

Rockfield Farm
Undy
Monmouthshire



An **Ecological Survey**
Report By:






On **Behalf Of:**



February **2016**

| | |
|-----------------------|--|
| Client | Monmouthshire County Council |
| Project Name | Rockfield Farm, Undy, Monmouthshire |
| Report Title | An Ecological Survey Report |
| File Reference | BAD4014 |

| Status | Signed | Name | Position | Date |
|-------------------------|---|--|---|--------------------------------------|
| Author |  | Phillip L Morgan CEnv MCIEEM | Principal Ecologist | 9th February 2016 |
| Reviewer |  | Paul Hughes | Administrative Support Officer | 10th February 2016 |
| Ecology Reviewer |  | Diane J Morgan BA (Hons) ACIEEM | Senior Ecologist | 11th February 2016 |

Members: Phillip Morgan CEnv MCIEEM Diane Morgan BA (Hons) ACIEEM
Carola Dallmeier BA (Hons) MSc Grad CIEEM Robert Morgan

Issuing Office: Llys Newydd, Llanfihangel Talyllyn, Brecon LD3 7TG

Web Site: www.justmammals.com **E-Mail:** phil@justmammals.co.uk **Telephone:** 01874 658650

Registered in: Cardiff **No:** OC345272 **Registered Address:** Llys Newydd, Llanfihangel Talyllyn, Brecon LD3 7TG
VAT No: 821 6376 35

Contents

| | Page No. |
|--|-----------------|
| 1 Executive Summary | 1 |
| 2 Introduction | 1 – 2 |
| 3 Survey Team Experience | 2 |
| 4 Survey Methodology | 2 – 3 |
| 5 Site Description | 3 |
| 6 Desktop Study | 3 |
| 7 Survey Constraints | 3 – 4 |
| 8 Survey Results | 4 |
| 9 Discussion and Conclusions | 5 |
| 10 Recommendations | 5 – 6 |
| 10 References | 6 |
| Appendix I: Site Location Plan | 7 |
| Appendix II: Site Photographs | 8 |
| Appendix III: Ecology of Badgers | 9 |
| Appendix IV: Relevant Legislation | 10 |

List of Tables

| Table | Description of Contents | Page No. |
|---------|---|----------|
| Table 1 | Summary of Survey Activity and Weather Conditions | 4 |

List of Figures

| Figure | Description of Contents | Page No. |
|----------|--|----------|
| Figure 1 | Site location plan showing badger features | 7 |

List of Plates

| Plate | Description of Image | Page No. |
|---------|---|----------|
| Plate 1 | Badger claw marks on corrugated asbestos sheet on bank near farm | 8 |
| Plate 2 | Sett entrance hidden in hedge | 8 |
| Plate 3 | Badger hair on barbed wire on north side of M4 | 8 |
| Plate 4 | Typical failure of badger proof fencing noted on both sides of the M4 | 8 |

1 Executive Summary

- 1.1 Following an extended Phase 1 survey of land at Rockfield Farm, near Undy, it was recommended that a dedicated survey for the presence of badgers be carried out, to ascertain what implications there might be for the species from development of the farm for housing. The original survey in July 2014 found evidence for the presence of badgers at the site, in the form of setts and pathways.
- 1.2 Subsequently, a detailed assessment of badger presence was carried out in January 2016, an appropriate time of year, in order to identify setts hidden in dense undergrowth, by two experienced ecologists. The survey found that the previously identified setts located in a wood adjacent to the farm buildings was likely to be an annex sett, although use as a main sett could not be dismissed, and that the area, both north and south of the nearby M4 motorway, was likely to be occupied by a single badger clan.
- 1.3 Survey found that most of the fields to be developed are likely to be used by badgers for foraging. It also found that several single hole, or multiple hole setts were located in hedgerows, which might be impacted by development. Pathways also crossed the proposed development area, which may indicate future conflicts between humans and their pets with badgers, once the houses have been constructed.
- 1.4 Although the original sett in the wood was considered less likely to be a main sett, and more likely to be an annex sett, it is probable that the main sett is located on the north side of the embankment carrying the M4 motorway. No clan boundaries were defined in the survey, with latrines being used as clan territory markers. The number of pathways leading into the dense vegetation on the north side of the highway suggests that this is the likely location for the main sett. Because of the dense vegetation present in this area, and the risk associated with working close to such a carriageway, it was concluded that no additional assessment of this location could take place. However, as suggested above, the concentration of field signs indicate that this is probably the main sett location.
- 1.5 Development of the fields around the farm for housing will remove most of the forage pasture on the south side of the motorway. It will also likely result in houses being constructed near to existing setts and the need for the developer to obtain appropriate licences from Natural Resources Wales under the provisions of the Badger Act 1992. It is considered likely that in time badgers may abandon the area in the wood due to the pressures which will arise from living close to people and their pets. However, this is unlikely to occur overnight, and so some form of provision will need to be put in place to allow badgers to cross the proposed development area to access their setts north of the motorway.
- 1.6 Recommendations are made in this report with respect to the future development, which at this time must be relatively basic until firmer plans are available. However, any development, and in particular any licence application, will need to be supported by a dedicated ecological method statement which will address the needs of the badgers.

