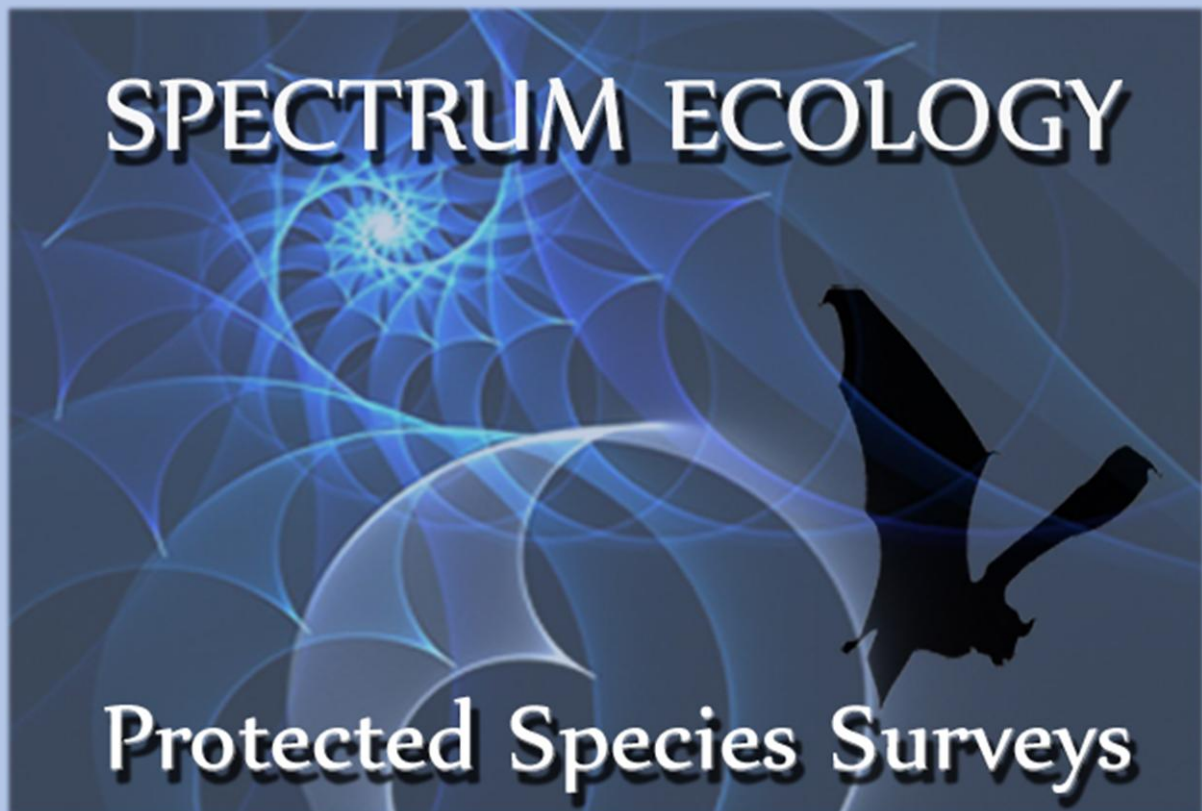




Badger Survey at Former Pontrhydyfen Primary School, South Wales, UK

Surveyed by: Jen Pilkington (MSc, BSc)

Author: Jen Pilkington

Survey dates: 17/05/2020

Completed Date: 19/05/2020

This survey is considered valid until: June 2021 (assuming no dramatic habitat change or uses.)

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Introduction

Spectrum Ecology was commissioned by the clients looking to undertake the development of Pontrhydyfen Primary School to complete a badger survey on land surrounding the proposed development site. The survey was carried out by Jennifer Pilkington (MSc, BSc Hons). The report was written by Jennifer Pilkington.

The above survey was requested to ascertain the presence of the Eurasian Badger (*Meles meles*) within the area, prior to the conversion of the former primary school into a number of family dwellings for an extended family group. Presence within, or use of, these areas of habitat by this species would require mitigation or avoidance measures to enable the works to proceed.

