



GALETECH
ENERGY SERVICES

Islandmore Wind Farm

Environmental Impact Assessment
Report

Annex 5.5: Mammal Surveys
(Confidential)

Islandmore Wind Farm Limited

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1.1 INTRODUCTION

This annex contains sensitive information relating to badger setts, otter resting places and bat roosting locations and associated survey results recorded within the project site. Owing to the vulnerability of protected species to persecution and disturbance, detailed information relating to locations of resting places, activity status, photographs and trail camera monitoring results has been excluded from the main EIAR and is presented separately in this confidential annex. This report should not be made publicly available.

1.2 METHODOLOGY

1.2.1 BADGER (*MELES MELES*)

Badger surveys of the project site were conducted by experienced surveyors in March 2025. The primary focus of these surveys was to identify the presence of badger including latrines, snuffle holes, prints and/or their resting places/setts (Smal, 1995). **Table 1** details the different types of badger setts that can be encountered and criteria on how to define these in the field. Badgers are legally protected under the Wildlife Act, 1976 (and Wildlife (Amendment) Act, 2000).

The survey approach entailed a systematic walkover of suitable habitat within and adjacent to the study area. Surveys included the identification of suitable habitat, detection of field signs such as tracks, markings, feeding signs, droppings and scent points, as well as direct observation. All mammal target notes were accompanied by a photo and six figure grid reference.

The surveys were carried out in line with guidelines referenced in Chartered Institute of Ecology and Environmental Management (CIEEM) (2013). *Competencies for Species Survey: Badger* and in line with Irish survey guidelines including *Guidelines for the Treatment of Badgers Prior to the Construction of National Road Schemes* (National Roads Authority) (NRA, 2005). Where possible, every effort was made, through repeat visits, to assign the level of use and the status of a badger sett.

Wildlife trail cameras were deployed with a clear vantage point of burrow entrances that were identified as potentially active and/or inactive badger setts. Details of the burrows identified, and the cameras deployed at each are provided in **Table 2**.

Sett type	Definition
Main	<ul style="list-style-type: none"> • Larger well-established sett with several entrances (1 to 38, average 6 to 7). • Large spoil heaps and obvious paths from or between sett entrances. • Typically, in continuous use and where cubs are raised.
Annex	<ul style="list-style-type: none"> • Secondary large sett, generally smaller than the main sett. • Close to main sett (within 150), with several entrances (1 to 14, average 3 to 4). • Often linked to main sett by well-worn paths. • May not be in use all the time but can be very active particularly during the spring when it may also be used for breeding.
Subsidiary	<ul style="list-style-type: none"> • Usually, >50m from main sett with 5 or less entrances (1 to 8, average 2 to 3). • No obvious paths to other setts. • May only be used intermittently, possibly on a seasonal basis.
Outlier	<ul style="list-style-type: none"> • Often only a single entrance (1 to 5, average 1 to 2). • May be located some distance from the main sett. • Little spoil visible, no obvious paths. • May only be used sporadically.

- May also be used by foxes and rabbits.

Table 1: Types of Badger Setts

Sett Number	Deployment and Retrieval Dates	Description of Area	Image of Camera Setup
Sett 1	No Deployment (Considered an inactive sett approx. 95 m from the project)	Entrance 1: 53.943167, -8.594937	No camera set up at this location, as this entrance was considered inactive.
Sett 2	Deployment: 06/03/2025 to 27/03/2025	Entrance 1 Lat: 53.938746 Lon: -8.588436 Deployed in front of sett entrance in wooded area.	
Sett 3	Deployment: 06/03/2025 to 27/03/2025	Entrance 1 Lat: 53.924877 Lon: -8.581363 Deployed in front of sett entrance on raised bank.	
Sett 4	Deployment: 27/03/2025 to 06/05/2025	Entrance 1 Lat: 53.908989 Lon: -8.574598 Deployed in front of sett under Horse chestnut tree.	

