



Wylfa Newydd Project

6.7.31 ES Volume G - A5025 Off-line Highway Improvements App G9-10 - A5025 Off-line Highway Improvements Protected and Legally Controlled Species Report

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1 Introduction

1.1 Purpose of this document

1.1.1 The purpose of this document is to assess the likely risk(s) that construction of the A5025 Off-line Highway Improvements (the Proposed Development) would contravene the following legislation:

- Conservation of Habitats and Species Regulations 2017;
- The Wildlife and Countryside Act 1981 (as amended);
- Protection of Badgers Act 1992;
- The Eels (England and Wales) Regulations 2009 (as amended);
- Salmon and Freshwater Fisheries Act 1975 (as amended by the Marine and Coastal Access Act (2009)); and
- Environmental Protection Act 1990 (in relation to the disposal of controlled plant species only).

1.1.2 This document considers species that are protected or controlled according to the above legislation, but it does not constitute legal advice. It forms one of several reports prepared as part of the planning application for the Proposed Development.

1.2 Background

1.2.1 Further detail of the Proposed Development can be found in chapter G1.

2 Scope

2.1 Scope of the report

- 2.1.1 The scope of this report is limited to the areas of permanent and temporary land take for Sections, 1, 3, 5 and 7, and the New Power Station Site access road junction. This is referred to as the Proposed Development extent.
- 2.1.2 Offences relating to cruelty, possession, transport, sale and certain methods for capturing/taking and killing have not been considered in this report, as such activities do not form a defined part of the implementation of the Proposed Development. Therefore, any such offence committed would be the personal liability of the individual concerned.
- 2.1.3 The Hedgerow Regulations 1997 provide a definition as to what constitutes an important hedgerow, and local planning authorities must consider the impacts of the removal of such hedgerows where applications are made to do so. However, these regulations do not apply here as the Proposed Development would only be taken forward if a Development Consent Order was granted under the Planning Act 2008, meaning any hedgerow removal would be considered to be permitted work under regulation 6(1)(e) of The Hedgerows Regulations 1997
- 2.1.4 In relation to the offence of introducing non-native species to the wild, the disposal of waste from control of species such as Japanese knotweed *Fallopia japonica* is covered by the Environmental Protection Act 1990. No other aspects of this legislation are considered within this report as they are not considered relevant to the receptors present and potentially affected by the Proposed Development.
- 2.1.5 The relevant legislation and potential offences that could occur as a result of the Proposed Development are set out in table 2-1.

2.2 Licences

- 2.2.1 Within the proposed strategy sections of this report (see sections 5–13) licences have been referred to and, depending on the protected species in question, are defined as set out in the following paragraphs.
- 2.2.2 If an offence is considered likely under the Conservation of Habitats and Species Regulations 2017 (as listed in table 2-1) then it can be derogated via a European Protected Species (EPS) licence. Natural Resources Wales (NRW) issues licences under Regulation 55 to allow the Proposed Development to be implemented within the law.
- 2.2.3 Offences relating to the killing and injury of certain wild animals included in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), wild birds listed in Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), and the spread of plants included in Schedule 9 under the Wildlife and Countryside Act 1981 (as amended) (as listed in table 1-1) are licensable using the legal defences as set out in s10(3)(c), s4(2A)(a) and s14(3). This

means that a developer who has development consent must make a reasonable effort to avoid committing an offence.

- 2.2.4 Where offences relating to water vole (*Arvicola amphibious*) require animals to be moved, Natural Resources Wales (NRW) can issue a conservation licence to permit the translocation of the animals. However, steps should be made to avoid offences before resorting to animal translocation.
- 2.2.5 Offences under the Protection of Badgers Act 1992 (as listed in table 2-1) are also licensable if it is necessary to interfere with a badger (*Meles meles*) sett as a result of construction works. NRW issue licences for the purpose of any developments, as defined in section 55(1) of the Town and Country Planning Act 1990, to interfere with a sett.

Table 2-1 Potential offences under UK legislation

General Descriptor	The Conservation of Habitats and Species Regulations 2017	Wildlife and Countryside Act 1981 (as amended)	Protection of Badgers Act 1992	The Eels (England and Wales) Regulations 2009 (as amended).	Salmon and Freshwater Fisheries Act 1975 (as amended).
Capturing, killing, and injuring.	To deliberately capture, injure or kill wild animals of an EPS (Reg43(1)(a)).	To intentionally kill, injure or take any wild bird (s1(1)). To intentionally kill, injure or take any wild animal included in Schedule 5 (s9(1)).	To wilfully kill, injure or take, or attempt to kill, injure or take a badger (s1(1)).	-	-
Disturbing (affecting ability to survive, breed or rear young).	To deliberately disturb wild animals of an EPS [note wherever they are occurring] (Reg43(1)(b)) Reg 43(2)(a)(i) For the purposes of Reg 43(1)(b), disturbance of animals includes in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young.	-	-	-	-
Disturbing (impairing ability to migrate or hibernate).	To deliberately disturb wild animals of an EPS [note wherever they are occurring] (Reg43(1)(b)) Reg 43(2)(a)(ii) For the purposes of Reg 43(1)(b), disturbance of animals includes in particular any disturbance which is likely to impair their ability, in the case of animals of a hibernating or	-	-	To construct, alter or maintain a dam or structure and fail to notify the Agency (NRW) first (Part 4, 12 (1), (2).(4)).	-

General Descriptor	The Conservation of Habitats and Species Regulations 2017	Wildlife and Countryside Act 1981 (as amended)	Protection of Badgers Act 1992	The Eels (England and Wales) Regulations 2009 (as amended).	Salmon and Freshwater Fisheries Act 1975 (as amended).
	migratory species, to hibernate or migrate.				
Disturbing (affecting local distribution or abundance).	To deliberately disturb wild animals of an EPS [note wherever they are occurring] (Reg43(1)(b)) Reg 43(2)(b) For the purposes of Reg 43(1)(b), disturbance of animals includes in particular any disturbance which is likely to affect significantly the local distribution or abundance of the species to which they belong.	-	-	-	-
Disturbing (whilst occupying a structure or place used for shelter or protection).	-	To intentionally or recklessly disturb any wild bird included in Schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young; or disturbs dependent young of such a bird To intentionally or recklessly disturb any wild Schedule 5 animal while it is occupying a structure or place which it uses for shelter or protection (s9(4)(b)).	To intentionally or recklessly disturb a badger when it is occupying a badger sett (s3(e)).	-	-

General Descriptor	The Conservation of Habitats and Species Regulations 2017	Wildlife and Countryside Act 1981 (as amended)	Protection of Badgers Act 1992	The Eels (England and Wales) Regulations 2009 (as amended).	Salmon and Freshwater Fisheries Act 1975 (as amended).
Taking eggs.	To deliberately take or destroy the eggs of such an EPS animal (Reg 43(1)(c)).	To take or destroy an egg of any wild bird (p1(1)(c)).	-	-	-
Obstructing access	-	To intentionally or recklessly obstruct access to any structure or place which any Schedule 5 animal uses for shelter or protection (s9(4)(c)).	To intentionally or recklessly obstruct access to, or any entrance of, a badger sett (s3(c)).	-	-
Damage or destruction of a breeding site or resting place.	To damage or destroy a breeding site or resting place of a wild animal of a EPS (Reg 43(1)(d)).	<p>To intentionally take, damage or destroy the nest of a wild bird included in Schedule ZA1 (s1(1)(aa)).</p> <p>To intentionally take, damage or destroy the nest of any wild bird while that nest is in use or being built (s1(1)9b)).</p> <p>To intentionally or recklessly damage or destroy any structure or place which any wild animal specified in Schedule 5 uses for shelter or protection (S9(4)(a)).</p>	To intentionally or recklessly damage a badger sett or any part of it or to destroy a badger sett (s3(a)(b)).	-	Knowingly permits to flow, or puts or knowingly permits to be put, into any waters containing fish or into any tributaries of waters containing fish, any liquid or solid matter to such an extent as to cause the waters to be poisonous or injurious to fish or the spawning grounds, spawn or food of fish, shall be