Legislation

This legal information is presented in summary form and is intended for guidance only; for detailed and definitive information please refer to the original documentation.

Badgers are protected in England and Wales under the Protection of Badgers Act 1992. This makes it an offence to:

- Make an attempt or succeed in wilfully killing, injuring or taking a badger
- Intentionally or recklessly damage, destroy or obstruct access to a badger sett
- Cruelly ill-treat a badger
- Dig for badgers
- Cause a dog to enter a badger sett
- Disturb a badger in its sett

A sett is defined by the Act as any structure or place showing signs of current or recent occupation by badger. Under the current interpretation of the Act, a licence is required for the following operations:

- Use of hand-tools within 10m of a sett
- Use of light machinery within 20m of a sett
- Use of heavy machinery within 30m of a sett
- Closure of a sett

The penalties for breaching this legislation include a fine and/or incarceration depending on the severity and number of offences.

Methodology

The prime objective of this survey was to determine the levels of habitat use by badger within 100m of the proposed development site and to assess the risks of disturbance to any badger resting places within 30m of the site boundary.

Zone of Influence

Due to the nature of proposed development (refurbishment and modification of existing buildings, and a small-scale development of 2 additional residential buildings and 2 non-residential structures) and the isolation of the development site from the wider environment (by existing, tall, thick

boundary walls), the predicted zone of influence is considered to be contained within the proposed development footprint.

This judgement has been made on the understanding that there is no clearance or development works planned outside of the site footprint. It is also understood that the additional buildings will be fairly lightweight in nature (with the exception of the possible pool house) and will therefore need the completion of reduced foundation work, meaning the scale of earthworks will be minimal, thus dramatically reducing the risk of a pollution event when compared to full foundation digging. It is currently unclear as to whether the pool indicated on the plans will be above or below ground and what size and weight it will be. However, it is deemed that even a small pool will require a stronger foundation than simply being placed onto the existing hardstanding. Therefore, a thorough Construction Environment Management Plan (CEMP) should be prepared, detailing protocols to prevent surface water contaminated with soil, hardcore, fuels and lubricants from entering the wider environment.

As previously mentioned, the proposed development site is enclosed around most of its boundary by a tall, thick, stone wall significantly limiting access by terrestrial wildlife. There is also no perceived motivation for entry to the site by wildlife as there are no natural habitats and currently no food sources (no residential food waste and no supplementary feeding). In addition to this, whilst the site is surrounded to the north, west and south by green space, the area to the south is highly maintained for amenity use, meaning it has little conservation value.



Plate 1: Amenity Areas to the South of the proposed development site

The scrub to the west is at the top of a very steep slope down to the river, broken only by a 3 metre-wide plateau occupied by the Richard Burton Trail.



Plate 2: Photos taken of the scrubby bank to the west from the Richard Burton Trail

The area to the north of the site is the most promising resource for local wildlife, but the site is significantly vertically removed from this green area. The tall wall (over 10m) that supports the walls and presumably the foundations of the site is again thick and impenetrable with few opportunities for any creature to gain access through the wall before reaching the top (Plate3). The base of this

wall is at the top of a steep slope (approximately 2:1 slope) that descends to the level of the river 40m to the south of the river. This vertical separation from the site is deemed to be significant enough to limit the levels of disturbance felt by the green areas to the north especially with the low-level development planned to be undertaken. However the bank below the wall should be considered good potential habitat for badger.