2 Introduction

- 2.1 Monmouthshire County Council, the owners of Rockfield Farm near Undy, proposed to develop an area of land around the farm for much needed housing. An extended Phase 1 ecological assessment of the site in July 2014 found evidence for the presence of badgers (*Meles meles*), in the form of setts and runs. Consequently, additional survey, at an appropriate time of year, was recommended to determine the extent of badger presence in the area and potential impacts on the species from the proposed development.
- 2.2 At present, the land is leased to a long term tenant who is resident in a dwelling on the site. The land to be developed lies at National Grid Reference (NGR) ST 438 877, with much of the site being at around 13m Above Ordnance Datum. Rockfield Farm, as a whole, covers approximately 16 hectares but only a total of 14 hectares is to be sold off for the proposed development.
- 2.3 The principal objective of the latest survey was to determine the extent of badger distribution in the area, and in particular to establish if one or more badger clan was present. In order to establish the extent of badger use, an area in excess of 27 ha was surveyed by two experienced ecologists, looking for field signs for the species in January 2016.

- 2.4 Although the development will not include an area of woodland where the initial signs of badgers were found, the loss of grassland surrounding this wood to the development, will impact on badger foraging potential and possibly the destruction of setts. Also, the type of sett that might be present in the wood needed to be established, to ascertain if it comprised the main sett for a badger clan or was part of a network of setts used by that clan. Search effort therefore concentrated on identifying pathways used by badgers in order to locate sett entrances, as well as the positions of latrines, which can be a useful guide to the boundaries of clan territories.
- 2.5 This report details the level of survey that was undertaken and the findings. It also makes appropriate recommendations in light of the findings.

3 Survey Team Experience

- 3.1 Lead surveyor, and author of this report, was Phil Morgan. Phil is a Principal Ecologist with the Just Mammals Consultancy LLP and has been practicing for nearly 35 years as a professional ecologist. He has extensive experience of undertaking badger surveys, and in 1989 made a significant contribution to a Bristol University run National Badger Sett Survey, which helped establish survey methodologies. Since then he has undertaken sett and habitat survey work, initially as part of his duties as the former ecologist for Dŵr Cymru Welsh Water, and over the past fifteen years as an independent consultant. Phil is a Member of the Chartered Institute of Ecology and Environmental Management (CIEEM), and is registered as a Chartered Environmentalist with the Society for the Environment (CEnv).
- 3.2 Also involved in the survey effort was Carola Dallmeier. Carola is an Ecologist with the Just Mammals Consultancy LLP and holds an MSc in Environmental Conservation Management, and has practical expertise with bats, birds, botanical assessments, mammalian and reptile surveys, both in the United Kingdom (UK), and overseas. As well as assisting in conservation-based research, she has carried out biodiversity audits and ecological enquiries. Carola has completed a study of water voles, and is currently assisting with bird ringing. She is a Graduate Member of the Chartered Institute of Ecology and Environmental Management (Grad CIEEM), and is employed as an Ecologist by the Just Mammals Consultancy LLP and has carried out numerous badger surveys whilst engaged in that role.