General Descriptor	The Conservation of Habitats and Species Regulations 2017	Wildlife and Countryside Act 1981 (as amended)	Protection of Badgers Act 1992	The Eels (England and Wales) Regulations 2009 (as amended).	Salmon and Freshwater Fisheries Act 1975 (as amended).
					guilty of an offence (Part I, 4 (1)).
Introducing new species.	-	To plant or otherwise cause to grow in the wild any plant which is included in Part II of Schedule 9 (s14 (2)). Waste produced from management of some species would be “controlled waste” and managed accordingly under the Environmental Protection Act (s33 (1a) and (1b)).	-	-	-

3 European Protected Species licence tests

3.1.1 An EPS licence can only be granted by NRW if the following three tests can be met:

- Test 1: the purpose of the work meets one of those listed (see below) in the Conservation of Habitats and Species Regulations 2017;
- Test 2: that there is no satisfactory alternative; and
- Test 3: that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

3.1.2 Under Test 1 the specific set of purposes includes:

- “preserving public health or public safety or other imperative reasons of overriding public interest, including those of a social or economic nature, and beneficial consequences of primary importance for the environment;
- scientific and educational purposes;
- ringing or marking;
- conserving wild animals or wild plants;
- protecting any zoological or botanical collection;
- preventing the spread of disease; or
- preventing serious damage”.

3.1.3 A review of the Proposed Development against the three tests concluded the following.

- Test 1: the purpose of the Proposed Development is considered to be “preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment”.
- Test 2: there is no satisfactory alternative to the Proposed Development. The Proposed Development has been subjected to a staged optioneering process which has informed the identification and selection of a final, optimised design solution. Volume G, chapter G2 of the Environmental Statement provides further information on the need for the Proposed Development, the alternatives considered and the design evolution.
- Test 3: this would be met via implementation of the proposed strategy relating to EPS described in sections 5, 6 and 7 of this report.

4 Methodology

- 4.1.1 The legislation under which species are protected or controlled (see table 2-1) has been reviewed to identify the potential for the Proposed Development to result in an offence.
- 4.1.2 The review took the form of identifying whether or not a protected or controlled species was present within an area that would be affected by the construction of the Proposed Development (referred to as the Proposed Development extent).
- 4.1.3 If a protected or controlled species was present, the potential for legislation to be contravened was based on the activities likely to occur. These are as outlined in section 1.4 above, and are set out in detail within chapter G1, Volume G of the Environmental Statement. In describing whether or not an offence may occur, the descriptors likely or unlikely were used.
- 4.1.4 Depending on the likely offences, a proposed strategy was described to indicate how these offences would be avoided or derogated (permitted to occur) via a licence where appropriate (see sections 2 and 3 above).
- 4.1.5 The relevant protected and controlled species have been determined through consideration of the ecological baseline information collated as part of the environmental assessment of the Proposed Development. Refer to chapter G9 of the Volume G Environmental Statement for further information.
- 4.1.6 The baseline information is based on a desk-based study which included consultation with North Wales Environmental Information Service (Cofnod) and field survey work undertaken for the Proposed Development (see figure G9-6 to G9-16 (Application Reference Number: 6.7.48), and Appendices G9-1 to G9-9 (Application Reference Numbers: 6.7.22 – 6.7.30)). Records prior to 2004 were considered to be obsolete and discarded from the review.
- 4.1.7 Baseline data collection has recorded evidence of the following species or species groups for which the legislation listed in table 2-1 applies. For the purpose of this report these have been divided into: protected species/groups, which are those for which legislation has been created to strictly protect them; and controlled species/groups, which are controlled rather than protected per se by legislation.
- 4.1.8 The study area adopted for the identification of Cofnod biodiversity records was 2km from the existing A5025 along the full length of the Proposed Development (i.e. Sections 1–7 and the New Power Station access road junction). The field surveys were carried out using the following study areas: 500m area either side of the proposed highways alignment was used for great crested newt (GCN) (*Triturus cristatus*) and otter (*Lutra lutra*); 250m for the Phase 1 habitat survey, and 100m for hedgerows.

4.1.9 Protected species/groups:

- GCN;
- bats;
- otter;
- water vole;
- reptiles;
- breeding birds; and
- badger.

4.1.10 Controlled species/groups:

- variegated yellow archangel (*Lamium galeobdolon* subsp. *argenteum*);
- Himalayan balsam (*Impatiens glandulifera*);
- Japanese knotweed;
- Montbretia (*Crocodymia x crocosmiiflora*);
- freshwater fish; and
- European eel (*Anguilla anguilla*).

4.1.11 The proposed strategies presented in this report to avoid offences are in addition to those outlined in the chapter G9 which seek to minimise likely effects on terrestrial and freshwater ecology, and which would be included within the contractual documentation associated with construction of the Proposed Development.

4.1.12 The following sections provide an assessment of the potential to cause an offence in relation to each species or group, as well as the approach to mitigation to avoid offences being committed, or that are required to secure an EPS licence.

4.1.13 Conclusions are presented for each protected and controlled species in relation to legislative compliance.

5 Great crested newt

5.1 Relevant legislation

5.1.1 The following legislation is relevant to GCN:

- Wildlife and Countryside Act 1981 (as amended) – Schedule 5 species; and
- The Conservation of Habitats and Species Regulations 2017 – Schedule 2 species.

5.2 Baseline information

5.2.1 Cofnod produced 12 records (see Figures G6-G10. Application Reference Number: 6.7.48) for GCN within 2km of the scheme. Two were at Section 7, over 1.5km to the west of Cefn Coch. The remaining 10 records were to the south, west and east of Section 1 at Valley, all of which were over 500m from the Proposed Development.

5.2.2 Field survey work (see Appendix G9-2 A5025 Terrestrial Ecology Factual Report 2014-2016 (Application Reference Number: 6.7.23) and G9-5 A5025 Route Improvement Contract EIA: Great Crested Newt Field Survey Results (Application Reference Number: 6.7.26)), has been carried out on all waterbodies within 500m of the Proposed Development where land access was permitted. This has taken the form of visits to record Habitat Suitability Indices (HSI). The Habitat Suitability Index is a numerical index, between 0 and 1. Values close to 0 indicate unsuitable habitat, 1 indicates optimal habitat.

5.2.3 Appendix G9-2 and G9-5 illustrate the data collected to date and shows water bodies where GCN were confirmed as present as well as those waterbodies that have a Habitat Suitability Index score of greater than 0.5.

5.2.4 GCN have been confirmed as present in ponds 10 and 129 and ditch 25 in Llanfachraeth; and ponds 13 and 21 in Llanfaethlu.

5.3 Potential to commit an offence

5.3.1 A 250m buffer around all of the waterbodies where GCN were confirmed through historic records, and those with HSI scores greater than 0.5, was created. The 250m buffer was provided by NRW (M. Ellis personal comm.) as this was considered to be the area of terrestrial habitat used most by GCN. Where the buffer intersected the Proposed Development extents, such locations were identified as areas of risk in terms of contravening the legislation set out in paragraph 5.1.1. Table 5-1 lists the areas of risk and provides an assessment of the likelihood of an offence resulting.

Table 5-1 Great crested newt – potential for an offence

Areas where GCN and scheme are coincident	Conservation of Habitats and Species Regulations 2017					Wildlife and Countryside Act 1981 (as amended)	
	Offence Ref. A	Offence Ref. B	Offence Ref. C	Offence Ref. D	Offence Ref. E	Offence Ref. F	Offence Ref. G
Llanfachraeth: Pond 10 and ditch 25. The ditch will be culverted and approximately 3.5ha of land (within 250m of the waterbodies) will be lost. Habitat lost would comprise improved grassland, hedgerows and walls.	Yes - highest risk when culverting ditch 25 and clearance of vegetation	No offence likely – the nature of the works would not be considered to disturb at this scale.	No offence likely – the nature of the works would not be considered to disturb at this scale.	No offence likely – the nature of the works would not be considered to disturb at this scale.	Yes - when culverting ditch 25 and clearance of vegetation within 250m of ditch 25 and pond 10.	Yes - potential disturbance of individuals during clearance of vegetation within 250m of ditch 25 and pond 10.	Yes - potential disturbance of individuals during clearance of vegetation within 250m of ditch 25 and pond 10.
Llanfaethlu: Pond 13. Approximately 1.8ha of land (within 250m of the pond) would be lost. Land made up of arable, improved grassland, marshy grassland, hedgerow and walls.	Yes – during clearance of vegetation within marshy grassland to east of pond 13.	No offence likely – the nature of the works would not be considered to disturb at this scale.	No offence likely – the nature of the works would not be considered to disturb at this scale.	No offence likely – the nature of the works would not be considered to disturb at this scale.	Yes – during clearance of vegetation within 250m of pond 13.	Yes - potential disturbance of individuals during clearance of vegetation within 250m of pond 13.	Yes - potential disturbance of individuals during clearance of vegetation within 250m of pond 13.
Llanfaethlu: Pond 21. The Proposed Development is to the east of the existing A5025 which is considered to mark the extent terrestrial habitat for this pond.	No risk of offence predicted as ponds are within habitat that is separated from the Proposed Development extent by the existing highway, which forms a barrier to GCN dispersal.						