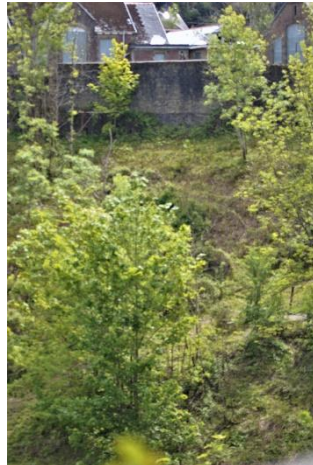


Plate 3: Northern aspect of development site showing boundary wall and steep slope

Constraints

Both the bank below the retaining wall to the north and the bank descending to the Richard Burton Trail in the west are highly vegetated with a great deal of dense scrub which rendered it impossible to survey the land without clearance. However, where accessible, both the area around the thickets and the boundaries of these habitats were thoroughly searched for well-established tracks and obvious access points made by large mammals and none were found.

The banks descending from the Richard Burton Trail to the River Afan were too densely vegetated and too steep to allow safe working if accessed. Therefore, the bank was thoroughly searched for well-established tracks and sett entrances using high powered lenses.

It was not possible to survey the residential structures and their gardens located to the north, east and south of the proposed development site. However, it has been deemed that it is unlikely that badgers would choose to develop setts within these sub-optimal habitats when they have a vast amount of optimal habitat available within the Afan Forest Park and other green spaces surrounding the development site.

Desk Study

An ecological record check was performed over radii of 2, 5 and 10km from the centre of the proposed development footprint.

Field Survey

A specific, thorough and systematic series of 5m belt transect surveys was completed within 30m of the development site boundary looking for the following badger field signs:

- Latrines – small pits into which scat is deposited repeatedly over a period of time, generally these pits are located near to setts, or on territorial boundaries as scent marks.

- Foraging remains –whilst foraging badgers often create series’ of conical pits or snuffle holes during their search for invertebrates. Hedgehog skins and damaged bees nests/honey-comb are also good indications as these are common prey items for the badger.
- Setts & spoil heaps – A D shaped hole wider (25-30 cm) than it is tall (15-20 cm) with a large spoil heap in front of the entrance. There may be several entrances to a sett, active entrances will be smooth and cleared of debris. There is likely to be fresh spoil and bedding in the spoil heap and potentially prints in the fresh spoil.
- Tracks – Due to their loyalty to the same paths tracks made by badgers are often much wider than those maybe by other British mammals (i.e. foxes, cats etc.). The vegetation is often worn away to bare earth along the length of their paths due to their low ground-clearance caused by short legs and a healthy appetite.
- Prints – As part of the mustelid family badger’s prints distinctively have 5 toes at the front of the paw. The main paw pad is kidney shaped and between 4-8cm wide. In softer ground and sand the claws may also be identifiable in the print. However, in harder ground the 5th toe may be missing from the print.
- Access points – Badgers are incredibly strong diggers and there are very few obstacles that will effectively permanently exclude them from an area they wish to access. They will frequently dig under fences to access resources or long-established paths.
- Hair – They will often leave pieces of their distinctive wirey grey (with a black tip) coat on fences and wires whilst they are pushing under or past fences.

Areas inaccessible due to topography or dense vegetation (including the western banks) were surveyed using systematic sweeps of the bank habitat with high powered lenses. The boundaries of areas of dense scrub, where accessible, were inspected to search for any access holes or tracks which might indicate frequent access to the scrub patch.

The area located between 30m and 100m from the development site was then subjected to a less formal but still thorough walk-over survey, where accessible, looking for badger field signs and sett entrances

The field survey was undertaken between 13:00 and 16:00 on the 17/05/2020 in areas as indicated in Figure 1, Appendix 1.

Results

Desk study

When a historic records check for badger was performed over a 10km radius from the proposed development site, it returned 80 records from 18 locations spread in all directions relative to the site. This search was then narrowed down to a 5km radius from the proposed development site, and 60 records were returned from 8 locations between 1900 and 2019. These were recorded by SEWBRec, NRW and UK Roadkill records, with 51 records being noted in the same location between Neath and Britton Ferry. Whilst this search shows that populations of badger have been resident within 10km of the proposed development site for over a century, it is unlikely that any badger recorded more than 2km away from the site would have a territory within the survey area.