4 Survey Methodology

- 4.1 The area of the proposed development was surveyed and the wider surrounding vicinity where access consents could be obtained. Survey involved walking field boundaries and any obvious pathways within the location to be assessed, thoroughly examining the area for evidence of badger activity including features such as:
- setts (tunnels and chambers excavated by badgers as places of rest or breeding);
 - runs (badger pathways);
 - hair (caught on wire barbs or thorns or in spoil heaps);
 - spent bedding (outside active holes in setts);
 - footprints;
 - feeding signs (snuffle holes);
 - faeces (individual dung pits, or latrines).
- 4.2 Any holes created by mammals were closely inspected for evidence of badgers, or badger activity, which was expected to be evidenced by:
- shape and dimension – badger tunnel entrances are usually semi-circular in cross-section, wider than they are high, with dimensions 250 mm wide by 200 mm high, or greater;
 - spoil heaps – badger spoil heaps are usually larger than those of other species and often contain quantities of spent bedding, unlike those of foxes and rabbits;
 - debris in entrance – setts that have been recently active usually have no, or very little, leaf litter, or other debris in the mouth of the tunnels;
 - hairs – the presence of badger hairs will indicate that badgers have used or investigated the hole, although it does not necessarily indicate that they are currently resident;
 - scratches – parallel claw marks around sett entrance or on trees and logs; the presence of claw marks around an entrance will indicate that badgers have used or investigated the hole, although it does not necessarily indicate that they are currently resident;

- tunnel appearance – if a tunnel is being frequently used by badgers and, depending on the suitability of the substratum, its walls will take on a polished appearance from being smoothed by the animal's pelage.

4.3 For all features determined to be badger setts, the number of entrances and level of activity was recorded, and the sett classified to criteria used in the National Badger Survey Guidelines (Cresswell et al. 1990; Harris et al. 1989). As noted above, the search area was the land within the ownership of Monmouthshire County Council, and adjacent land owners where consent could be obtained. In the event that runs (paths) suggested setts might be within the boundaries of the M4 motorway curtilage, generally identified by badger-proof fencing either side of the carriageway, then for Health and Safety reasons no attempt was made to follow the run to its conclusion.

5 Site Description

5.1 A detailed description of Rockfield Farm site was given in the original extended Phase 1 report and it is not proposed to repeat that information here. However, because the latest survey extended to land north of the M4 motorway, it is appropriate to give a general description of the habitats present in the area concerned.

5.2 As described above, the location of the Rockfield Farm site is centred on NGR ST 438 877 on the brow of a ridge, with the village of Undy to the south and the M4 motorway to the north. The land concerned is primarily sheep and cattle grazed, with traditional mixed species hedgerows, managed by annual flail cutting. A small area of woodland is located just to the west of the farm buildings, and the farm holding is dissected by a narrow lane – known as The Elms – which passes north from Undy, under the M4, and on into the countryside north of the motorway.

5.3 The M4 motorway divides the survey area from west to east, and effectively has become a natural barrier to most wildlife as badger-proof fences have been erected along the length of this highway, on both sides. Terrestrial wildlife can however move from north to south by means of the underpass for The Elms. The M4 has mainly been constructed on an embankment at this location.

5.4 Land use north of the motorway is predominantly pasture, with some arable and open grazed woodland/shelter belts. Hedgerows are generally thin and poorly maintained, and managed by flail cutting. There are some houses in the area, but these are thinly distributed, with no villages in the immediate vicinity.

6 Desktop Study

6.1 A records search was carried out as part of the initial site assessment, covering a radius of 2km around the proposed development area. As previously recorded in the initial survey report, the nearest historical record is nearly 2km to the north-east from the centre of the search area.

6.2 Only five of the records in the search return relate to badger, and four of these records relate to badger features to the north-east of the development site, previously recorded and submitted to the record centre by the Just Mammals Consultancy LLP. The other record is from a site some 2.5km to the west.

6.3 It seems likely that badgers are under-recorded in the area, or if records have been made, they have not been filed with the record centre – the South East Wales Biodiversity Record Centre (SEWBRc). Certainly the habitats either side of the M4 motorway are very suitable for the species, and whilst it is acknowledged that badgers have historically been heavily persecuted in Monmouthshire, it is reasonable to expect that the species is actually well represented in the area.