- Offence Ref. A: To deliberately capture, injure or kill any wild animal of an EPS. (Reg. 43(1)(a)).
- Offence Ref. B: To deliberately disturb wild animals of an EPS [note wherever they are occurring]. Reg. 43(1)(b); Reg. 43(2)(a)(i). For the purposes of Reg. 43(1)(b), disturbance of animals includes in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young.
- Offence Ref. C: To deliberately disturb wild animals of an EPS [note wherever they are occurring]. Reg. 43(1)(b); Reg. 43(2)(a)(ii). For the purposes of Reg. 43(1)(b), disturbance of animals includes in particular any disturbance which is likely to impair their ability, in the case of animals of a hibernating or migratory species, to hibernate or migrate.
- Offence Ref. D: To deliberately disturb wild animals of an EPS [note wherever they are occurring]. Reg. 43(1)(b); Reg. 43(2)(b). For the purposes of Reg. 43(1)(b), disturbance of animals includes in particular any disturbance which is likely to affect significantly the local distribution or abundance of the species to which they belong.
- Offence Ref. E: To damage or destroy a breeding site or resting place of a wild animal of an EPS. (Reg. 43(1)(d)).
- Offence Ref. F: To intentionally or recklessly disturb any wild Schedule 5 animal while it is occupying a structure or place which it uses for shelter or protection. (s9(4)(b)).
- Offence Ref. G: To intentionally or recklessly obstruct access to any structure or place which any Schedule 5 animal uses for shelter or protection. (s9(4)(c)).

5.4 Proposed strategy

5.4.1 In summary, the following steps would be taken prior to construction to ensure the legislation protecting GCN would not be contravened:

- pre-construction surveys;
- application for an EPS licence; and,
- provision of appropriate mitigation measures.

Pre-construction surveys

5.4.2 In the recommended survey season (April – June) prior to construction of the Proposed Development, GCN surveys would be carried out at the waterbodies where a risk has been identified in table 5-1, to confirm GCN presence and determine a population size class assessment (should presence be confirmed).

5.4.3 The methods that would be used would include bottle trapping, egg searching, netting and torching, as per the guidelines set out in the Great Crested Newt Conservation Handbook [RD1].

EPS licence

5.4.4 The grant of an EPS licence from NRW would be required prior to the construction phase of the proposed scheme.

5.4.5 The method statement accompanying the licence application would be likely to include measures to avoid killing and injuring GCN, minimising damage to terrestrial habitat, avoiding disturbance of individual GCN and obstruction of access to GCN habitat. Examples of the types of measure that are likely to form part of this method statement are set out in the following paragraphs.

5.4.6 An EPS licence return, documenting the implementation of the licensable works, would be submitted to NRW following completion of the works, and would include results of monitoring.

Provision of appropriate mitigation measures

Avoiding killing or injury of GCN

Trapping, translocation and exclusions

5.4.7 Translocation of GCN from terrestrial habitat within the Proposed Development to a suitably prepared receptor site (see compensation habitat) would be required and undertaken prior to any construction work by a licenced Ecological Clerk of Works (ECoW).

5.4.8 A trap and translocation exercised would be carried out during the active season (February to October) prior to habitat destruction. The areas being cleared would be fenced with an appropriate amphibian exclusion fence and pitfall traps and carpet tiles installed to capture animals.

- 5.4.9 The trap and translocation exercise would be continuously reviewed and, if low capture rates were being recorded, additional methods of increasing capture rates would be considered. The number of nights trapping would depend on the population size estimated from the pre-construction surveys and table 5.2 sets out the minimum trap density and number of nights trapping according to population size class assessment.
- 5.4.10 Pit fall traps and carpet tiles would be removed immediately after the completion of the trapping exercise. The areas that have been cleared would remain fenced with amphibian exclusion fences until the construction phase is completed.

Table 5-2 Great crested newts trapping effort required according to population size class assessments

Population size class assessment	Minimum trap density (traps/ha)	Minimum number of nights trapping
Small	50	30
Medium	80	60
Large	100	90

Supervision of soil stripping and amphibian exclusion fencing

- 5.4.11 An ECoW would be present on site and would supervise the deployment of the amphibian exclusion fencing, vegetation clearance and soil strip works (the latter two as a precaution for any GCN that have evaded the trapping exercise).
- 5.4.12 The area proposed for amphibian exclusion fencing would be fingertip searched and cleared of amphibians by the ECoW.

A5025 Off-line Highways Improvements sub-Code of Construction Practice (sub-CoCP)

- 5.4.13 An A5025 Off-line Highways Improvements sub-CoCP (Application Reference Number: 8.12) would be produced and implemented by the contractor and would include measures such as those listed below, to reduce the risk of killing or injuring GCN within the construction site.
- No equipment or soil would be stored within 250m of any waterbody known to be used by GCN, unless inside an area encompassed by amphibian exclusion fencing and cleared of GCN through a trapping and translocation exercise.
 - Clear demarcation of construction and retained habitats, including marking up areas on environmental constraints maps which would be issued to all contractors.

Minimising and compensating for habitat damage

Protection of retained and compensatory habitats

- 5.4.14 Areas of habitat important for GCN and the compensation areas would be clearly demarcated to ensure no accidental incursion by construction works. Durable temporary amphibian exclusion fencing would be installed between the working area and the receptor sites to mitigate newt mortality. Any GCN that are trapped during capture and exclusion works would be relocated to the receptor site. When the Proposed Development is complete, the amphibian exclusion fencing would be removed and the GCN would be able to recolonise the newly created land which forms the new road verges.

Compensatory habitat

- 5.4.15 A number of areas where compensatory habitat would be created have been highlighted in chapter G9, Volume G of the Environmental Statement. The land would be secured through landowner negotiations and would be within Horizon's control prior to any EPS licence application.
- 5.4.16 The areas are at Llanfachraeth and Llanfaethlu (see figure G1-4d, G1-4e and G1-4f in chapter G1 (Application Reference Number: 6.7.48)), and would be created at least in part prior to the trap and translocation exercise to allow them to also function as receptor sites.
- 5.4.17 The compensatory habitat areas would be planted following the guidelines set out in the *Great Crested Newt Conservation Handbook* [RD1] and would also include the creation of suitable GCN ponds.

Habitat management and monitoring

- 5.4.18 The compensation habitat areas would be managed by a responsible organisation following completion of the Proposed Development. A monitoring scheme would be devised as part of the EPS licence application to scrutinise the development of the compensatory habitat with the aim of informing management practices. Such a scheme may include regular surveillance of vegetation (trees and shrubs) cover; fish presence; and GCN population.

Wildlife and Countryside Act 1981 Schedule 5 offences

- 5.4.19 The measures set out in the preceding paragraphs would avoid the Wildlife and Countryside Act 1981 Schedule 5 offences of disturbance and obstruction.

5.5 Conclusion

- 5.5.1 The Proposed Development may result in the contravention of legislation with respect to GCN. There is a risk that the offences of killing or injuring GCN, damage or destroy a resting place, disturbance whilst in a place of shelter/protection and obstruction to a place of shelter/protection may occur as a result of the Proposed Development. The strategy set out above would result in these offences being avoided or derogated under licence.

