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Water vole survey for proposed new prison, bowling club, and boiler house on land adjacent to HMP Garth and HMP Wymott, Leyland

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Non-technical summary

Introduction

CGO Ecology Ltd (CGO) was instructed by Mace Ltd, on behalf of the Ministry of Justice (MoJ), to conduct a water vole survey at HMPs Garth and Wymott, Leyland, Lancashire. The Ministry of Justice proposes a development as part of its New Prisons Programme on land centred on (SD 502 205). The Local Planning Authority (LPA) is Chorley Council. Preliminary Ecological Appraisal by Ramboll considered several ditches on site to have 'marginal' suitability for water vole, and recommended a survey.

Methodology

CGO conducted trailcam surveys of a network on burrows in mounds within HMP Wymott in March 2021. CGO undertook daytime walkovers of all ponds and ditches in April and July 2021, searching for water vole evidence such as burrows, feeding stations, and latrines. The surveys were conducted by Chris Gleed-Owen MCIEEM. CGO subconsultant Haycock & Jay Associates Ltd (HJA) conducted numerous additional walkovers of ponds during great crested newt surveys from March to May 2021, which served as additional incidental survey effort for water vole.

Results

The Ramboll PEA reported 12 water vole records within 2km, the nearest being from the Ulnes Walton Biological Heritage Site fishing lakes to the north of HMP Garth around 1999-2000. The trailcam survey proved the burrows in HMP Wymott to be occupied by rats. The CGO surveys of all ditches and ponds on site showed no evidence of current water vole occupation. However, holes in the recently-cleared ditch along the northern site boundary may have been formerly occupied by water voles. The HJA pond surveys did not yield any water vole evidence.

Conclusions, mitigation, enhancement recommendations

It is concluded that water vole is currently absent from the MoJ site. The species may still be present off-site to the northwest in the Ulnes Walton BHS (i.e. the Prince Albert Angling Society fishing lakes). It is possible that water vole may recolonise the northern boundary ditch in due course, especially as it becomes revegetated. The water in it appears to be polluted by agricultural runoff, however.

Some sections of ditch on site hold enough water and vegetation to support water voles, but other sections are too choked with vegetation, or too fragmented by sections of dry or devegetated ditch, to support a viable water vole population. Furthermore, much of the ditch network on site is too shaded by woodland to support the emergent and submerged aquatic vegetation required by water voles.

As water vole is not present in the development areas, no mitigation is required. No enhancements are proposed, but any ditch deepening and new ponds on MoJ land would increase the likelihood of water vole colonisation in the future.

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1. Introduction

1.1. Background

CGO Ecology Ltd (CGO) was instructed by Mace Ltd, on behalf of the Ministry of Justice (MoJ), to conduct a water vole (*Arvicola amphibius*) survey of land adjacent to HMP Garth and HMP Wymott near Leyland, Lancashire (Figure 1). The Ministry of Justice proposes a new prison, bowling club, and boiler house development as part of its New Prisons Programme on land centred on SP 7052 8873 (Figure 2). The Local Planning Authority (LPA) is Chorley Council. It obtains its ecological advice from Greater Manchester Ecology Unit (GMEU).