7 Survey Constraints

7.1 There were limited constraints to the survey. The timing for the survey, in most years, would have been excellent. However, because of the very mild winter, plant growth was still robust, making searches for sett entrances a little more difficult than might normally be the case.

7.2 Neighbouring land owners were contacted wherever possible to determine ownership and access agreed beforehand. However, as the search area expanded it was not possible to gain consent for one area. It is considered that the particular area concerned was unlikely to support a major sett location, so this constraint is regarded as minor in nature.

- 7.3 For Health and Safety reasons, and density of vegetation, it was not possible to survey the embankment either side of the motorway. However, pathways into the vegetation or up exposed grassland banks could be assessed from a distance.

8 Survey Results

- 8.1 The survey was carried out on Monday the 25th of January 2016, by two experienced ecologists. Details of the conditions under which the survey was carried out are set out in Table 1 below.

Table 1: Summary of Survey Activity and Weather Conditions

| Date | Survey Type | Timing | Conditions |
|------------------|---|---|--|
| 25/01/2016 | Day time badger survey | 10.00 – 15.45 hours Greenwich Mean Time (GMT) | Air temperature: 10°C – 13°C Cloud cover: 6/8 oktas Conditions: Dry Wind speed: F1, light air |
| Surveyors | Carola Dallmeier (CD), Phil Morgan (PM) | | |

- 8.2 Survey progressed on the basis of proceeding from the known – existing identified setts/pathways – to the unknown. As noted above, potential pathways were followed to identify features which could confirm use by badgers, but also all hedgerows were walked on both sides to ensure that any setts were identified and mapped. The two surveyors initially worked independently of each other, with one covering the western part of the site and the other the eastern part. The surveyors worked together to survey the area north of the motorway.
- 8.3 Apart from existing setts, previously identified, the surveyors found additional setts, both within the small wood adjacent to Rockfield Farm and in the fields to the north and west of the wood. Some eight sett entrances were identified within the wood, spread out over a distance of some 140m, from west to east. None of the setts within the wood could be described as a main sett, although many of the holes appeared to be in active use. However, as this was the commencement point for the assessment, no firm conclusions could be drawn initially.
- 8.4 All of the setts found outside the wood were located in hedgerows or shelter belts, to the north and west of the Rockfield Farm wood. Again most were single hole, or two/three hole setts, suggesting use as outlier setts. Some obvious pathways were noted between these sett locations and occasionally firm field signs (e.g. hair), of use by badgers were found. A possible single hole sett was found adjacent to allotments at the extreme eastern edge of the survey area, although this appeared to be in use, the species involved could not be confirmed.
- 8.5 Only one latrine was identified south of the motorway – at NGR ST 4353 8778 – comprising a single pit with badger faeces. This was not considered to represent the edge of a clan territory and seemed of no particular importance, other than perhaps to confirm a pathway used by badgers.
- 8.6 Both surveyors noted pathway locations along the southern edge of the motorway, leading into the boundary area on either side of the highway. In all cases badgers had managed to excavate under the badger-proof fencing. In other locations the badger exclusion measures, intended to keep animals off the highway, appear not to have been logically implemented. It was clear that badger pathways led up onto the highway in places on the southern side of the M4! It seems surprising therefore that no badger road casualties had been noted within the data search.
- 8.7 Having established that all features that could be attributed to badgers south of the motorway had been located, the surveyors focussed their efforts on the north side of the M4. It was immediately obvious from scratch marks on fence timbers, and excavations beneath badger-proof fencing, that the badgers have ready access to the north side of the motorway embankment, much as they appear to be able to on the south side. Pathways into the northern embankment area were noted in several locations, together with fresh field signs (i.e. badger hair on barbed wire, scratch marks).
- 8.8 The northern embankment of the motorway, either side of The Elms underpass, is covered in dense bramble (*Rubus fruticosus*), and other vegetation, forming an impenetrable barrier to potential survey. Given the proximity of the highway, it was concluded that survey must be confined to the fenced boundary of the motorway. No setts or latrines were found north of the motorway, although field signs (e.g. hair) were otherwise plentiful.

