen Williams. Lee has been surveying otters for over 25 years and is founder of South Wales Otter Trust. Lee has considerable experience with otters and developments also having held EPSL licences for otters.
- 8.3.2 Surveys were conducted under suitable weather conditions.
- 8.3.3 Surveys were carried out along reens and ditches with associated habitat searched for signs following current best practice methodologies (Highways Agency 1999 and Dean *et al.* 2016); any signs found were recorded using what3words and photographs. The surveys included watercourses within the Site boundary and within a 100m buffer around the Site as far as access allowed. The survey included each reen/ ditch bank, emergent fringe vegetation and overhanging trees/ exposed tree roots close to the water surface. Extra attention was paid to ledges and other accessible areas beneath bridges.

Otters

- 8.3.4 Signs searched for included, footprints, runs, trails, spraint (faeces), anal jelly, urine burns, food remains, flattened grass (sometimes with spraint), slides couches and holts. Runs and trails not directly leading into/out of the water were also followed.
- 8.3.5 Trail cameras (Defender covert trail camera and K+F concept trail camera) were deployed to monitor mammal holes and inaccessible areas of vegetation (e.g. dense scrub) where mammal trails indicated potential use. Camera trapping was undertaken for extended periods between 4th March and 25th April 2024, for a minimum of one week per location. Camera trap locations are detailed in **Figure 8.8.1**.
- 8.3.6 In addition, all incidental sightings recorded during other surveys on site have been included.

Water Vole

- 8.3.7 During the survey signs for water vole were targeted in areas where the habitat was suitable, signs searched for were: burrows, latrines, trails, feeding stations, piles of chewed vegetation, vegetation chewed at a 45-degree angle and footprints.
- 8.3.8 In addition, all incidental sightings recorded during other surveys on site have been included.

Limitations

- 8.3.9 The northern area around the sub-station and its habitat could not be surveyed due to livestock (bull and cows), but multiple signs were noted underneath the access bridge. Inaccessible habitat visible from the adjoining land contained multiple bramble thickets, potentially suitable for otters.
- 8.3.10 There had been a period of heavy rain immediately prior to the first survey, thus meaning signs recorded were fresh on the start day, however further rain in between surveys raised the water levels, clearing signs and covering potential resting places and holts.

8.4 Results

Desk Study

Otter

8.4.1 SeWBRC returned 95 records of otter within 2km of the PEIR Assessment boundary, of which, 10 record locations are from within the PEIR Assessment boundary primarily around Cock Street Reen and Hares Reen. The records appear to be signs recorded from riparian mammal surveys undertaken in the area and therefore correspond locationally with the water vole records. While there are ten locations, these correspond to approximately 130 records from between 2013 and 2017. The area with the largest number of records is at the intersection of Cock Street Reen and Yoke Reen. Locations are indicated in **Figure 8.8.5**.

Water Vole

8.4.2 SeWBRC returned 1610 records of water vole within 2km of the PEIR Assessment boundary, the majority of which are in association with Magor Marsh SSSI and surrounding reens. There were 12 records of field signs which are from within the Site boundary and are mostly associated with boundary reens and ditches throughout the Site. No burrows are reported within the Site boundary. The largest concentration is three records around Field 64. The records appear to be from riparian mammal surveys undertaken in the area and therefore correspond locationally with the otter records.

Otter

8.4.3 Evidence of otter was found on several reens/ ditches, with activity focused on five key watercourses – Yoke Reen, Cock Street reens, Mead Lane, Monk’s Ditch and the sea wall south of Mead Lane. Signs indicated otter were moving from the north to the south and the sea wall area. The footprints indicated a single adult otter.

8.4.4 **Table 8H-1** details the findings from the surveys, with camera trapping results in **Section 8.4.5** to **8.4.6** and **Table 8-2** below. Locations of results are illustrated in **Figure 8.8.2**.