6 Bats

6.1 Relevant legislation

6.1.1 The following legislation is relevant to bats:

- Wildlife and Countryside Act 1981 (as amended) – Schedule 5 species; and
- The Conservation of Habitats and Species Regulations 2017 – Schedule 2 species.

6.2 Baseline information

- 6.2.1 Cofnod data showed that pipistrelle *Pipistrellus* bat species, noctule *Nyctalus noctula* and Natterer's bat *Myotis nattereri* have been recorded previously within 2km of the Proposed Development, and records were distributed throughout its extent (see figure G9-6 to G9-10 (Application Reference Number: 6.7.48)).
- 6.2.2 Surveys undertaken by Jacobs in 2014 included hibernation roost surveys; tree roost surveys; building roost surveys; and activity surveys (see appendix G9-2. Application Reference Number: 6.7.23).
- 6.2.3 No bats or evidence of bat roosting was identified during the tree survey work. Eight trees with the potential to support roosting bats were located within the Proposed Development extents at Cefn Coch.
- 6.2.4 Nine buildings were found to contain confirmed bat roosts during the surveys. None of these require demolition for the Proposed Development.
- 6.2.5 One confirmed building roost was recorded within 50m of the proposed scheme boundary at Cefn Coch. A single soprano pipistrelle bat *Pipistrellus pygmaeus* was recorded emerging from the building (see appendix G9-2. Application Reference Number: 6.7.23).
- 6.2.6 Low activity by widespread and common bat species was recorded across the survey areas: common pipistrelle bat *Pipistrellus pipistrellus*; soprano pipistrelle bat; brown long-eared bat *Plecotus auritus*; noctule bat; and *Myotis* bat species.

6.3 Potential to commit an offence

6.3.1 Table 6-1 sets out the likely risks of contravening the legislation set out in paragraph 6.1.1, the areas of the Proposed Development where this could occur and the associated reasoning.

Table 6-1 Bats – potential for an offence

Conservation of Habitats and Species Regulations 2017	Wildlife and Countryside Act 1981 (as amended)	Offence likely in absence of proposed strategy
To deliberately capture, injure or kill any wild animal of an EPS (Reg43(1)(a)).	-	Yes - if species are present within trees to be felled. The greatest risk is in the 8 trees with roost potential at Cefn Coch that would need to be felled.
To deliberately disturb wild animals of an EPS [note wherever they are occurring] (Reg43(1)(b)) Reg 43(2)(a)(i) For the purposes of Reg 43(1)(b), disturbance of animals includes in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young.	-	Yes - if species are present within trees to be felled. The area of greatest risk is at Cefn Coch where 8 trees with roost potential were recorded that would need to be felled.
To deliberately disturb wild animals of an EPS [note wherever they are occurring] (Reg43(1)(b)) Reg 43(2)(a)(ii) For the purposes of Reg 43(1)(b), disturbance of animals includes in particular any disturbance which is likely to impair their ability, in the case of animals of a hibernating or migratory species, to hibernate or migrate.	-	No – no confirmed hibernation sites in the study area.
To deliberately disturb wild animals of an EPS [note wherever they are occurring] (Reg43(1)(b)) Reg 43(2)(b) For the purposes of Reg 43(1)(b), disturbance of animals includes in particular any disturbance which is likely to affect significantly the local distribution or abundance of the species to which they belong.	-	No - although construction activity could increase noise in comparison to current levels this is considered unlikely to be sufficient to generate a significant response at the population level (as stipulated by legislation), particularly as no roosts have been confirmed within close proximity to the Proposed Development.
To damage or destroy a breeding site or resting place of a wild animal of a EPS (Reg 43(1)(d)).	-	Yes - if species are present within trees to be felled. The greatest risk is in the 8 trees with roost potential at Cefn Coch that would need to be felled.

Conservation of Habitats and Species Regulations 2017	Wildlife and Countryside Act 1981 (as amended)	Offence likely in absence of proposed strategy
-	To intentionally or recklessly disturb any wild animal listed on Schedule 5 while it is occupying a structure or place which it uses for shelter or protection (s9(4)(b)).	No - although construction activity could increase noise in comparison to current levels this is considered unlikely to be sufficient to generate an avoidance or abandonment response, particularly as no roosts have been confirmed close to the Proposed Development extents and the bats recorded were common widespread species which are less likely to be disturbed by construction noise.
-	To intentionally or recklessly obstruct access to any structure or place which any animal listed on Schedule 5 uses for shelter or protection (s9(4)(c)).	No – no obstruction likely to occur. Hedgerow links would be maintained around known roosts and construction lighting minimised to mitigate spill outside the Proposed Development.

6.4 Proposed strategy

6.4.1 In summary, the following steps would be taken prior to construction to ensure legislation protecting bats would not be contravened:

- pre-construction surveys;
- application for an EPS licence (if necessary); and
- provision of appropriate mitigation measures.

Pre-construction surveys

6.4.2 An inspection of all trees requiring felling would be carried out to determine whether or not they were being used, or were likely to have been used, by bats for roosting. These surveys would be carried out 8 - 10 weeks prior to the site clearance phase to allow sufficient time for an EPS licence to be sought, if required.

EPS licence

6.4.3 If any of the trees to be felled have evidence of use by bats then an EPS licence would be applied for to derogate the offences listed in table 6.1.

6.4.4 The EPS licence application would outline how the tree felling would be undertaken and this would be adhered to in order to minimise risks to any bats on site during the works. If applicable, the method for capture and exclusion of bats from the roost(s) prior to felling would be detailed in the licence method statement.

- 6.4.5 The application would include methods to avoid killing and injuring bats and compensating for the damage to, and destruction of, roosts.

Provision of appropriate mitigation measures

Avoiding killing or injury of bats

Capture and exclusions

- 6.4.6 Following further tree climbing and inspection, bats would be captured (where necessary) and excluded from roosts or potential roosts prior to tree felling. The methods would follow best practice such as set out in the Bat Conservation Trust guidelines [RD2] and would be defined within the method statement of the EPS licence.

- 6.4.7 The method for capturing and excluding bats would include a contingency plan for dealing with injured bats and/or those found unexpectedly during the works.

Tree felling techniques

- 6.4.8 Sectional tree felling techniques (soft felling) would be employed for those trees where there was a residual risk of bats being present post survey (see paragraph 6.4.2) and pre-felling inspection. The areas where this technique was proposed would be agreed between the contractor and a licenced ECoW in advance of works starting. Where possible, tree felling would be timed to avoid sensitive lifecycle periods for bats. An ECoW would be present on site to supervise this work.

Minimising and compensating for habitat damage

Protection of retained and compensatory habitats

- 6.4.9 Areas of retained vegetation would be clearly demarcated to ensure no accidental incursion by construction works.

Replacement roosts

- 6.4.10 Bat boxes would be provided in adjacent retained woodland and trees to offset the loss of potential roost features. Bat boxes to compensate for roost loss would be specific in design to the status of that roost (i.e. maternity; hibernation; transitory). If no roosts were confirmed, a minimum of three bat boxes would be provided for every 'high' or 'moderate' category tree to be lost, and would include a range of designs based on the species most likely to be present in the area. Where appropriate, retained trees would be considered for arboricultural work to create or enhance existing cavities to provide replacement roosting habitat.
- 6.4.11 The landscaping design for the scheme includes woodland planting which in the long-term would provide replacement roosting opportunities for bats.

Habitat management and monitoring

- 6.4.12 Mitigation measures would be managed by Horizon, or an appropriate third party engaged by Horizon. A monitoring scheme would be devised as part of the EPS licence application to scrutinise the development of the compensatory habitat with the aim of informing management practices. Such a scheme may include regular surveillance of vegetation cover (trees and shrubs); bat box roost functionality (state of repair/vegetation cover etc.); and bat numbers.

Wildlife and Countryside Act Schedule 5 offences

- 6.4.13 There is considered to be no risk of the Wildlife and Countryside Act Schedule 5 offences occurring. However, the measures set out in the preceding paragraphs would avoid the *Wildlife and Countryside Act 1981* Schedule 5 offences of disturbance and obstruction.