Only one record of badger was returned at a search radius of 2km from the proposed development site boundary. This record is located in the NW extent of the Foel Fynyddau section of the Afan Forest Park, approximately 1km NW of the proposed development site, and was made in 2002 as a

part of a NRW Licence Return Dataset. The location of the record is physically separated from the proposed development site by the B4286 and the River Afan, both of which would pose a restriction to badgers reaching the land surveyed as part of this report. Whilst there is a bridge over the river into the surveyed area, the badger would have to locate the comparatively small opening to the bridge alongside a busy road, after negotiating the incredibly steep slope running down to the road then successfully crossing it. It could be argued that badgers use the forestry track along the northern boundary of the forest park to reach the lower ground in the SE, but then the badger would have to navigate along further sections of busy road to find the crossing over the river and to enter the survey area. It is considered highly unlikely that either route would be used, because badgers would have to cross an area of optimal habitat and a hazardous road in order to access a smaller area of less optimal habitat. The only potential traffic free route into the survey site is via the Richard Burton Trail via the viaduct. However, it is not clear as to whether the badger would be able to access this route from the location of the historic record as status of fencing or other physical boundaries between the record location and trail are not known. The full length of the trail to this area was not surveyed due to the distance from the site but if the trail could be accessed the badger would need to travel a considerable distance (over 1.3km) through suboptimal landscape to reach the survey site. However, it should not be deemed impossible that badgers may commute to the site as they are known to occupy large territories and dispersal can take place over large areas.

Field survey

Proposed development site

As shown by the Phase 1 Habitat survey the proposed development site is fully anthropogenically modified (buildings surrounded by hardstanding/asphalt) with no areas of natural habitat of any kind remaining except a small number of raised beds (Plate 4).



Plate 4: Photos of development site

Hence, there is no suitable foraging or refuge habitat within and highly limited access, for badger, to the proposed development footprint. In addition to this, no field signs were found at any point within the development footprint.

30m Buffer Zone

The areas to the east and south are dominated by houses and amenity grasslands. It was not possible to survey the gardens associated with the houses in these areas, but from analysis of aerial photography the gardens appear to offer little resource to badgers and are securely fenced off reducing the access opportunities for large mammals. The play-park to the west and the grassed areas to the south were systematically surveyed for any field signs (e.g. latrines, foraging/snuffle holes, tracks, prints, hair on fences) and sett entrances. None were found. These areas should also be deemed of less value to the badger due to their ongoing management as amenity areas.

The banks in the west leading down to the Richard Burton Trail were systematically surveyed from the trail using high powered lenses to assess the area for well-established trails, obvious latrines or foraging/snuffle holes and sett entrances as it was not possible to access these slopes. None were found. The gradient of the slopes would have meant that a track to a sett entrance would be fairly obvious as it is likely that it would either include switch backs or suffer high levels of erosion from use and weather conditions if it ran directly down the hill. No large mammal tracks were noted at any point on the bank.

The banks below the trail leading to the river are even steeper again. They are therefore deemed unsuitable for sett construction as access would be incredibly risky directly above the river. However, the bank was systematically surveyed using high powered lenses in search of the same signs and again none were found.

Of all the area within 30m of the proposed development site, the patches of scattered woodland/scrubby rank grassland bank to the north of the site were deemed to have the most potential to support a badger sett. General observations, made within this section of the survey site during the Phase 1 Habitat survey, suggested this area had potential to host badger, but despite a brief survey at that time, no badger field signs, sett entrances or individuals were recorded, although there was considerable evidence of use by horses over a long period.

During this badger survey, the area was systematically checked by walking 5m belt transects parallel to the boundary wall. Throughout this survey, 3 horses were being grazed in the area. Whilst it was not possible to survey the land underneath the dense areas of bramble scrub within the area, the boundaries of the thickets and surrounding areas were carefully checked for access points and well-established paths which might indicate access had been frequently made to the scrub by a large mammal. None were found. No potential sett entrances were found and no other field signs were located within this area.