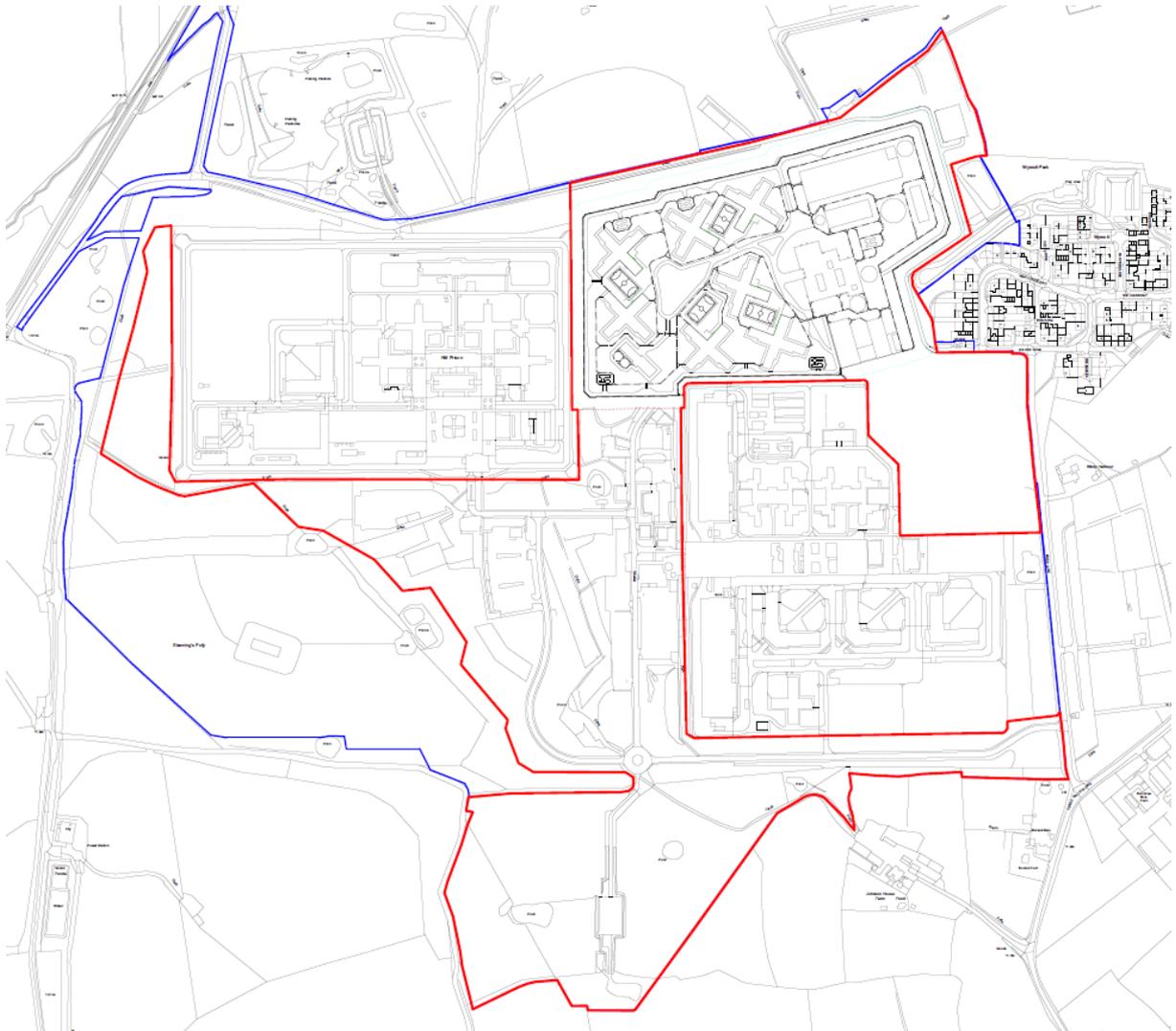


Figure 1 – Application (red line), and MoJ ownership boundary (blue line).

1.2. Legal protection

Water voles and their burrows are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). They inhabit burrows excavated into the banks of rivers, streams, ponds, canals, and ditches. An entirely terrestrial ('fossorial') form is present in southern Scotland.

1.3. Author, surveyors

Author Dr Chris Glead-Owen MCIEEM is Director and Principal Ecologist of CGO, project manager for the Garth Wymott 2 phase 2 ecological surveys. He conducted preliminary walkovers on 2nd and 24th February 2021, a camera trap survey within HMP Wymott from 10-17th March 2021, and comprehensive water vole walkover surveys on 19-20th April 2021 and 14th July 2021.

CGO subconsultant Haycock and Jay Associates Ltd (HJA) was commissioned to carry out phase 2 ecology surveys for other species groups, including GCN pond surveys on 16 dates between 16th March and 24th May 2021. These serve as valid water vole survey exercises. These were led by Karl Harrison MCIEEM, Will Steele ACIEEM, Rachel Whitaker, Emma Sutton, Richard Else, Clare Cashon, and Hazel Watson.