6.5 Conclusion

- 6.5.1 The Proposed Development could result in the contravention of the legislation set out in paragraph 6.1.1. There is a risk of killing or injuring bats, disturbance, and damaging or destroying a resting place when trees are felled during site clearance. The strategy set out above would result in these offences being avoided or derogated under licence.

7 Otter

7.1 Relevant legislation

7.1.1 The following legislation is relevant to otter:

- Wildlife and Countryside Act 1981 (as amended) - Schedule 5 species; and
- The Conservation of Habitats and Species Regulations 2017 – Schedule 2 species.

7.2 Baseline information

7.2.1 Cofnod provided limited records of otter (near Cemlyn Bay) within 2km of the Proposed Development within the last 10 years.

7.2.2 Field survey work (see appendix G9-2 (Application Reference Number: 6.7.23) and appendix G9-7 A5025 Route Improvement Contract EIA: Otter & Water Vole Survey Results (Application Reference Number: 6.7.28)) has been carried out on all waterbodies within 500m of the Proposed Development where land access was permitted.

7.2.3 No otter holts or couches were identified during the baseline surveys. However, positive evidence of otter presence was found on five watercourses with the largest aggregations of signs found at Llanfachraeth on the Afon Alaw and Ditch 28 (D28).

7.3 Potential to commit an offence

7.3.1 Table 7-1 sets out the likely risks of contravening the legislation set out in paragraph 7.1.1. Otters use a number of watercourses crossed by, and in proximity to, the Proposed Development. There is a risk that a breeding site or resting place could be created within the Proposed Development prior to the commencement of construction, constituting an offence if it were damaged or destroyed during the works.

Table 7-1 Otter – potential for an offence

Conservation of Habitats and Species Regulations 2017	Wildlife and Countryside Act 1981 (as amended)	Offence likely in absence of the proposed strategy
To deliberately capture, injure or kill any wild animal of an EPS (Reg43(1)(a)).	-	No offence likely – mobile species would avoid construction works.

Conservation of Habitats and Species Regulations 2017	Wildlife and Countryside Act 1981 (as amended)	Offence likely in absence of the proposed strategy
<p>To deliberately disturb wild animals of an EPS [note wherever they are occurring] (Reg43(1)(b)). Reg 43(2)(a)(i) For the purposes of Reg 43(1)(b), disturbance of animals includes in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young.</p>	-	No offence likely - no holts recorded and the potential effect is not likely at a species level given the widespread records.
<p>To deliberately disturb wild animals of an EPS [note wherever they are occurring] (Reg43(1)(b)). Reg 43(2)(a)(ii) For the purposes of Reg 43(1)(b), disturbance of animals includes in particular any disturbance which is likely to impair their ability, in the case of animals of a hibernating or migratory species, to hibernate or migrate.</p>	-	No offence likely - no holts recorded and the effect is not likely at a species level given the widespread records.
<p>To deliberately disturb wild animals of an EPS [note wherever they are occurring] (Reg43(1)(b)). Reg 43(2)(b) For the purposes of Reg 43(1)(b), disturbance of animals includes in particular any disturbance which is likely to affect significantly the local distribution or abundance of the species to which they belong.</p>	-	No offence likely - no holts recorded and the effect is not likely at a species level given the widespread records.
<p>To damage or destroy a breeding site or resting place of a wild animal of a EPS (Reg 43(1)(d)).</p>		No offence likely - no holts or resting places have been recorded within the Proposed Development extent.
-	To intentionally or recklessly disturb any wild animal listed on schedule 5 while it is occupying a structure or place which it uses for shelter or protection (s9(4)(b))	No offence likely - no holts or resting places have been recorded within the Proposed Development extent.
-	To intentionally or recklessly obstruct access to any structure or place which any Schedule 5 animal uses for shelter or protection (s9(4)(c))	No offence likely - no holts or resting places have been recorded within the Proposed Development extent.

7.4 Proposed strategy

7.4.1 No offences are considered likely to occur as no otter holts or resting places have been recorded within the Proposed Development extent. However, widespread records of this species were recorded during the field survey and there is a slight risk that otters could create a holt in the intervening period before construction commences. The following steps would be carried out to manage the risk of contravening the legislation set out in paragraph 7.1.1:

- pre-construction surveys; and
- provision of appropriate mitigation if required.

Pre-construction surveys

7.4.2 Otter surveys would be carried out in advance of any site clearance works to determine if any lying up or holt sites had become established within the construction working area of the Proposed Development. If any were recorded, they would be assessed to consider whether an EPS licence would be required from NRW.

Provision of appropriate mitigation measures

7.4.3 Should pre-construction surveys identify the potential for an offence to be committed under the legislation detailed in paragraph 7.1.1, the design of the Proposed Development would be reviewed to assess whether it was possible to avoid such a conflict. If that were not possible, an EPS licence would be sought, the application for which would include an appropriate mitigation. This would include measures such as the creation of an artificial holt; demarcation of buffer zones around the active and artificial holts; the maintenance of free passage along the watercourse; and sensitive timing of works in these areas. This mitigation strategy would form part of the A5025 Off-line Highways Improvements sub-CoCP (Application Reference Number: 8.12).

7.5 Conclusion

7.5.1 Although otters are present on many of the watercourses crossed by the Proposed Development, it is considered that there is currently a low risk that the legislation set out in paragraph 7.1.1 would be contravened. The proposed strategy provides measures to ensure that the risks are managed throughout construction.

8 Water vole

8.1 Relevant legislation

8.1.1 The following legislation is relevant to water vole:

- Wildlife and Countryside Act 1981 (as amended) – Schedule 5 species.

8.2 Baseline information

8.2.1 No records were provided by Cofnod of water vole within 2km of the Proposed Development within the last 10 years.

8.2.2 Field survey work (see appendix G9-2 (Application Reference Number: 6.7.23), and G9-7 (Application Reference Number: 6.7.28)) has been carried out on all waterbodies within 500m of the Proposed Development where land access was permitted.

8.2.3 The following waterbodies were identified as having positive evidence of water vole presence:

- ditches west of the Proposed Development at Valley,
- the Afon Alaw at Llanfachraeth,
- Tan-yr-allt at Llanfachraeth; and
- Watercourses (D57/D59) to the north of Cefn Coch.

8.2.4 No water vole burrows were recorded within the Proposed Development.

8.3 Potential to commit an offence

8.3.1 The greatest risk of an offence being committed would be if water vole burrows occur within the Proposed Development. Being a mobile species, there is the potential that water vole move into areas within the Proposed Development prior to work starting. If water vole burrows were found to be present, the relevant offences are detailed in table 8-1.

Table 8-1 Water vole – potential for an offence

Wildlife and Countryside Act 1981 (as amended)	Offence likely in absence of the proposed strategy
To intentionally kill, injure or take any wild animal included in Schedule 5. (s9(1)).	Yes – if water vole were present within the Proposed Development extent.
To intentionally or recklessly disturb any wild Schedule 5 animal while it is occupying a structure or place which it uses for shelter or protection. (s9(4)(b)).	Yes – if water vole were present within the Proposed Development extent.

Wildlife and Countryside Act 1981 (as amended)	Offence likely in absence of the proposed strategy
To intentionally or recklessly obstruct access to any structure or place which any Schedule 5 animal uses for shelter or protection. (s9(4)(c)).	Yes – if water vole were present within the Proposed Development extent.
To intentionally or recklessly damage or destroy any structure or place which any wild animal specified in Schedule 5 uses for shelter or protection. (S9(4)(a)).	Yes – if water vole were present within the Proposed Development extent.

8.4 Proposed strategy

8.4.1 In summary, the following steps would be taken prior to construction to ensure legislation protecting water vole would not be contravened:

- pre-construction survey to determine extent of water vole activity; and
- if water vole burrows were recorded, appropriate mitigation measures would be employed.

Pre-construction surveys

8.4.2 Water vole surveys would be carried out on all watercourses and any other suitable habitat crossed by the Proposed Development prior to site clearance.