Table 8H-1 Otter Survey Results Including What3Words (W3W) Locations

Date	Evidence	Area	Photograph and W3W Location
7 th March 2024	Run	Cock Stret Reen, road crossing	 <p>///moisture.bootleg.cupboards</p>
7 th March 2024	Prints	Yoke Reen	 <p>///starting.included.resorting</p>
7 th March 2024	Spraint	Yoke Reen	 <p>///performs.knowledge.pens</p>

7th March 2024 Prints

Yoke Reen



///tracks.regarding.agreeing

7th March 2024 Prints

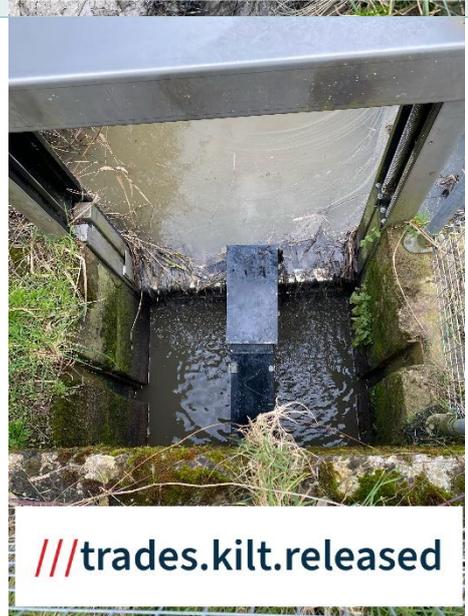
Yoke Reen



///civic.apartment.commuting

7th March 2024 Spraints

Ditch to north of
Cock Street, at
confluence with
Yoke Reen.
Track crossing
point



///trades.kilt.released

7 th March 2024	Prints	Ditch to north of Cock Street, at confluence with Yoke Reen. Track crossing point.	 <p>///resorting.signal.dissolves</p>
7 th March 2024	Run into dense bramble thicket - camera trap deployed (see Section 8.4.5 to 8.4.6 and Table 8-2 below).	Cock Street Reen (north of Cock Street, west of N Row)	 <p>///beefed.prowling.enjoys</p>
8 th March 2024	Spraint	Yoke Reen	 <p>///closed.stocked.mailers</p>

8th March 2024 Prints

Yoke Reen



///hissing.wins.announced

8th March 2024 Prints

Ditch north of
Cock Street



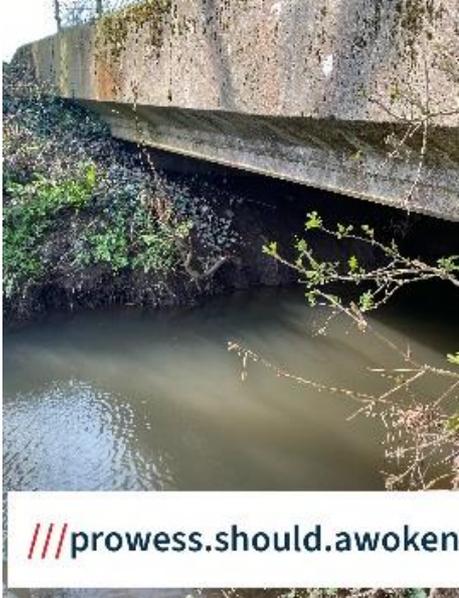
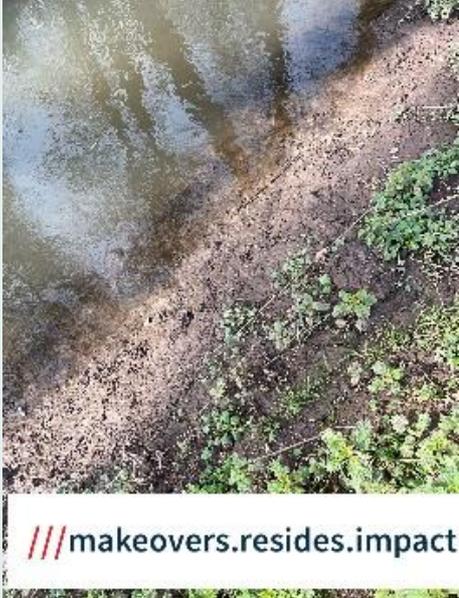
///basic.flagging.basis