This report aims to follow CIEEM (2017) guidance, and provide sufficient information to assist an EcIA conforming to CIEEM (2018) guidance.



Figure 2 – Proposed development and landscaping plan, produced by Pick Everard.

1.4. Site context

The proposed new prison development site is land to the north of HMP Wymott and east of HMP Garth, currently used as a sheep (*Ovis aries*) farm, stables, bowling club, boiler house, and utility buildings. The part within HMP Wymott is a sports field and disused assault course. The new boiler house will be between the existing prisons. The new bowling club will be on farmland to the south of both prisons. A large area of poor-quality pasture to the south of the prisons forms part of the wider site Biodiversity Net Gain (BNG) package supporting the application.

The surrounding landscape is intensively farmed for a mixture of livestock and arable crops, but there are significant areas of woodland and other land uses. A large area of woodland lies to the southwest of the site, extending around the west and north of HMP Garth. There are major urban areas to the northeast (Leyland and Preston), and a network of minor roads, railway lines, villages, hamlets, and farms in all directions.

The MoJ site and surrounding areas were used as an ammunition storage facility during World War II. Many of the brick buildings and surrounding earth bunkers still exist, and are used as livestock barns today.

1.5. Proposed works

An Outline Planning Application (OPA) has been submitted. The proposed development is a hybrid planning application seeking: Outline planning permission (with all matters reserved except for access, parking and landscaping) for a new prison (up to 74,531.71m²) within a secure perimeter fence following demolition of existing buildings and structures and together with associated engineering works; Outline planning permission for a replacement boiler house (with all matters reserved except for access); and Full planning permission for a replacement bowling green and club house.

The new prison will occupy an area of 18.40ha on land to the north of HMP Wymott currently occupied by a sheep farm, stables, bowling club, and boiler house. The bowling club will occupy 0.63ha on land to the south of HMP Wymott, on land used as pasture currently. The boiler house will occupy 0.23ha on land between HMP Wymott and HMP Garth, on previously-developed land.

The indicative site layout proposes a range of buildings and facilities typical of a Category C resettlement prison, including: Seven new houseblocks each accommodating up to 245 prisoners (1,715 prisoners in total); Supporting development including kitchen, workshops, kennels, Entrance Resource Hub, Central Services Hub and support buildings; Ancillary development including car parking (c. 525 spaces), internal road layout and perimeter fencing enclosing a secure perimeter area of 10.5ha. The house blocks will be four storeys (plus pitched roof) in height, whilst the other buildings will range from one to three storeys.

The new prison will be designed and built to be highly sustainable and to exceed local and national planning policy requirements in terms of sustainability. The MoJ's aspirations include targeting near-zero carbon operations, 10% BNG, and at least BREEAM 'Excellent' certification, with endeavours to achieving BREEAM 'Outstanding'.

2. Methodology

2.1. Desk study

A Preliminary Ecological Appraisal (PEA) conducted by Ramboll (Molesworth, 2020) included a Lancashire Environment Record Network (LERN) 2km search. A PEA of additional areas by CGO was undertaken in April 2021 (Gleed-Owen, 2021), including consultation of the Defra MAGIC Map Application (<https://magic.defra.gov.uk/MagicMap.aspx>).

2.2. Walkover surveys

CGO conducted preliminary walkovers on 2nd and 24th February 2021, to assess the site's layout and available habitats from a water vole perspective.

A standard approach of two surveys, one in spring and one in summer, was conducted according to accepted guidance (Dean *et al*, 2016; English Nature, 2001; Natural England & Defra, 2015). CGO conducted full-site walkovers on 19-20th April and 13-14th July 2021, to search all ditches and ponds for water vole evidence. The surveys searched up to 2m away from the bank edge for burrows, runs/tunnels in vegetation, latrines, feeding stations, footprints, voles, and other signs.

HJA carried out great crested newt (*Triturus cristatus*, GCN) pond surveys on 16 dates between 16th March and 24th May 2021, which also searched for water vole evidence.

2.3. Trailcam survey

The preliminary visit on 2nd February 2021 identified an area of mounds within HMP Wymott, formerly an assault course, which is now full of mammal burrows around 8cm in diameter.