Plate 5: Photos to indicate the general nature of the habitat on the northern banks

No sett entrances, field signs or individuals were witnessed within 30m of the proposed development site boundary.

100m Buffer Zone

The remainder of the western banks within the 100m buffer were surveyed using high powered lenses to detect sett entrances and well-established tracks. However, as with the banks included in the 30m buffer, no field signs or sett entrances were detected within these areas. The area to the west of the B4286 was found again to comprise very steep banks supporting established woodland with little understorey. These banks were surveyed in the same manner from the pavement on the eastern side of the B4286 and no field signs were noted.

It was not possible to access the gardens associated to the houses in the north, west and southern areas of the 100m buffer, but it is deemed unlikely that a badger would have been able or 'want' to gain access to them, as most of the gardens were relatively small and enclosed by high walls.

The area to the NE of the site was surveyed from a public footpath that ran up the hill accessible from the bend in Queen Street to the northern end of Pen Hydd Street. Again, the bank was very steep and heavily vegetated making surveying more complex. Whilst it was not possible to comprehensively survey the entire area, due to the dense scrub, there were no obvious large mammal tracks leading into the area, no obvious clearings within the scrub and no other field signs were found in accessible areas. Full and comprehensive surveying of this area will not be possible without clearance of the bramble scrub. As this area is outside of the development site's 30m buffer zone, such clearance action is not deemed necessary. Instead, the suboptimal nature of this area for badger, the lack of field signs in surrounding areas and the lack of connectivity of this habitat to any habitat with historic records of badger should be deemed sufficient to assume that there are no badger setts within this area of scrub.



Plate 6: General nature of the scrub in the NE extent of the 100m buffer

The grassland and scattered woodland to the N/NW of the site has been identified as having the greatest potential to be used as a foraging resource by badger. This area was carefully checked using a walk-over survey to look for sett entrances, latrines, foraging/snuffle holes and other relevant badger field signs. None were found.



Plate 7: Photos to illustrate the nature of the grassland to the N/NW of 100m buffer

Conclusion - No field signs or individuals witnessed

Invasive Species

Both Himalayan Balsam (*Impatiens glandulifera*) and Japanese Knotweed (*Fallopia japonica*) were found in abundance throughout the survey area and in very close proximity to, but not within, the proposed development footprint. It is therefore recommended that all plant entering and exiting the site utilise the main double gate to the east of the site as there is no growth of either species within this area. If the proposed development site is to be accessed from any other point (including a new

entry point made through the existing boundary wall) the footprint of the new access point should be thoroughly checked for both species, and sufficient biosecurity measures should be installed to ensure that no seeds or vegetative material of either species are transported by plant to the wider countryside.

Conclusions

- **No individuals, sett entrances or field signs were found during the surveys performed for this report.**
- **No badger resting places were discovered in any surveyed area and no signs of habitat use discovered, indicating the use of these areas is infrequent at best and that the areas are not hotly disputed territories.** However, whilst it can be assumed that badger are not utilising these areas as the main resource in their territory, it should be recognised that badger might use this land for commuting and perhaps incidental foraging. It is therefore still imperative that access to this potential resource is not negatively impacted by the proposed development.

Recommendations

- The area within 30m of the proposed development site should be subjected to a search, by a suitably experienced ecologist, for new sett entrances or field signs immediately prior to any works that may cause excessive noise or vibration. These activities would include demolition; foundation digging or use of heavy plant within the proposed development site.
- Any deep/steep-sided excavations must be covered when not in use or installed with an escape ramp.
- Night-time use of artificial light should be kept to a minimum and avoided if unnecessary to the development.