8th March 2024 Prints

Yoke Reen



///lobby.roving.forgives

8 th March 2024	Potential resting place - camera trap deployed from 15th March 2024 (see Section 8.4.5 to 8.4.6 and Table 8H-2 below).	Confluence of ditch and reed at near sea wall – south of Mead Lane	
8 th March 2024	Otter signs around bridge (possible resting place under bridge), unable to survey habitat due to cows and a bull.	Monk's Ditch	
8 th March 2024	Prints/ run	Monk's Ditch	

14th March
2024

Potential holt,
showing trails
into and out of
water

Close to sea
wall, near
confluence of
ditch and reen



///closed.saturate.edge

14th March
2024

Potential holt on
reen

Mead Lane



///reserved.neckline.hydrant

14th March 2024	Spraint	Yoke Reen	 <p>///squish.chatters.water</p>
14th March 2024	Spraint	Ditch adjacent to sea wall (near Yoke Reen)	 <p>///squaring.paddock.stumps</p>
14th March 2024	Spraint	Yoke Reen	 <p>///performed.shifting.plastic</p>

Camera Trapping Results

- 8.4.5 Potential resting places and holts were found and camera trapped, as detailed in **Table 8H-2** below.
- 8.4.6 Overall at the time of the survey, it appears that otter/s are using the main reens to disperse, commute and forage with no confirmed holts or resting places.

Table 8H-2 Camera Trapping Survey Results

Location	Summary of Findings	Dates and Findings
Near sub-station on Monk's Ditch (w3w///column.tiredness.roses).	<p>There is a potential that the bridge is being used as a resting place, but more likely that otter are passing through to the associated habitat, where there is suitable habitat in the form of extensive bramble thickets.</p> <p>A lactating female was a road kill on the road outside the substation 10 years ago.</p>	<p>01/3/24-camera failed 08/3/24-otter 19/3/24-otter 20/3/24-otter 22/3/24-otter 24/3/24-otter 25/3/24-otter 27/3/24-otter 30/3/24-otter 1/4/24-Camera moved to other bank under bridge SW side 8/4/24-Otter passing camera (SW side) 15/4/24-Camera moved to NE side under bridge to cover back area and note any passing activity. Nothing noted 25/4/24-Nothing</p>
Yoke Reen. Two locations on Yoke Reen. 2x bridges next to Mead Farm. (w3w///novels.below. secure and ///improving.itself. cocoons)	<p>Both bridges were affected by high water in the reen and potential resting places virtually underwater, its considered unlikely these are used as regular resting places. Fox and badger recorded.</p>	<p>7th March to 15th March 2024</p>
Cock Street Reen. ///womanly.pipes.skate	<p>No otter recorded</p>	<p>7th March to 15th March 2024</p>

Mead Lane reen by Farm track ///reserved.neckline. hydrant	Redeployed on Yoke Reen next to Mead Farm. No otter recorded.	15 th March to 18 th March 2024
Sea wall - two deployed near sea wall south of Mead Land. w3w///emerald.weeks. amphibian And ///ascendant.titles. escalated	No otter recorded. Badger noted on camera at w3w///emerald.weeks.amphibian	15 th March to 18 th March 2024

Incidental Records

8.4.7 In addition, incidental otter sightings are provided in **Table 8H-3** below and illustrated on **Figure 8.8.3**.

Table 8H-3 Incidental Otter Sitings During Otter Surveys

Date	Field Number	Grid Reference		Details
		X	Y	
28/07/2020	108	340516	183094	Otter tracks over gateway track
27/11/2020	306	340528	183940	1 male otter
27/01/2021	98	340207	184353	1 otter + possible holt around location as after watching for 15 minutes it vanished
19/03/2021	187	343787	185536	1 otter
02/05/2023	113	340667	183719	3 x otters