Four camera traps (motion-activated, infrared, video trail cameras) were set up on the mounds and adjacent grassland in HMP Wymott on 10th March 2021. They were retrieved on 17th March 2021, and the videos reviewed for any evidence of mammals or other wildlife entering or leaving burrows, or traversing runs through the adjacent grass.

2.4. Limitations

The geographical spread of survey effort covered the entire site, and the number and timing of surveys exceeded that required by the standard guidelines (Dean *wet al*, 2016). At the time of the April visit, vegetation was low enough to visually inspect for water vole evidence; whereas in July, vegetation growth had choked some ditch stretches, and was a limitation on detectability of water vole signs.

3. Baseline ecological conditions

Ramboll's PEA (Molesworth, 2020) reported LERN (2020) data including 12 water vole records within 2km. The nearest were from the Ulnes Walton Biological Heritage Site (BHS) to the north of HMP Garth, dating most recently from 1999-2000. This site is managed by the Prince Albert Angling Society, and comprises a series of fishing lakes and ponds that are well-connected by ditches to the MoJ site and wider landscape.

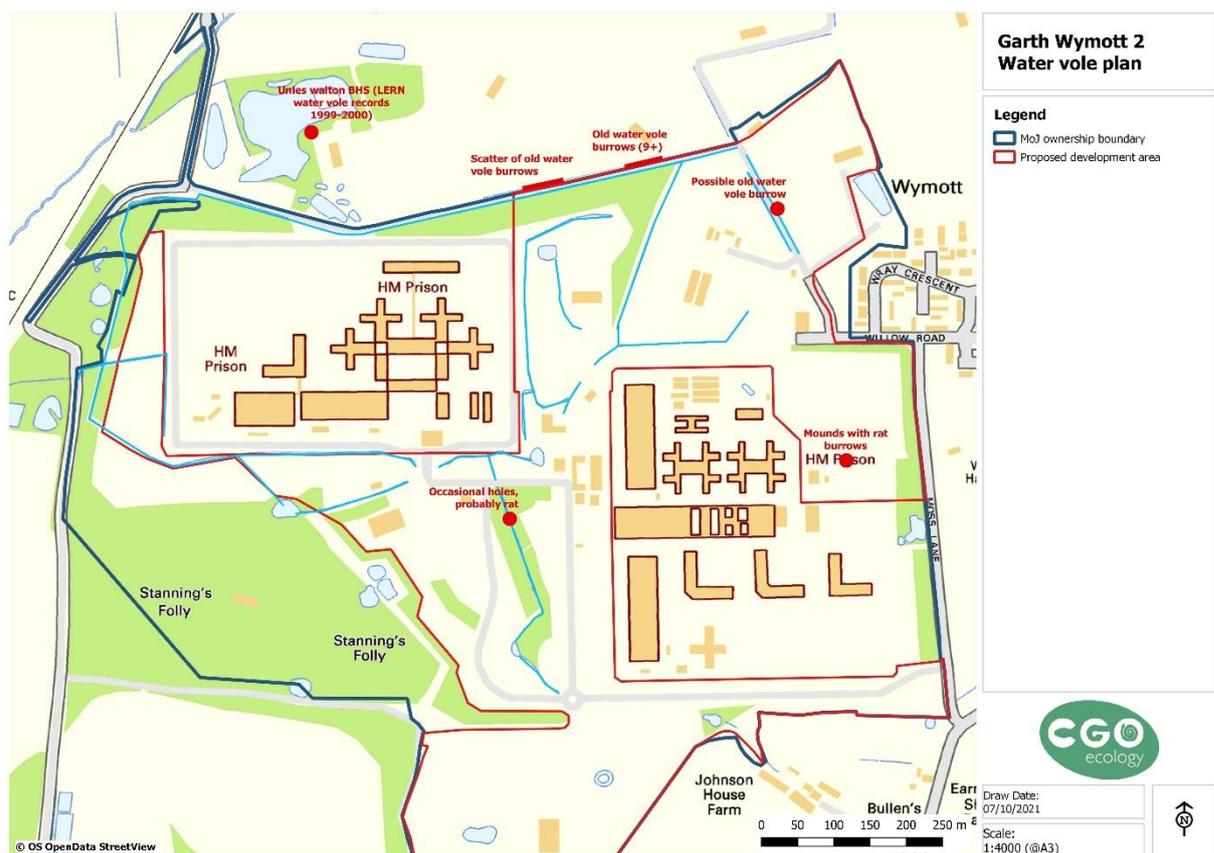


Figure 3 – Evidence from water vole surveys.