9 Discussion and Conclusions

- 9.1 Following survey of the site, it is concluded that all of the proposed development site lies within the boundaries of one badger clan. Such clan territories can be quite large where there is no competition from other clans for foraging areas, and this appears to be the case at Rockfield Farm.
- 9.2 Prior to this survey, it was unclear if the setts originally identified in the wood adjacent to Rockfield Farm were a main sett. This still remains the case, to an extent, but it seems more likely that these tunnel entrances form part of an annex sett, and that the main sett is located elsewhere. Nonetheless, it is evident that this series of holes were in use at the time of survey, so there remains a small possibility that it is the main sett.
- 9.3 If the Rockfield Farm wood is not the location for the main sett, then it appears extremely likely that the chief focus for the badger clan is in the embankment on the north side of the M4 motorway, just west of The Elms underpass. As noted above, it was not considered to be feasible, or safe, to survey the area concerned, but the number of pathways leading into this area from the north, suggest that the location is important for badgers and that the main sett is probably hidden within the dense undergrowth. Although the motorway will result in some vibration, often quite intense, it may be that badgers have become inured to such vibration, and it is an acceptable trade-off for the relative security that the embankment provides.
- 9.4 Development of the fields around Rockfield Farm will result in a significant loss of forage for the badger clan concerned. It is likely that they also have a large area available to them to the north of the motorway, but there will be a significant impact in terms of loss of forage resources and also an interruption to existing routes/pathways. An increase in road vehicles, a natural result of development for housing, will also put badgers south of the motorway at increased risk for being killed or injured by higher traffic densities.
- 9.5 During the survey considerable evidence was noted for the presence of dogs (e.g. faeces) – the existing agricultural land being used by local dog walkers. This will put pressure on the existing badger community, dogs being intensely disliked by all wildlife, and this pressure will increase considerably with the additional houses that will result from the development. It is possible that the existing disturbance pressures have pushed the clan to move north, and this could explain the enigmatic findings of the survey with respect to Rockfield Farm wood.
- 9.6 If the housing development proceeds, then there are two possible consequences for the badgers – although both are very similar. They could abandon the area entirely and concentrate **their** attentions on living and foraging north of the motorway. Equally, they could attempt to continue to use their existing setts, bringing them into potential conflict with the new householders and their pets, when the badgers access gardens to look for food or to enter setts. The likelihood is that an evolving scenario will take place, which sees the badgers initially trying to hold on to their former setts/range, before it simply becomes too unsavoury for them, and they will then be forced to focus north of the M4. In the meantime they will be put at risk from the execution of the actual development, and the presence of humans and their pets post-development.
- 9.7 Badgers are protected under the provisions of the Badgers Act 1992, which protects the animals and their place of rest. Currently, the setts in the woodland are unlikely to be directly impacted in any development. However, it is likely that work will take place near to the setts, and may even result in the necessity to destroy some of the setts located in hedges across the site. It is likely therefore that at least some elements of any development work to be undertaken, will need to be carried out under an appropriate licence from Natural Resources Wales.

10 Recommendations

- 10.1 On the assumption that badgers will initially attempt to stay faithful to the setts in the Rockfield Farm wood, then any development plan will have to provide a green lane to allow badgers to freely move from the wood, north-east, to The Elms underpass. This green lane will undoubtedly be used by dog walkers to exercise their pets, and the smell of both people and pets will put badgers off – eventually leading to abandonment by the badgers. Nonetheless, they must be provided with some means of being able to access both foraging areas north of the M4, and the setts in the wood. The alternative would be to exclude badgers from the Rockfield Farm wood altogether, which would be both difficult and distressing to the clan.