Provision of appropriate mitigation measures

Measures to avoid an offence

8.4.3 The type of measures that may be required could include the following, which would be detailed within the A5025 Off-line Highways Improvements sub-CoCP (Application Reference Number: 8.12):

- bank protection measures;
- machinery/plant exclusion zones;
- no equipment stored within 10m of any watercourse so as to reduce the risk of stored equipment or plant crushing burrows or individuals; and/or
- the design of any works to avoid the removal of bank material.

Translocation

8.4.4 The translocation of water vole, if required, would need to be carried out under a NRW conservation licence and would follow good practice guidance [RD3]. The licence would be issued for the purpose of conservation; therefore, the Proposed Development would need to deliver a conservation benefit for water vole e.g. improved habitat management to provide enhancement.

- 8.4.5 Water vole would not be relocated by trapping from small areas of affected habitat (up to 50m of watercourse) where there was suitable adjacent habitat, without the use of exclusion fencing.
- 8.4.6 If required, relocation of water vole by trapping would be undertaken between 1 March and 15 April and/or 15 September to 30 November. Intermittent dates are when water vole would have dependent young and should not be disturbed. The receptor site must be well established before translocation. Trapping can be assumed to be complete when there have been five clear days of no captures or evidence of water vole in the excluded area.

Habitat creation and enhancement

- 8.4.7 A number of water vole enhancement areas (see figure G1-4a and G1-4c (Application Reference Number: 6.7.48)) form part of the Proposed Development at Valley and Llanfachraeth. These areas could be used as receptor sites water vole that have been translocated.
- 8.4.8 The sites would be enhanced prior to construction in preparation for any translocated individuals. At Valley, a new ditch would be created through the area using the advice and guidelines set out within publications such as *Creating Ponds for Water Voles* [RD4]. The new ditch would be profiled to enable marginal planting at the ditch edge and shrub planting within 1–2m of water's edge. At Llanfachraeth, the habitat would be enhanced to open up and diversify the marginal habitat. Shrubs and wet woodland species would be included with the planting and further channels or ponds would be created to increase opportunity for water vole.

Monitoring and reporting

- 8.4.9 A conservation licence return, which provides details of the actions taken under the licence and any associated monitoring results, would be submitted to NRW following completion of the works.

8.5 Conclusion

- 8.5.1 Based on the results of the desk study and field survey, and the limited areas of work outside the highway boundary coinciding with water courses where water vole are known to be present (up or downstream), the risk of contravening the legislation set out in paragraph 8.1.1 is considered to be low. However, if water vole were found to be present, the actions and commitments described above would ensure no offence was committed.

9 Reptiles

9.1 Relevant legislation

9.1.1 The following legislation is relevant to reptiles:

- Wildlife and Countryside Act 1981 (as amended) – Schedule 5 species (protection from killing/injury only s9 (1)).

9.2 Baseline information

9.2.1 Cofnod provided records for the period 2004 to 2017, of adder (*Vipera berus*) and common lizard (*Zootoca vivipara*) mainly associated with Cemlyn, north of the Proposed Development.

9.2.2 During field surveys, common lizard was recorded adjacent to the access track to Tan-y-bryn, south east of Llanfaethlu. It is likely that all four common species of reptile (adder, common lizard, grass snake (*Natrix natrix*), and slow worm (*Anguis fragilis*)) could be present within suitable habitat such as scrub, woodland edge, boundary features, semi-improved grassland and marshy grassland where it occurs within the Proposed Development (see Figure G9-11 to G9-15 (Application Reference Number: 6.7.48)).

9.3 Potential to commit an offence

9.3.1 The site clearance phase presents the greatest risk of contravening the legislation set out in 9.1.1 and the risk is generally confined to areas where the habitat is considered most suitable.

Table 9-1 Reptiles – potential for an offence

Wildlife and Countryside Act 1981 (as amended)	Offence likely in absence of the proposed strategy
To intentionally kill, injure or take any wild animal included in Schedule 5 (s9(1)).	Yes – during site clearance phase in areas of suitable habitat.

9.4 Proposed strategy

9.4.1 Steps would be taken prior to construction to ensure legislation set out in paragraph 9.1.1 would not be contravened. Measures would be undertaken to avoid killing and injuring by:

- habitat manipulation to encourage dispersal off-site; and
- trapping and translocation of individuals (if required).

Avoiding killing or injury of reptiles

Habitat manipulation

- 9.4.2 The primary approach to reptile mitigation would be displacement, other than in areas where GCN were also present – see section 5.4 above. Habitat manipulation would be employed to encourage reptiles to move away from an area subject to clearance into an adjacent undisturbed area in order to mitigate reptile mortality. This would be achieved by cutting and clearance of vegetation in stages towards the direction of retained habitats such as hedgerows, woodland edge, tussocky grassland and scrub. This would be detailed within the A5025 Off-line Highways Improvements sub-CoCP (Application Reference Number: 8.12).
- 9.4.3 Groundworks and vegetation clearance in areas suitable for reptile hibernation (excluding short grassland & arable land) should be undertaken when the species are active, prior to the first frosts (typically in early October) or after evening temperatures have risen in spring to over 5°C (typically in early March).
- 9.4.4 Vegetation to be cleared would first be cut with hand tools (e.g. strimmers/brush cutters and chain saws) down to a height of approximately 150mm, with cut material removed from the site. After a rest period of between two to seven days (to allow any reptiles present to relocate naturally) the remaining habitat would be cleared with machinery to ground level. The ECoW would advise on the specific start and end dates when these activities were possible.
- 9.4.5 In areas where vegetation clearance could not be undertaken during the habitat manipulation phase, a destructive search could be employed to commence in spring onwards but must be completed before the end of autumn, avoiding the winter hibernation when disturbance would be likely to result in mortality. The destructive search would occur during the final stage of vegetation clearance, when potential refuges such as tree stumps, concrete waste and other debris on site would be removed. The ECoW would undertake a finger-tip search of these features before the contractors remove them. All reptiles found would be removed and relocated to adjacent suitable habitat.

Trapping, translocation and exclusion

- 9.4.6 For those areas of terrestrial habitat to be cleared where GCN are also present, reptiles would be translocated using the same methodology as detailed in paragraph 5.4.7. This would be undertaken prior to site clearance and under supervision of the ECoW in accordance with the A5025 Off-line Highways Improvements sub-CoCP (Application Reference Number: 8.12).

9.5 Conclusion

- 9.5.1 The Proposed Development could result in the contravention of the legislation set out in paragraph 9.1.1, with a risk that the offence of killing or injuring reptiles would occur. The strategy set out above would result in this offence being avoided.

10 Breeding birds

10.1 Relevant legislation

10.1.1 The following legislation is relevant to birds:

- Wildlife and Countryside Act 1981 (as amended).

10.2 Baseline information

10.2.1 Cofnod provided records for over 100 bird species within 2km of the proposed scheme. These included Schedule 1 Wildlife and Countryside Act 1981 (as amended) species: kingfisher (*Alcedo atthis*); peregrine falcon (*Falco peregrinus*), merlin (*Falco columbarius*), barn owl (*Tyto alba*) and chough (*Pyrrhocorax pyrrhocorax*).

10.2.2 The majority of these species records are centred on the Cemlyn Bay area to the north of the Proposed Development, and the Alaw estuary west of the Proposed Development.

10.2.3 A breeding bird survey undertaken in 2013 (see appendix G9-4 A5025 Route Improvement Contract EIA: Breeding Bird Survey Report. Application Reference Number: 6.7.25) identified evidence of breeding in 39 species with relatively high intensity bird use in woodland, hedgerows, wet and dry scrub, mature trees, and hedgerows.

10.3 Potential to commit an offence

10.3.1 The vegetation clearance phase of the Proposed Development could result in an offence in relation to breeding birds. Details are provided in table 10-1.