The trailcam survey in HMP Wymott recorded 594 videos from four camera traps, including a large number of nocturnal videos of brown rat (*Rattus norvegicus*). None were of water vole, fossorial or otherwise. This showed that the burrows in the assault-course mounds are occupied by a significant population of brown rats. Prison staff escorts on these visits reported that rats are abundant within the HMP Wymott grounds. Networks of paths through grassland between the mounds and portacabins around 50m to the west (temporary Covid hospital, unused) probably reflect rat movements between burrows and feeding areas.

The CGO surveys of all ditches and ponds on site showed no evidence of current water vole occupation. However, at least nine holes around 8cm diameter in the north bank of the east-west ditch along the northern site boundary appear to have been former water vole burrows. This ditch had been recently cleared and graded at the time of the preliminary visit on 2nd February 2021. This ditch work, on land to the north of MoJ-owned land, inadvertently damaged, destroyed, and exposed the burrows. It is not known whether these burrows were active at the time of the ditch works in winter 2020-2021. Additional defunct burrows, similarly-exposed by ditch-cleaning works, were identified further west in the north bank of the same ditch on 14th July 2021.

On the 14th July 2021 visit, a possible old water vole burrow was also identified in a shallow ditch beneath an oak (*Quercus robur*) tree within the MoJ farm and proposed new prison site. This is the only suspected water vole evidence identified within MoJ land. The defunct burrows described above are all in the north bank of the ditch demarcating the boundary between MoJ land to the south and third-party land to the north.

No other water vole evidence was identified in ditches or ponds on site, either by CGO walkovers or during HJA GCN surveys. A few isolated holes around 10cm wide in banks adjacent to the wooded ditch between the two prisons are likely to be brown rat.

Some ditches held sufficient water to support water voles in April and July. Others were wet in April, but dry in July. Some were too shallow or dry in both April and July. Some stretches of ditch, such as between the prisons, or on the south side of the north boundary track, are too shaded and/or lacking in submerged or emergent vegetation.

4. Impact assessment

It is concluded that water vole is currently absent from the MoJ site. The species may still be present off-site to the northwest in the Ulnes Walton BHS (PAAS fishing lakes), and it is possible that water voles were present in the northern boundary ditch until very recently (winter 2020-2021) when ditch-cleaning works extirpated them. The water in this ditch appears to be polluted by agricultural runoff, however, so the burrows may have been much older, and not occupied recently. In conclusion, the proposed works will have no impact on current water vole status.

It is conceivable that water vole may recolonise the northern boundary ditch in due course, especially as it has rapidly become thickly vegetated in 2021. Nevertheless, the proposed development will not affect this ditch, or water voles in it during construction or operation.

Within MoJ land, including the proposed new prison site, some sections of ditch hold enough water and vegetation to support water voles. Other sections are too choked with vegetation, or too fragmented by sections of dry or devegetated ditch, to support a viable water vole population. Some of the ditch network on site, and some ponds, are too shaded by woodland to support the emergent and submerged aquatic vegetation required by water voles.

5. Mitigation

As water vole is not present within the application area, and especially within the development areas, no mitigation is required.

6. Residual effects, enhancements

No residual impacts are anticipated. No enhancements are currently proposed directly for water vole. However, the creation of six new ponds on MoJ land, as part of the Biodiversity Net Gain (BNG) efforts, could conceivably be used by water vole if it were to colonise the site.

A programme of ditch deepening for retained ditches on MoJ land could encourage water voles to colonise the site by allowing deeper water to accumulate in ditches, more aquatic vegetation to grow, and ditch networks to be more connected.

7. References

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