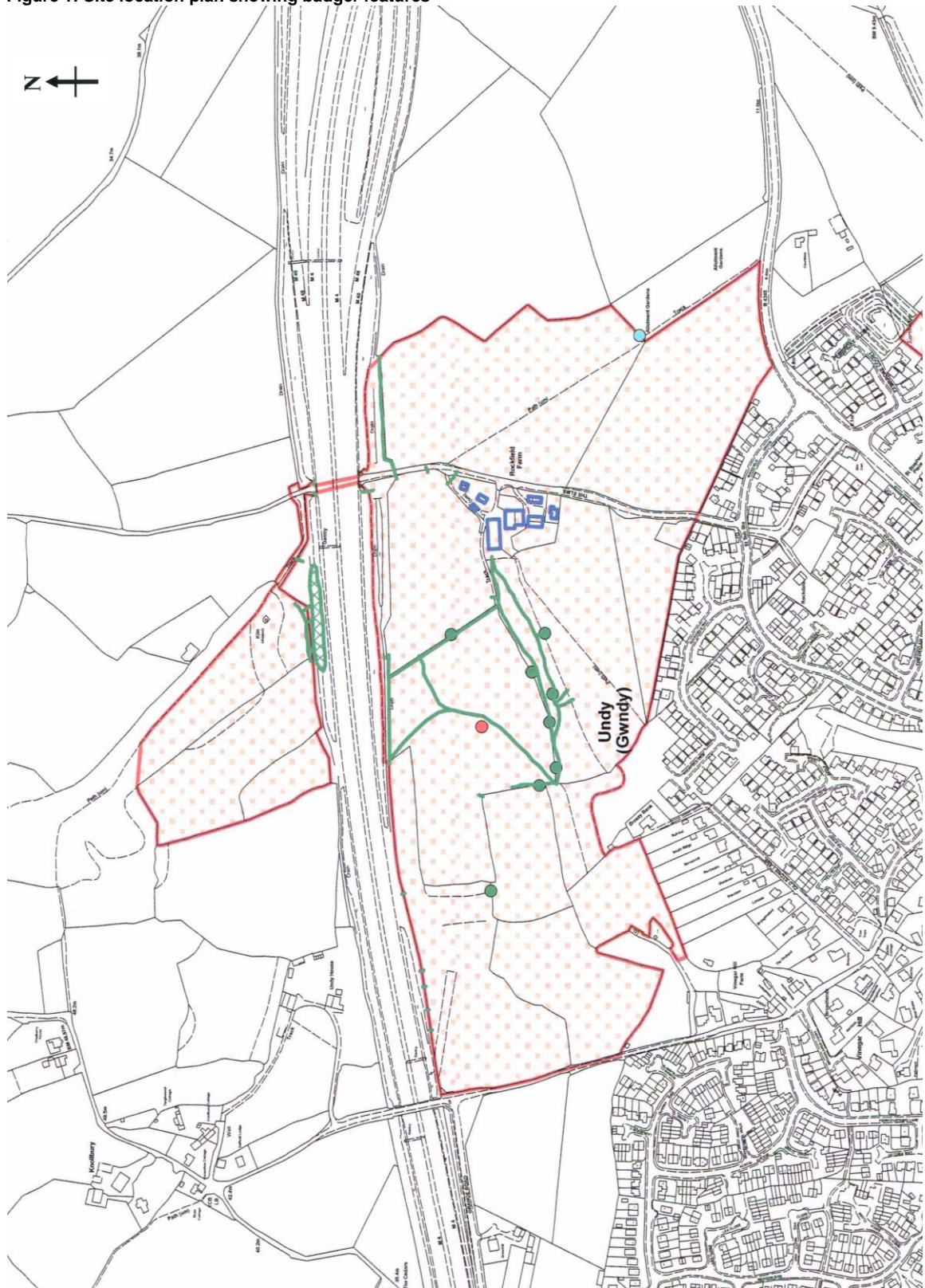
- 10.2 The distribution of setts across the proposed development land means that disturbance of setts will occur. At the present time, it is not possible to determine which specific tunnel entrances/setts will be impacted, either through a high level of disturbance or potential destruction. Any work within 30m of such setts will have to be limited to the period 1st July to 30th November – the period when an appropriate licence can be issued by Natural Resources Wales (NRW). Work more than 30m from a sett would not require a licence, but if any form of pile driving is to take place, then consultation must take place with Natural Resources Wales, as such deep ground noise/vibration can be highly disturbing.
- 10.3 Any application for a badger licence(s) will require a detailed ecological method statement to be provided, setting out the procedures to be followed. In instances of sett destruction, or high levels of disturbance, it will be necessary to exclude badgers from a sett prior to work being carried out.
- 10.4 Badgers will also probably be crossing the site, and will attempt to do so during any development. Given the size of the potential development, excluding badgers from the working area may be impossible, and result in badgers being put at risk. They may be pressured to cross areas where traffic/plant could put them under threat. Trenches for pipe runs or footings for buildings will also provide potential threats to badgers, and mitigation measures will have to be put in place. It is expected that any ecological method statement will detail the mitigation measures that will be needed to minimise/avoid risk to badgers, setts and established pathways. Such an ecological method statement can only be provided once the development proposals have progressed to a point where there are better plans showing the likely distribution of houses/roads etc.
- 10.5 Amongst the general provision which will be necessary is a means of escape which must be provided wherever trenches are to be left open overnight. It is therefore recommended that at one end of the trench a gentle slope of maximum 45° is provided, so that any animal which falls into the trench can climb out. If it is not possible to provide an earth slope, then a builders' plank must be employed to provide the necessary escape route. If a badger or any other wild animal is found trapped or injured in a trench, then the work force must immediately seek the advice of a suitably qualified ecologist, or if the animal is clearly in distress, the RSPCA.
- 10.6 Any barriers erected to prevent pedestrians from falling into trenches must be of the solid barrier form. On no account must tape be used as this can flap about in windy conditions causing distress to wild animals.