Table 2: Trail Camera Deployments targeting Badger Features of Interest

1.2.2 OTTER (*LUTRA LUTRA*)

Otter surveys took place in March 2025 by suitably experienced surveyors. Surveys were completed in line with NRA (2006) guidance on the treatment of otter prior to the construction of a road scheme and NRA (2009b) guidance on ecological surveying techniques for protected flora and fauna. This species is listed under Annex II and Annex IV of the EU Habitats Directive, and it is also a legally protected species under the Wildlife Act, 1976 (and Wildlife (Amendment) Act, 2000). Signs of otter were systematically searched for at each watercourse crossings and approximately 150 m up and downstream of each crossing point, where accessible. Signs could include spraint, footprints, riparian paths/tracks through vegetation, slides and feeding signs. Both banksides of each watercourse were thoroughly checked for any evidence of a resting place or breeding place (a couch orholt).

Survey periods were selected to avoid periods of high flow rates in watercourses that follow heavy rain, which can wash away otter prints and spraints (droppings), and thus making it more difficult to survey for this species and collect evidence of otter.

To ensure a methodical approach and good coverage, along each of the watercourses, particularly within the vicinity of proposed watercourse crossings, the study area was covered by two surveyors, each of whom covered a separate stream or riverbank.

Wildlife trail cameras were deployed overlooking burrow entrances that were identified as potentially active and/or inactive otter holts. Details of the burrows identified, and the cameras deployed at each are provided in **Table 3**.

Holt number	Deployment and retrieval dates	Description of area	Image of camera setup
Holt 1	Deployment 1: 06/03/2025 to 27/03/2025	Entrance 1: 53.953642, - 8.584107 Deployed in front of entrance on raised bank.	
Holt 2	No Deployment (Considered an inactive holt approx. 90 m from the project)	Entrance 1 Lat: 53.943442 Lon: -8.594698	No camera set up at this location, as this entrance was considered inactive.

Table 3: Trail camera deployments targeting otter features of interest

1.2.3 BAT SURVEYS

Bat surveys were conducted by APEM Group Woodrow over the 2023 bat activity season to ensure compliance with the most recently published NatureScot et al., 2021 guidance for attaining baseline data for impact assessment of wind farms. This guidance document supersedes aspects of other guidelines (Collins, 2016 updating Hundt, 2012 & Bat Conservation Ireland (BCI, 2012)) and requires a site-by-site approach to survey design.

As a minimum, the latest NatureScot et al. (2021) guidelines require three deployments of static detectors aimed at covering spring (April to May), summer (June to mid-August) and autumn (mid-August to October) activity seasons, each with a minimum deployment period of 10 nights. Seasonal deployments of static detectors are set out at all potential turbine locations for proposals comprising ten or less turbines, with a third of any additional locations also covered up to a maximum of 40 detectors.

Additional requirements of the NatureScot et al. (2021) guidelines include swarming surveys, and winter roost inspections if potential hibernation roosts are identified. Transect, at height and/or vantage point surveys are seen as methods used to complement the static detector surveys, with applicability being discretionary, based on professional judgement, and on a case-by-case site-specific basis.

1.2.3.1 Roost Emergence/Re-entry Surveys

Dusk emergence/dawn re-entry surveys were completed in 2023 to ascertain if PRFs identified during the Preliminary Roost Assessment (PRA) were used by bats. PRFs classified as low or moderate suitability were surveyed twice, at roost emergence or roost re-entry times. Surveys commenced 15-mins before sunset and up to 1.5-hours before sunrise in accordance with Collins et al. (2016). Dusk emergence/dawn re-entry surveys were undertaken using Elekon Batlogger M bat detectors to collect geo-referenced records of bat activity, which were then analysed using BatExplorer software. Survey times and roost survey effort are shown in Table 4 below. Figure 1 shows the PRA and emergence survey location.