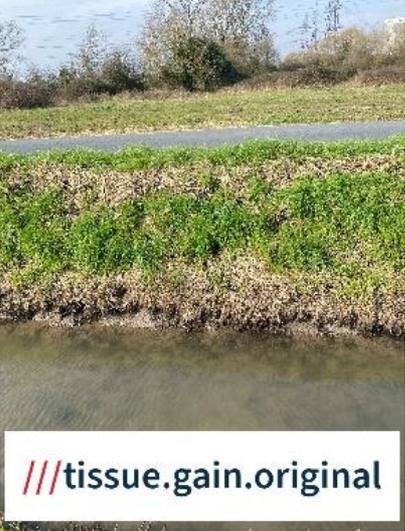
Water Vole

8.4.8 Evidence of water vole was found on a reen at the northern edge of the Site. Holes and chewed vegetation were recorded but no latrines found. A single incidental sighting was made during a bird survey in 2020, however this is now offsite (c. 300m north).

8.4.9 Monitoring at the adjacent Llanwern Solar project identified water vole evidence, including feeding remains and water vole burrows along reens which intersect this Site (GE Consulting, 2025).

8.4.10 Locations are detailed in **Table 8H-4** below and illustrated in **Figure 8.8.4**.

Table 8H-4 Water Vole Survey Results

Date	Evidence	Area	Photograph and W3W Location
8 th March 2024	Water vole burrows	Monkscroft Reen	 <p>///tissue.gain.original</p>
8 th March 2024	Water vole chewed vegetation	Monkscroft Reen	 <p>///camped.claw.stall</p> 
24 th March 2020	Incidental sighting – water vole in reen of west	Adjacent Black Wall	N/A

boundary of
F155 (offsite)

8.5 Summary

8.5.1 In conclusion, otter and water vole utilise the reens across the Site, most sightings were in relation to the deeper permanent reens, with otter records associated with Windmill Reen, Yoke Reen and Cock Street Reen, and water vole on Monkscroft Reen.

8.5.2 Further surveys are scheduled for 2026.

8.6 References

Dean M., Strachan R., Gow D. and Andrews R (2016) *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series)*. Eds Fiona Mathews and Paul Chanin. The Mammal Society, London.

GE Consulting (2025) Llanwern Solar, Gwent Levels - Ecological Monitoring and Review – Year 5. (Ref. 0419EMR-HS)

Highways Agency (1999) Nature Conservation Advice in Relation to Otters. Design Manual for Roads and Bridges Volume 10.

What3Words Available at: <https://what3words.com/>



Key:

- Site Boundary
- Otter Camera Trap Locations



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Figure 8.8.1:
Locations of Camera Traps

Project:
Future Energy Llanwern

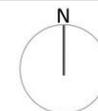
Client:
Future Energy Llanwern Limited

Date:
12/11/2025

Drawn:
HS

Ref:
0840-ETA-8.8.1

Revision:
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- Key:**
- Site Boundary Oct 2024
 - Otter Camera Trap Locations
 - ▲ Possible resting place
 - ▲ Potential holt
 - ▲ Potential resting place
 - ▲ Prints
 - ▲ Prints and run
 - ▲ Run
 - ▲ Sprint



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Figure 8.8.2:
Otter Survey Results

Project:
Future Energy Llanwern

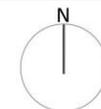
Client:
Future Energy Llanwern Limited

Date:
12/11/2025

Drawn:
HS

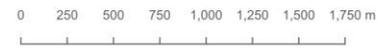
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0840-ETA-8.8.2

Revision:
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- Key:**
- Site Boundary
 - * 02/05/2023
 - * 19/03/2021
 - * 27/01/2021
 - * 27/11/2020
 - * 28/07/2020



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Figure 8.8.3:
Incidental Otter Records

Project:
Future Energy Llanwern

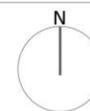
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Future Energy Llanwern Limited