Table 10-1 Breeding birds – potential for an offence

Wildlife and Countryside Act 1981 (as amended)	Offence likely in absence of the proposed strategy
To intentionally kill, injure or take any wild bird. (s1(1)).	Yes – to unfledged chicks during vegetation clearance.
To intentionally or recklessly disturb any wild bird included in Schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young; or disturb dependent young of such a bird. (s1(5)(a)(b)).	No offence likely - birds listed in Schedule 1 have not been recorded breeding within the areas where vegetation clearance is required.
To take or destroy an egg of any wild bird. (s1(1)(c)).	Yes – during vegetation clearance.
To intentionally take, damage or destroy the nest of a wild bird included in Schedule ZA1.	No offence likely – no birds listed on Schedule ZA1 (golden eagle <i>Aquila chrysaetos</i> , white-tailed eagle <i>Haliaeetus albicilla</i> , and osprey <i>Pandion haliaetus</i>) nest in this area

Wildlife and Countryside Act 1981 (as amended)	Offence likely in absence of the proposed strategy
To intentionally take, damage or destroy the nest of any wild bird while that nest is in use or being built.	Yes – during vegetation clearance.

10.4 Proposed strategy

10.4.1 In summary, the following step would be taken prior to construction to ensure legislation set out in paragraph 10.1.1 would not be contravened:

- the provision of appropriate mitigation measures such as protection of habitats and features, and ecological supervision of works.

10.4.2 The protocols to ensure that damage or disturbance to bird nests would be mitigated would be set out within the A5025 Off-line Highways Improvements sub-CoCP (Application Reference Number: 8.12).

Provision of appropriate mitigation measures

Avoiding damage or destruction of eggs and nests

Timing of vegetation clearance

10.4.3 Where possible, vegetation suitable to support breeding birds would not be cleared during the bird breeding season (March to August inclusive).

Supervision of vegetation clearance

10.4.4 Pre site clearance checks would be carried out within all areas of vegetation clearance to determine the presence of active bird nests.

10.4.5 Pre-clearance checks would be carried out within all areas of vegetation clearance to assess for the presence of active bird nests. This would involve an ECoW checking vegetation for signs of nesting activity. The checks would be carried out early in the morning of the proposed clearance work, prior to the start of any potentially disturbing activities on site which could affect the behaviour of nesting birds and therefore the ECoW's assessment of activity (e.g. the presence of site clearance contractors and the use of tools and machinery). This would also include times outside the main breeding season in habitats that support species that can breed before and/or after this period, such as barn owls, corvids and pigeons.

10.4.6 Should a nest be identified during vegetation clearance, works within its vicinity would stop and the ECoW would determine a suitable buffer zone around the nest within which no further clearance or other works would occur. This would be dependent on the type and density of vegetation surrounding the nest and the species present. A minimum buffer zone would be 5m from a nest but may be extended on advice from the ECoW. The buffer zone would be clearly marked using demarcation tape or fencing to ensure no works took place within that area. These would also be marked on an environmental constraints

map and displayed in the site office as well as being issued to all contractors on site.

- 10.4.7 The ECoW would monitor activity at each nest to determine when it is no longer active so that works could continue. The ECoW would be available on site should any further input/assistance be required.

Protection of retained vegetation

- 10.4.8 Areas of retained vegetation within construction working areas would be clearly demarcated to ensure no accidental incursion of construction work, and would be marked up on the environmental constraints maps.

10.5 Conclusion

- 10.5.1 The Proposed Development could result in the contravention of the legislation set out in paragraph 10.1.1. There is a risk of offences of destroying eggs, and damaging or destroying nests as a result of the Proposed Development. The strategy set out above would result in these offences being avoided.

11 Badger

11.1 Relevant legislation

11.1.1 The following legislation is relevant to badgers:

- The Protection of Badgers Act 1992.

11.2 Baseline information

11.2.1 No records were provided by Cofnod of badger within 2km of the Proposed Development (see appendix G9-3 A5025 Route Improvement Contract: Preliminary Ecological Appraisal. Application Reference Number: 6.7.24). Records of badger on Anglesey are rare and they were thought to be extinct on the island until their reintroduction in the 1970s. Limited sightings have been recorded at Treddau'r Bay and near Amlwch, outside the 2km study area of the Proposed Development.

11.2.2 No badger setts were recorded during the baseline data collection (see appendix G9-2. Application Reference Number: 6.7.23). However, a live badger was seen during a dusk bat activity survey around Cefn Coch.

11.3 Potential to commit an offence

11.3.1 The latest field survey information suggests that no setts would be lost, damaged or disturbed as a result of the Proposed Development. Badger activity was identified near Cefn Coch indicating that it is a possibility that new setts could be dug within the Proposed Development prior to commencing construction.

11.3.2 A review of the potential for the Proposed Development to result in an offence is detailed in Table 6.1.

Table 11-1 Badger – potential for an offence

Protection of Badgers Act 1992	Offence likely in absence of the proposed strategy
To wilfully kill, injure or take, or attempt to kill, injure or take a badger (s1(1)).	Yes – only if sett present in 'close proximity' to Proposed Development.
To intentionally or recklessly disturb a badger when it is occupying a badger sett (s3(e)).	Yes – only if sett present in 'close proximity' to Proposed Development.
To intentionally or recklessly obstruct access to, or any entrance of, a badger sett (s3(c)).	Yes – only if sett present in 'close proximity' to Proposed Development.
To intentionally or recklessly damage a badger sett or any part of it or to destroy a badger sett (s3(a)(b)).	Yes – only if sett present in 'close proximity' to Proposed Development.

11.4 Proposed strategy

11.4.1 In summary, the following steps would be taken prior to construction to ensure legislation set out in paragraph 11.1.1 would not be contravened:

- pre-construction surveys;
- avoiding disturbance / damage (should badgers be confirmed present and affected by the works); and
- sett closure, under licence (should the sett be confirmed as active and affected by the works).

Pre-construction surveys

11.4.2 A pre-construction survey within 50m of any existing boundary features that need to be removed would be carried out prior to the start of site clearance, in order to identify whether any badger setts were present. The survey timing would be such that, if a badger sett was recorded, sufficient time would be available to allow for a development licence application and sett closure to be completed before site clearance was scheduled to commence [RD5]. Badger sett closure is permitted in the months of July to November only.

Avoiding disturbance and damage

11.4.3 If an active sett is recorded in close proximity to the construction works and does not need to be destroyed, it may be possible to alter working methods in that location, such as by reducing machinery sizes or working with hand tools, to ensure that disturbance and damage is minimised or avoided.

Licensing

11.4.4 If an active badger sett was discovered in close proximity to an area that is required for construction during the pre-construction survey or the construction period, work would cease in that area until a licence was obtained from NRW.

11.4.5 The most common form of mitigation associated with a development licence, if required, is sett exclusion. However, depending on the nature of the work, its proximity to a sett and the type of sett, it may be possible to alter working methods to minimise disturbance to badgers or avoid damage to a sett, thus avoiding the requirement for a development licence.

11.4.6 An example methodology for both avoiding damage/disturbance and sett exclusion is set out in the following paragraphs.

Sett exclusion

- 11.4.7 The following method would be followed if a badger sett required exclusion under licence:
- All active sett entrances would be fitted with badger gates, using the designs shown in *HA 52/92 Mitigating against effects on badgers* [RD6];
 - The gates would be set to one-way to effect exclusion and would be subsequently monitored for 21 days. Once it had been confirmed that badgers were no longer using the sett, it would be excavated under the supervision of the ECoW.
- 11.4.8 The excavation would be conducted to avoid collapsing any chambers within the sett because of the possibility of badgers remaining undetected. If any badgers were disturbed, all work would cease and they would be allowed to leave the area without interference.
- 11.4.9 Given that the risk of a main sett needing to be closed is extremely low, a replacement sett is unlikely to be required. If a replacement sett was required, sufficient land is considered to be available to allow an appropriate location to be found.

11.5 Conclusion

- 11.5.1 There is a low risk that the Proposed Development would result in any contravention of legislation set out in paragraph 11.1.1. This is primarily because of the limited evidence of badger presence in the area. However, in the unlikely event of an active sett being identified and potentially affected by the Proposed Development works, the proposed strategy detailed above would be to first avoid an offence then, if this was not possible, to exclude badgers and close the sett under licence.

12 Schedule 9 Invasive Species

12.1 Relevant legislation

12.1.1 The following legislation is relevant to Schedule 9 invasive species:

- Wildlife and Countryside Act 1981 (as amended) – Schedule 9 species; and
- Environmental Protection Act 1990.