11 References

- Countryside Council for Wales (2011). *'Badgers: Guidelines for Developers'*. Countryside Council for Wales, Bangor
- Cox, P.R. (1993). *'Badgers on Site: A Guide for Developers and Planners'*, Royal County of Berkshire, Reading
- Cresswell, P., Harris, S. and Jefferies, D.J. (1990). *'The History, Distribution, Status and Habitat Requirements of the Badger in Britain'*. Nature Conservancy Council, Peterborough
- Harris, S., Cresswell, P. and Jefferies, D.J. (1989) *'Surveying Badgers'*. The Mammal Society, Southampton
- Harris, S., Jefferies, D., Cheeseman, C., and Booty, C. (1994). *'Problems with Badgers: 3rd Edition'*. Royal Society for the Prevention of Cruelty to Animals, Horsham
- Forestry Commission (1995). *'Forestry Practice Guide 9: Forestry Operations and Badger Setts'*. Forestry Commission, Edinburgh
- Natural England (2009). *'Badgers and Development: A Guide to Best Practice and Licensing'*. Natural England, Bristol
- Natural England (2009). *'Guidance Notes: Protection of Badgers Act 1992 (as amended). Interpretation of 'Disturbance' in Relation to Badgers Occupying a Sett'*. Natural England, Bristol
- Natural England (2009). *'Guidance Notes: Protection of Badgers Act 1992 (as amended) Guidance on 'Current Use' in the Definition of a Badger Sett'*. Natural England, Bristol







Appendix I: Survey Location Plan

Figure 1: Site location plan showing badger features



© Crown copyright and database rights (2016) Ordnance Survey (100055034)

Legend:

-  Survey site boundary
-  Possible main badger sett location
-  Badger sett
-  Unidentified hole
-  Badger latrine
-  Badger pathways

Appendix II: Site Photographs

Plate 1: Badger claw marks on corrugated asbestos sheet on bank near farm



Plate 2: Sett entrance hidden in hedge



Plate 3: Badger hair on barbed wire on north side of M4



Plate 4: Typical failure of badger proof fencing noted on both sides of the M4



Appendix III: Ecology of Badgers

The badger (*Meles meles*) is a member of the *Mustelidae*, a group of animals that encompasses weasels, stoats, and otters. Unlike most animals in this group, which exhibit solitary behaviour, badgers are highly social creatures which live together in clans.

Each clan will establish a territory, which if necessary they will defend. At the centre of this territory will be a series of underground tunnels and chambers, known as a sett. The sett will be used for a number of purposes including sleeping, social interaction and breeding.

In addition to the main sett, the clan may also have available to them a series of other setts. These will vary in size and complexity and serve different purposes. These different setts, are given particular names according to the nature of their use and number of holes. The main setts might typically have 12 holes, but other setts will include annex setts (8 holes), subsidiary setts (4 holes), and outlier setts (2 holes). All these holes will be used from time to time, although on occasions they may be left unused for some months.

Each clan will have a dominant boar (male) and sow (female) together with other mature and young adults. Baby badgers, normally two or three per litter, are usually born to the dominant female towards the end of January, the female having become pregnant in late November. The youngsters stay underground initially and only emerge to explore the outside world in late March or early April.