Date	Start time	End time	Location	Survey type	Weather Conditions
04 Aug 2023 (Sunrise: 05:45)	03:45	06:00	53.93857, -8.588342	Re-entry Survey derelict building (K. O'Reilly & D. Lavelle)	Wind: 2m/s Temp: 15°C Oktas: 2 Precipitation: Dry Other: full moon
30 Aug 2023 (Sunset 20:30)	20:15	22:00	53.93857, -8.588342	Emergence Survey - derelict building (K. O'Reilly & F. Hintze)	Wind: 0 m/s Temp: 15°C Oktas: 8 Precipitation: Intermittent light rain

Table 4: Summary of Roost Emergence/Re-entry Survey Effort

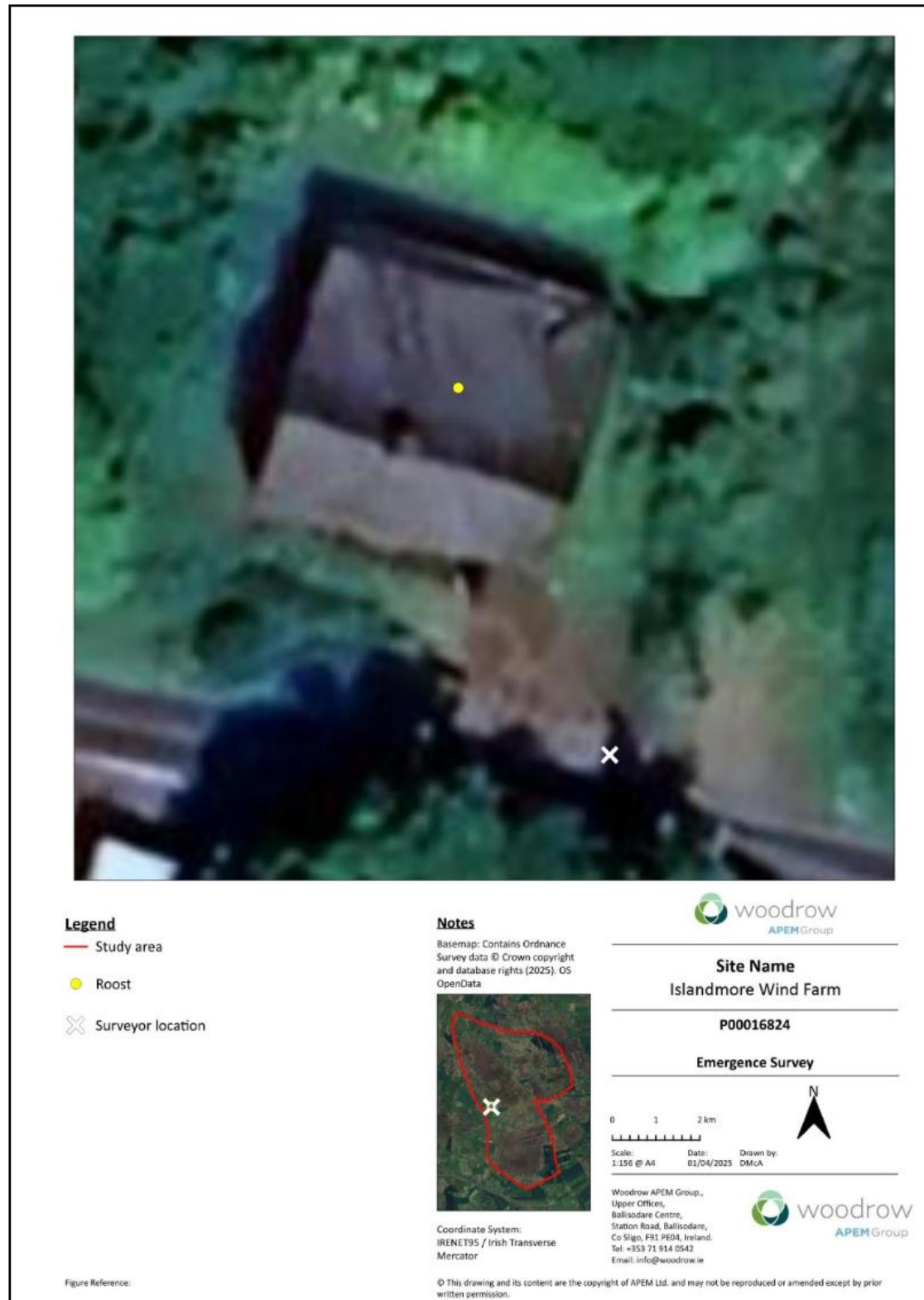


Figure 1: PRA and Emergence Survey Location

1.3 BASELINE CONDITIONS

1.3.1 BADGER

Badger activity was common throughout the study area with latrines, prints, scat, trails and feeding signs recorded. Four setts were identified across the study area, comprising two active setts and two inactive setts.

The first sett (Sett 1) was identified at the edge of a treeline northwest of turbine T6 (53.942310, -8.592158), approximately 90m from the project footprint. This sett has one entrance and in March 2025 appeared to be inactive as leaf litter had collected at the entrance.

The second sett (Sett 2) was located east of the substation compound (53.939068, -8.591901), approximately 15 m from the project footprint. This sett is considered to be an annex sett with at least 2 entrances. The sett was identified in a mound of large boulders in a treeline of ash (*Fraxinus excelsior*), willow (*Salix* spp.), hazel (*Corylus avellana*) and sycamore (*Acer pseudoplatanus*). The agricultural habitat and network of treelines and hedgerows in the area surrounding the sett provides good quality habitat for badger. An examination of the entrance showed it to be very well used, with much bare ground in the surrounding area. There was some mounding of earth showing previous excavation and some fresh scratch marks were observed in the vicinity. A trail camera was deployed on 06 March 2025. At least two badgers were observed using the sett entrance on numerous occasions during the deployment. The badgers were observed mating at the sett entrance. This sett is considered to be an active annex sett.