12.2 Baseline information

12.2.1 No records of Schedule 9 species were listed within the Cofnod data search.

12.2.2 Schedule 9 species: Japanese knotweed, Himalayan balsam, montbretia and variegated yellow archangel were recorded during Phase 1 habitat surveys (see appendix G9-2 (Application Reference Number: 6.7.23) and G9-3 (Application Reference Number: 6.7.24)).

12.3 Potential to commit an offence

12.3.1 The greatest risk of contravening the legislation relating to Schedule 9 species is during the vegetation clearance phase of the works.

12.3.2 In relation to the offence of introducing non-native species to the wild, the disposal of waste from controlled species such as Japanese knotweed comes under the *Environmental Protection Act 1990*. No other aspects of this legislation are considered. These are summarised in table 12-1 below.

Table 12-1 Invasive species – potential for an offence

Wildlife and Countryside Act 1981 (as amended)	Environmental Protection Act 1990	Offence likely in absence of proposed strategy
To plant or otherwise cause to grow in the wild any plant which is included in Part II of Schedule 9. (s14 (2)).	-	Yes – by spread of existing plants within Proposed Development extent or by importing plants from outside the Proposed Development.
-	Section 33 (1a) and (1b) set out offences dealing with the deposit, treating, keeping or disposing of controlled waste without a permit. Section 33 (1)(c) makes it an offence to keep, treat or dispose of controlled waste in a manner likely to cause pollution of the environment.	Yes – by management and disposal of existing plants cleared from site.

12.4 Proposed strategy

12.4.1 In summary, the following steps would be taken prior to construction to ensure legislation set out in paragraph 12.1.1 would not be contravened:

- pre-construction surveys; and
- environmental permitting from NRW, if required.

Pre-construction surveys

12.4.2 Pre-construction surveys would be undertaken to record the location and extent of Schedule 9 species within all construction areas. An assessment of control measures required, including waste disposal, would then be made and detailed within the A5025 Off-line Highways Improvements sub-CoCP (Application Reference Number: 8.12).

12.4.3 Where necessary, eradication methods for the invasive species present would be developed using best practice guidance publications [RD7, RD8], and detailed within the A5025 Off-line Highways Improvements sub-CoCP (Application Reference Number: 8.12). Measures to avoid accidental incursion into invasive species areas could include the following:

- Fencing and/or clear demarcation with hazard warning tape. In the case of Japanese knotweed, this would be to a width of at least 7m from the outermost plant within a stand, and no tracked excavators would enter the 7m exclusion zone.
- Clear demarcation of haulage routes in areas of invasive species. If haulage routes were required to pass through exclusion zones, appropriate methods to prevent contact with the soil would be implemented.
- Implementation of biosecurity measures to include: prevention of introduction or transfer of invasive non-native species across construction working areas by machinery or personnel and the suitable procurement and screening of planting stock to prevent accidental introduction of invasive species.

Environmental permit

12.4.4 An environmental permit from NRW would need to be secured to remove any soil contaminated with Japanese knotweed. Disposal of the soil would only be permitted at landfill sites that are licensed to receive hazardous waste of this type, or it could be buried on site under a method statement agreed with NRW.

12.5 Conclusions

12.5.1 The approach outlined above provides actions and commitments which would minimise the risk that an offence was committed under the legislation set out in paragraph 12.1.1.

13 Fish

13.1 Relevant legislation

13.1.1 The following legislation is relevant to fish:

- The Eels (England and Wales) Regulations 2009 (as amended); and
- Salmon and Freshwater Fisheries Act 1975 (as amended).

13.2 Baseline information

13.2.1 Consultation data was provided by Cofnod for a 2km area centred on the Proposed Development. No fish data were listed as part of this data request (see appendix G9-1 A5025 Route Improvement Contract: Preliminary Ecological Appraisal. Application Reference Number: 6.7.22).

13.2.2 The following eight species of fish were recorded from nine field survey sites (see appendix G9-1. Application Reference Number: 6.7.22):

- European eel;
- three spined stickleback (*Gasterosteus aculeatus*);
- nine spined stickleback (*Pungitius pungitius*);
- brown trout (*Salmo trutta*);
- river lamprey (*Lampetra fluviatilis*);
- perch (*Perca* sp);
- flounder (*Platichthys flesus*); and
- common goby (*Pomatoschistus microps*).

13.2.3 A number of watercourses, field drains and wetland areas were identified which would be crossed by, or be within the locality of, the Proposed Development.

13.3 Potential to commit an offence

13.3.1 Release of solids and liquids into waters could cause an offence in relation to water quality (see table 13-1), though this would be mitigated through the following embedded and good practice mitigation measures that form part of the Proposed Development:

- the provision of a drainage design that attenuates road drainage prior to discharge;
- demarcation of protective buffer areas around watercourses; and
- implementation of good practice measures such as avoiding spillages of oil, fuel and chemicals, general emergency response and preparedness, and general procedures for management of sediment. These would be

set out within the A5025 Off-line Highways Improvements sub-CoCP (Application Reference Number: 8.12).

Table 13-1 Fish – potential for an offence

Eels (England and Wales) Regulations 2009 (as amended)	Salmon and Freshwater Fisheries Act 1975 (as amended)	Offence likely in absence of proposed strategy
To construct, alter or maintain a dam or structure and failing to notify the NRW first will be guilty of an offence. (Part 4, 12 (1), (2).(4).)	-	No offence likely - NRW would be notified of the proposed new culverts and structures.
-	To cause or knowingly permit to flow, or put or knowingly permit to be put, into any waters containing fish or into any tributaries of waters containing fish, any liquid or solid matter to such an extent as to cause the waters to be poisonous or injurious to fish or the spawning grounds, spawn or food of fish, shall be guilty of an offence. (Part I, 4 (1)).	No offence likely - the Proposed Development would be constructed using good practice mitigation measures, as set out in the chapter G8, Volume G of the Environmental Statement, in relation to pollution prevention.

13.4 Proposed strategy

13.4.1 The proposed strategy to avoid contravening legislation includes the following.

- appropriate environmental management of construction working areas and the construction compounds; and,
- The use of good practice industry standards during construction such as those set out within CIRIA guidance documents [RD9] to prevent pollution of watercourses.

13.5 Conclusion

13.5.1 The implementation of mitigation measures set out above means that no offences would be likely with regard to the legislation set out in paragraph 13.1.1.

14 References

ID	Reference
RD1	Langton, T. E., Beckett, C. L. & Foster, J. P., 2001. Great Crested Newt Conservation Handbook. Halesworth: Froglife.
RD2	Collins, J., 2016. Bat Surveys for Professional Ecologists: Good Practice Guidelines. 3rd ed. London: Bat Conservation Trust.
RD3	Dean, M., Strachan, R., Gow, D. & Andrews, R., 2016. The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series), s.l.: Eds Fiona Mathews and Paul Chanin The Mammal Society, London.
RD4	Pond Conservation. 2010. Creating ponds for Water Voles. Freshwater Habitats Trust. [Online]. Available at: http://www.freshwaterhabitats.org.uk/wp-content/uploads/2013/09/watervole-dossier.pdf .
RD5	Natural Resources Wales, 2016. Badger Licences issued by Natural Resources Wales and the Welsh Government. [Online] Available at: http://naturalresources.wales/apply-for-a-permit/protected-species-licensing/uk-protected-species-licensing/badger-licences-issued-by-natural-resources-wales-and-the-welsh-government/?lang=en [Accessed 07 April 2016].
RD6	Highways Agency. 1997. Design Manual for Roads and Bridges, Volume 10, Section 4, HA 59/92 Mitigating Against Effects on Badgers. [Online] Available at: http://www.standardsforhighways.co.uk/ha/standards/dmrb/vol10/section4/ha5992.pdf [Accessed 7 April 2016].
RD7	Environment Agency, 2013. Managing Japanese Knotweed on Development Sites: The Knotweed Code of Practice. (Version 3). Bristol: Environment Agency.
RD8	Environment Agency, 2010. Managing Invasive Non-native Plants: managing invasive non-native plants in or near freshwater. Bristol: Environment Agency.
RD9	Charles, P. & Edwards, P., 2015. Environmental good practice on site guide (C741D). 4th ed. s.l.:CIRIA.