Although they reduce their activity during winter, badgers do not hibernate. The young do not grow particularly quickly, but by late June they are independent. At this time they will either be absorbed into the clan as a junior member, or if the territory is too small to support them they may move on in the hope of establishing a home of their own.

Badgers are creatures of the woodland edge, with setts being constructed in well drained banks, often at the base of tree roots. However, setts can also be built in hedge banks and even gardens. Badgers feed in pasture and their principle food is earthworms, but they will readily eat other food that comes their way, from young rabbits to acorns, apples, insects and grain.

The contents of their diet can often be determined from their droppings, which are deposited at latrines. Latrines are also often used to mark out the territory of the clan, and so indicate to other badgers that an area is occupied.

They are creatures of habit, and tend to use the same pathways to foraging areas. Indeed they will continue to do so despite obstacles placed in their way, such as fences, trenches and roads. New fences may be broken down and trenches and roads crossed despite any difficulty or danger this may present to the individual animal.

Badgers can be found in many parts of the United Kingdom, even in cities. However, they are most common in mixed agricultural farmland, particularly where the farm offers good feeding pasture, as well as woodland in which to establish a sett. In Wales they are particularly common in most of the river valleys, but can also be found in moorland areas, albeit at lower densities.

Appendix IV: Relevant Legislation

Persecution of badgers, together with on-going pressure for development, and general intolerance, led to the animal and its setts, being given full protection under the Protection of Badgers Act 1992. The Act has a number of impacts from a development point of view. Apart from directly killing a badger, it is also illegal to interfere with a sett by damaging or destroying it; to obstruct access to any entrance of a badger sett; and to disturb a badger when it is occupying a sett. Developers need to take particular care when carrying out work near to a badger sett as offences can result from both reckless and deliberate damage.

A badger sett is defined in the Act as 'any structure or place which displays signs indicating current use by a badger'. In Wales, Natural Resources Wales take this as including seasonally used setts also, so not necessarily in use at the time.

Penalties for infringing the law can be severe and fines of up to £5000, plus/or up to six months imprisonment can be levied by a Court for each sett interference, or badger death, or injury resulting from illegal or reckless activity. The legislation does however recognise that a whole range of activities need to be carried out near setts from time to time, and allows licences to be granted for certain purposes, which would otherwise be illegal. Natural Resources Wales is the licensing body for sett interference (including obstruction, damage, or destruction) or disturbance to badgers within setts, which will result from land development.

Badgers are particularly prone to disturbance between late November and the end of June. For this reason licences are only ever granted for work between the beginning of July and the end of November in any one year.

This ecological survey report has been produced by the Just Mammals Consultancy LLP for Monmouthshire County Council solely. It may not be used by any person for any other purpose other than that specified without the express written permission of the Just Mammals Consultancy LLP. Any liability arising out of use by a third party of this document, for purposes not wholly connected with the above, shall be the responsibility of that party, who shall indemnify the Just Mammals Consultancy LLP against all claims, costs, damages, and losses, arising out of such use.

Unless specifically assigned or transferred within the terms of agreement, the consultant asserts and retains all Copyright, and other Intellectual Property Rights, in and over the ecological survey report and its contents.

We confirm that in preparing this ecological survey report we have exercised reasonable skill and care, taking into account the project objectives, the agreed scope of the work, prevailing site conditions, the degree of manpower and resources allocated to the project, and in compliance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct.

This ecological survey report is valid for a period of two years from the front cover date.

The Just Mammals Consultancy is an ecological consultancy based in Mid-Wales. Specialising in legally protected mammal, reptile and amphibian species, but providing a wide range of ecological services, it provides appropriate expertise on behalf of a range of clients.

Clients include government departments, local and regional authorities, development agencies, commercial and industrial enterprises as well as statutory nature conservation organisations, wildlife trusts and other charitable bodies.

Please visit our web site www.justmammals.com to see the full range of services we offer and some of the projects we have undertaken in the past.



Natural Problem Solvers

Just Mammals Consultancy LLP, Llys Newydd, Llanfihangel Talyllyn,
Brecon LD3 7TG Tel: 01874 658650