The third sett (Sett 3) was identified west of turbine T10 (53.925613, -8.579831), approximately 2m from the project footprint. The sett had two entrances with an active sett entrance located on the bank of peat under a treeline of birch (*Betula* spp.). A latrine was observed approximately 1 m from the active sett entrance. A trail camera was deployed on 06 March 2025 and one badger was observed using the sett throughout deployment. Judging from the size of this sett which has one apparent active entrance (and one inactive entrance), it is concluded that this is an active outlier badger sett in accordance with the characteristics summarised in **Table 1**.

The largest badger sett (Sett 4) was recorded south of the existing Tonroe 110kV substation approximately 45m from the underground electricity line. The sett is located along a watercourse (Lung River) within a treeline comprising mainly of ash, willow, birch and horse chestnut (*Aesculus hippocastanum*). Examinations of the entrances showed bare ground in the surrounding area and little accumulated litter (for example, leaves and sticks) in the entrances. Other signs of mammal activity, such as trails, were observed in the general vicinity of this sett. A trail camera was deployed on 27 March 2025, and no badgers were observed using the sett. Upon retrieval of the camera in May, it was apparent that vegetation had overgrown the sett area and no evidence of badger activity was observed at that time.

Judging from the size of this sett which has at least seven entrances, as well as the lack of activity recorded at this location during the trail camera deployment, it is concluded that this is a currently inactive main badger sett.

The results of trail camera monitoring of badger setts are summarised in **Table 3**, and a description of all additional sett entrances identified during surveys but not

monitored with trail cameras is provided in **Table 4**. **Error! Reference source not found.** shows the locations of all badger setts, active and inactive within the study area.

The study area and surrounding area provides suitable habitat for foraging and breeding badger, and usage of the study area corresponds with that which would be expected for this type of area.