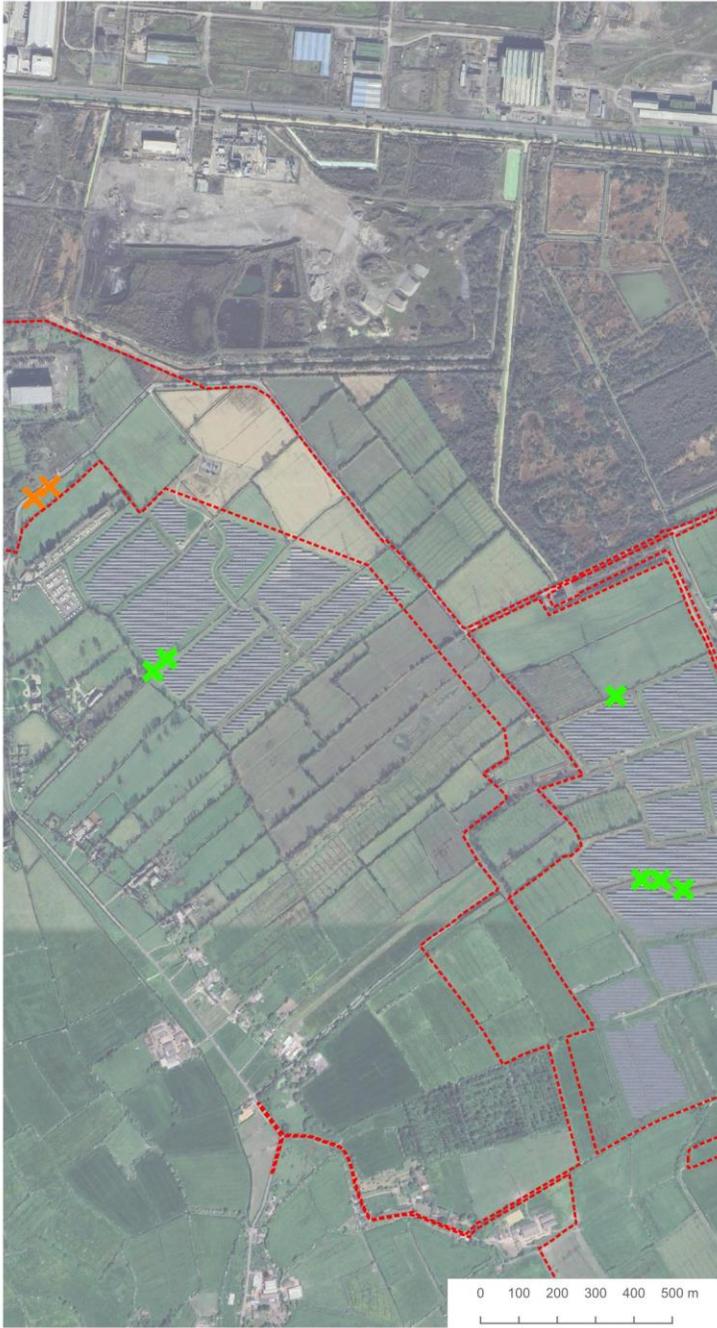
Date:
12/11/2025

Drawn:
HS

Ref:
0840-ETA-8.8.3

Revision:
-





- Key:**
- Site Boundary
 - Water Vole Results**
 - X 08/03/2024
 - X 24/03/2020
 - X Incidental 2025

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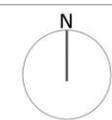
Figure 8.8.4:
Water Vole Survey Results and Incidental Records