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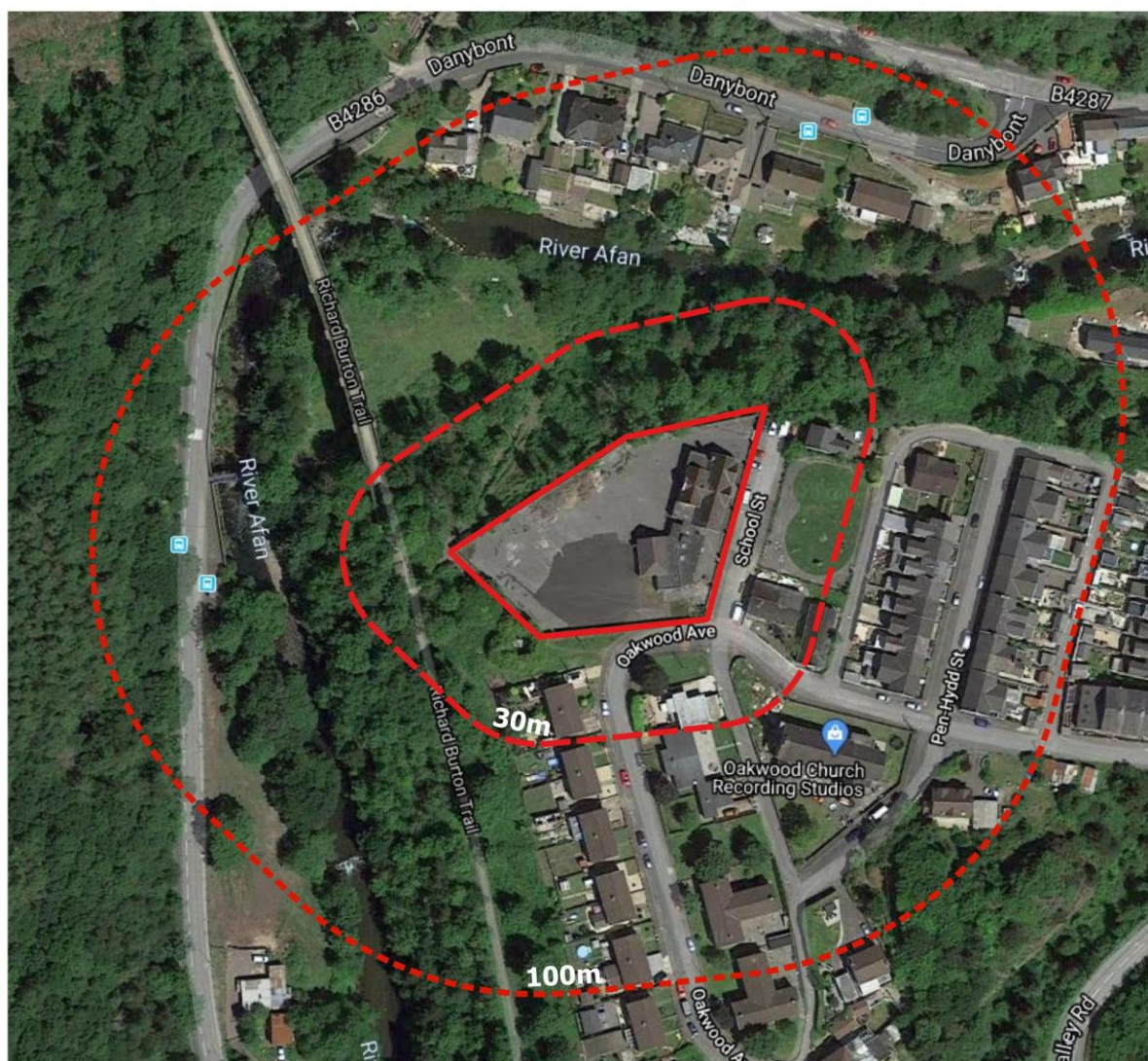
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Appendix 1: Proposed development site and survey extent

Badger survey at the Former Pontrhydyfen Primary School, S. Wales, UK



0 25 50 m



Key

-  Pontrhydyfen Site Boundary
-  100m Buffer
-  30m Buffer



Figure 1: Extent of survey at Former Pontrhydyfen Primary School, South Wales, UK