Coordinates (Lat, Long)	Species Recorded	Notes	Image
53.938746, -8.588436	Badger	Sett 2 Entrance 1 Two badgers recorded mating outside sett entrance – 67 badger observations, 21 confirmed sett entries and 23 sett emergences. Active sett	
53.924877, -8.581363	Badger	Sett 3 9 badger observation, 1 confirmed entry, no exit recorded during trail camera monitoring. Active sett	
53.908989, -8.574598	Badger	Sett 4 Entrance 1 No badger observations. Inactive sett	

Table 5: Results of Badger Sett Trail Camera Monitoring

Coordinates (Lat, Long)	Notes	Image
53.943167, - 8.594937	Sett 1 Entrance 1 Inactive sett entrance.	
53.938746, - 8.588436	Sett 2 Entrance 2 Inactive sett entrance.	
53.924877, - 8.581363	Sett 3 Entrance 2 Inactive sett entrance c. 2 m west of entrance 1 within same treeline.	
53.908989, - 8.574598	Sett 4 Entrance 2 Inactive sett entrance.	

53.908989, - 8.574598	Sett 4 Entrance 3 Inactive sett entrance.	
53.908989, - 8.574598	Sett 4 Entrance 4 Inactive sett entrance	
53.908989, - 8.574598	Sett 4 Entrance 5 Inactive sett entrance	

Table 6: Additional Badger Setts identified in the Study Area

1.3.2 OTTER

Field surveys of the study area yielded occasional signs of otter activity, with field signs located on the Owengarve River in vicinity of turbine T1 (53.952696, -8.581969) and turbine T6. Recorded field signs indicative of otter activity included spraint, trails, slides and trail camera footage.

Two suspected holts were recorded during surveys. The first suspected holt (Holt 1) was located near turbine T1, approximately 20 m from the project. The suspected holt consisted of an entrance in a peat ditch surrounded by scrub vegetation. Fresh spraint was observed outside the entrance, and a second entrance was recorded on the opposite side of the ditch. A trail camera was deployed on 06 March 2025 and provided evidence of otter presence at this site (See **Table 6**). However, no observations were made of otter entering or exiting the suspected holt entrance. This feature is a suspected holt and is considered to be a likely active holt.

The second suspected holt (Holt 2) was approx. 103 m from the project. It consisted of an entrance in proximity to a watercourse. There were no signs of otter in the vicinity, and the suspected holt was considered inactive.

There was evidence of otter presence in the study area, in particular around the Owengarve river in the vicinity of turbine T1. No evidence of otters breeding within the redline boundary of the study area was found during field surveys. **Error! Reference source not found.** shows the locations of the two otter holts, active and inactive within the study area.

Coordinates (Lat, long)	Species recorded	Notes	Image
53.953642, -8.584107	Otter, Badger, Pine Marten (all recorded on trail camera)	Holt 1 Entrance 1 One observation of otter. One observation of badger. Three observation of pine marten. No mammals recorded entering or exiting burrow, however due to spraint near entrance, this is considered a potentially active otter holt following the Precautionary Principal (CIEEM, 2018).	
53.943442, -8.594698	None, no trail camera deployed at this holt	Holt 2 Entrance 1 Inactive holt entrance	

Table 7: Identified otter holt including trail camera monitoring.