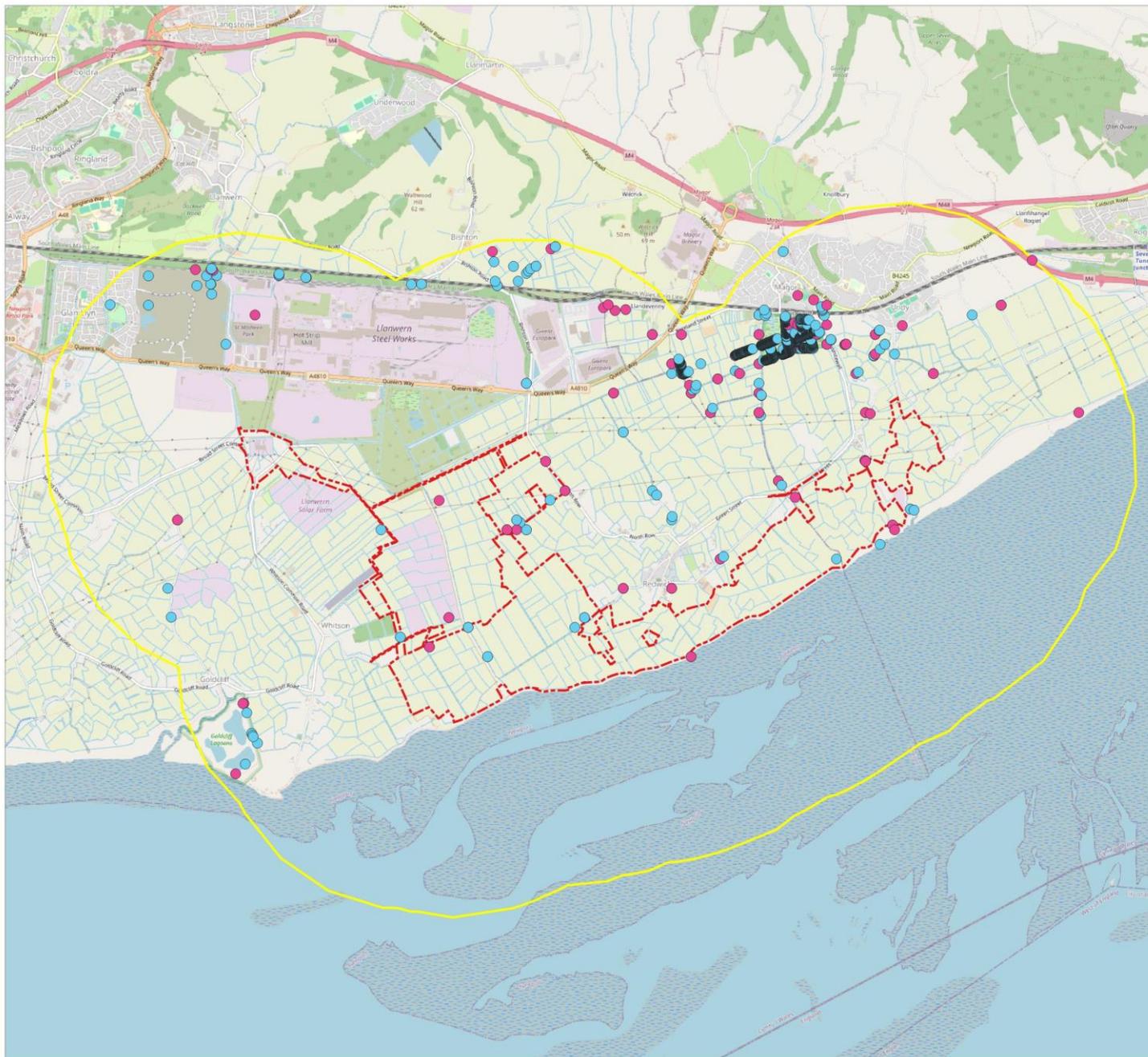
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Future Energy Llanwern

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Future Energy Llanwern Limited

Date:
12/11/2025
Ref:
0840-ETA-8.8.4

Drawn:
HS
Revision:
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Key:

- Site Boundary
- 2km Buffer
- Eurasian Otter Record
- European Water Vole Record



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Figure 8.8.5:
Otter and Water Vole Desk Study Results

Project:
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12/11/2025

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JH

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