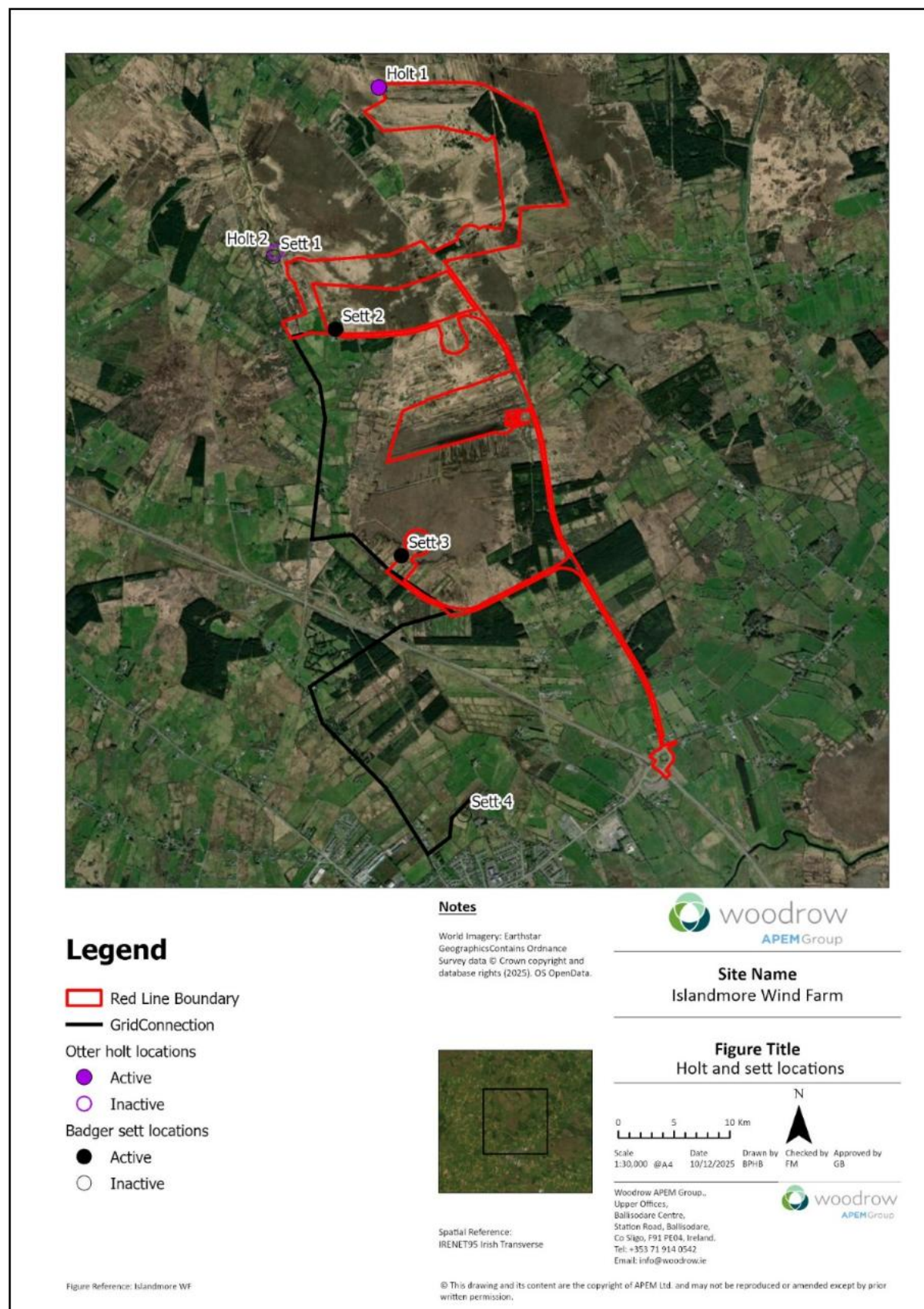


Figure 2: Badger sett and Otter holt locations (drawing correct at time of preparation)

1.3.3 BATS

1.3.3.1 Bat Roost Suitability Assessment

Preliminary surveys of potential roost features found no potential roosting features within the 300m turbine area of impact consideration for bats. However, one derelict building was identified near the western boundary of the project site which had moderate potential for roosting bats. This building was assessed on a precautionary basis as it was the only roost feature in the area. The derelict building is located at: Lat: 53.938392, Long: -8.588325. The building consists of a two-storey derelict dwelling house with slate roof and intact windows. There were some noticeable entry-points around the fascia, roof tiles, and windows. The building was surrounded by mature vegetation including broadleaf tree species such as sycamore *Acer pseudoplatanus* which was uncharacteristic for the wider landscape. The roost feature was classified as moderate due to the size, number of entry points, and nature of the immediate surrounding habitat. The interior of the building was not accessible for inspection. Table 9 lists the following roost features classed as negligible to high.

Feature ID	Feature Description	Location	PRF suitability (Collins, 2023)
F.1	Derelict house	53.938459, -8.588281	Moderate

Table 8: Potential Roost Features (PRFs) identified within the Project Site.



Plate 1: F.1 watched during emergence survey.

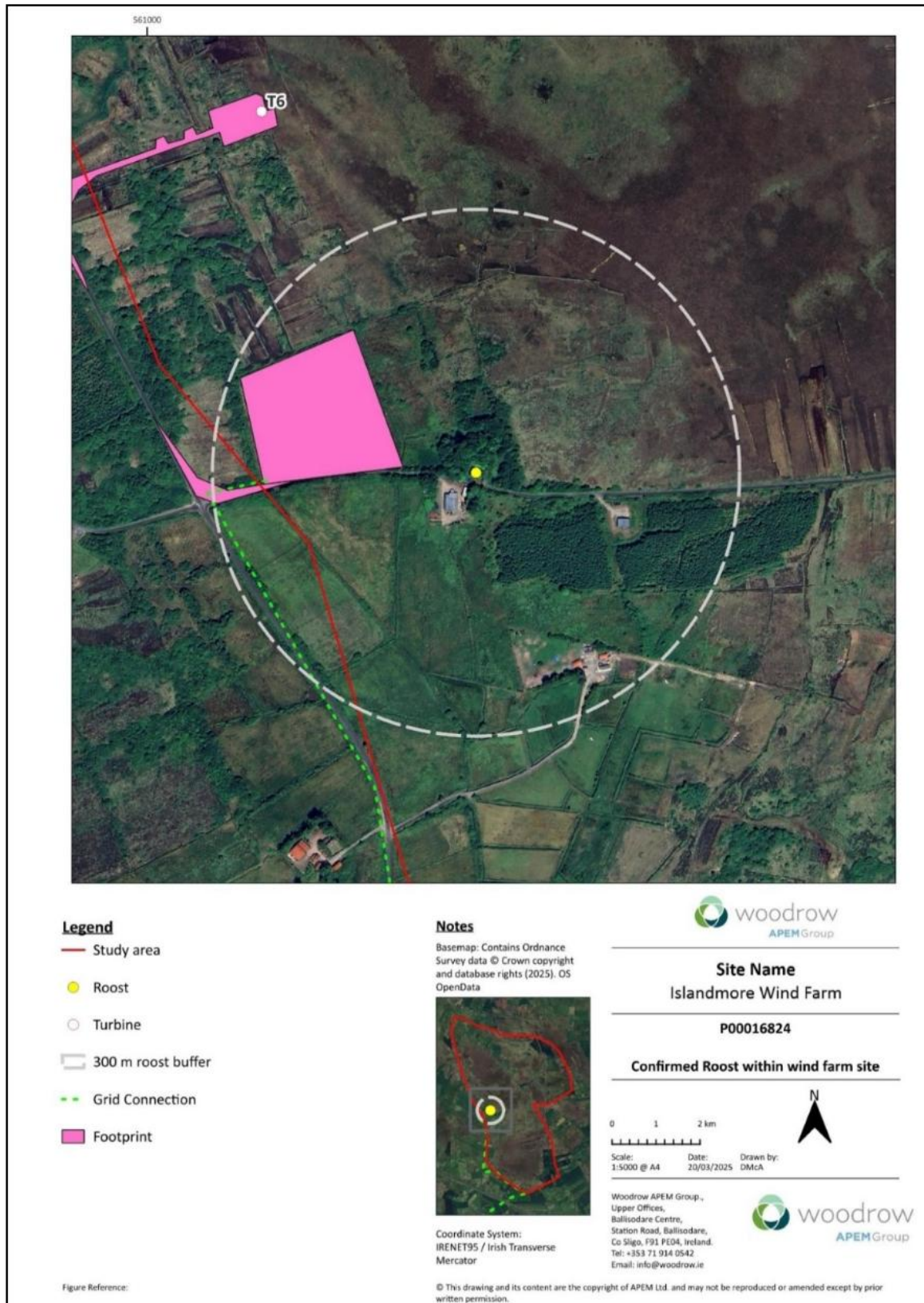


Figure 3: Confirmed Roost Identified (drawing correct at time of preparation)



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