2025 otter survey at Smurfit Papermills, River Dodder, Clonskeagh, Co. Dublin to inform a section 54 derogation application

Prepared by Triturus Environmental Ltd. for DNV.

August 2025

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1. Introduction

1.1 Background

Triturus Environmental Ltd. were commissioned by DNV (formerly Enviroguide Consulting) to conduct a pre-construction otter (*Lutra lutra*) survey of the River Dodder for a proposed student accommodation and residential development at the former Smurfit Paper Mills site located in Clonskeagh, Co. Dublin. The site is situated on the west bank of the River Dodder adjoining the Clonskeagh Road (R825) opposite the Beech Hill Road (**Figure 2.1**).

A survey was previously conducted in January 2024 to inform otter mitigation for the proposed development at the former Smurfit Paper Mills site (Triturus, 2025a). This survey identified otter breeding (holt) and resting areas (couch) located in close proximity (contiguous) with to the proposed development area. These areas of otter habitat are protected under the Wildlife Acts 1976-2021 and are included in a system of strict protection pursuant to the requirements of Articles 12, 13 and 16 of the Habitats Directive (92/43/EEC) (NPWS, 2021). Therefore, given the location of the identified protected otter habitats in relation to the proposed development (i.e. <150m) and given the potential for indirect effects on otter via disturbance, a derogation licence is required under the European Communities (Birds and Natural Habitats) Regulations 2011-2021. This application is outlined in **section 5** of the report.

As otter presence and activity can change significantly over time, a follow up otter survey was conducted on the 9th April 2025 to ascertain if any changes in otter usage, such as new holts, couches, or signs of activity, had occurred within the proposed development area or its surrounding habitat. This updated otter survey will inform the respective derogation application by providing current, site-specific evidence of otter presence, activity and habitat use.

1.2 Otter legislative protection

The Eurasian otter is a species of conservation concern and high priority having suffered major declines in its range and population throughout Europe since the 1950s. It is classified as 'near threatened' by the IUCN Red List with a decreasing population trend and, as such, is listed in Appendix I of CITES, Appendix II of the Bern Convention (Council of Europe, 1979) and Annexes II and IV of the EU Habitats Directive (92/43/EEC).

Otters, along with their breeding and resting places, are also protected under provisions of the Irish Wildlife Acts 1976-2021. Otters have additional protection because of their inclusion in Annex II and Annex IV of the Habitats Directive 92/43/EEC, which is transposed into Irish law by the European Union (Birds and Natural Habitats) Regulations 2011-2021.

The protection of otters is outlined in Article 51(1) and (2):

Protection of fauna referred to in the First Schedule;

51.(1) *The Minister shall take the requisite measures to establish a system of strict protection for the fauna consisting of the species referred to in Part 1 of the First Schedule.*

51.(2) *Notwithstanding any consent, statutory or otherwise, given to a person by a public authority or held by a person, except in accordance with a license granted by the Minister under Regulation 54, a person who in respect of the species referred to in Part 1 of the First Schedule (listed below). Items (b) and (d) may be considered most relevant to developments.*

- ***(a)*** *deliberately captures or kills any specimen of these species in the wild,*
- ***(b)*** *deliberately disturbs these species particularly during the period of breeding, rearing, hibernation and migration,*
- ***(c)*** *deliberately takes or destroys eggs of those species from the wild,*
- ***(d)*** *damages or destroys a breeding site or resting place of such an animal, or*
- ***(e)*** *keeps, transports, sells, exchanges, offers for sale or offers for exchange any specimen of these species taken in the wild, other than those taken legally as referred to in Article 12(2) of the Habitats Directive, shall be guilty of an offence.*

In an Irish context, according to the most recent Article 17 reporting (NPWS, 2019), otter conservation status has improved, with the species now evaluated as being of 'Favourable' conservation status. Otters were considered to be previously 'Near Threatened' (Marnell, 2009) based on a 20-25% decline between 1980 and 2005 (Bailey & Rochford, 2006). However, according to the Irish terrestrial mammal Red List the current conservation status is now of 'Least Concern' (Marnell et al., 2019).

1.3 Statement of authority

The author of this report, Ross Macklin PhD (candidate), B.Sc. (Hons) MCIEEM., MIFM, HDip GIS, PDip IPM is an aquatic, fisheries and mammalian ecologist with 18 years' professional experience in Ireland. He is director of Triturus Environmental Ltd. Ross has a B.Sc. in Applied Ecology and diplomas in integrated Pest Management and GIS. He is currently completing his Ph.D. in fisheries ecology. He has considerable experience in a wide range of ecological and environmental projects including EIAR, EcIA, CEMP and AA/NIS reporting, as well as biodiversity, water quality monitoring, invasive species, mammalian surveys and fisheries management. He also has expert identification skills in fisheries, macrophytes, freshwater invertebrates, protected species and habitats. His diverse project experience includes work on renewable energy developments, flood relief schemes, road schemes, waste management, blueways/greenways, biodiversity projects, non-volant mammal monitoring, fisheries management projects and catchment wide water quality management. He has worked extensively in Cork and Dublin on mammal monitoring projects and is considered an expert in his field. He recently completed and was lead author of numerous catchment wide otter surveys including the Lower Lee FRS Otter Survey, Dublin City Otter Survey, Dún Laoghaire Rathdown Otter Survey, Tullamore Otter Survey, Fingal Otter Survey and Carlow Otter Survey (in prep.) which are among the largest urban otter surveys conducted in Ireland.

2. Methodology

2.1 Otter sign surveys

An otter survey of the study area was conducted on the 9th April 2025 using a combination of bank based surveys and a kayak to view inaccessible banks. The survey was completed along a 600m section of the River Dodder adjoining the proposed development between Clonskeagh Bridge and Lower Smurfit Weir (**Figure 2.1**).

The survey was completed during dry, mild, bright and settled conditions which ensured that a good representation of habitat marked by otter could be recorded in the field, including territorial marking or marking of feeding areas. The survey also deliberately coincided with prolonged dry periods to minimise rain washout of otter signs (spraint, smears etc.). The River Dodder levels were low enough to facilitate kayak access to view all of the banks and visible cues of otter activity, including breeding and resting areas. Water levels were low (at base flows) during the survey period.

Each otter sign was logged by type, location (handheld GPS), condition and approximate age for later interpretation to distinguish differences in habitat use and activity. Spraints were subjectively assessed as either fresh (recent), mixed-age (recent and older spraints typically indicative of a regular sprainting site) or old (spraint degraded and not recently deposited). Furthermore, indicative counts of spraint (i.e. number of individual spraints) and the number of sprainting sites (often separate clusters in one area) were noted. This helped indicate the frequency of otter marking that would support preferential use of habitat temporally by otter and often demarcates important territory where marking frequency is high. This technique was first utilised in the Dublin City Otter Survey (Macklin et al. 2019) and has been applied in other largescale otter surveys (Brazier & Macklin, 2020).

2.2 Total corridor otter survey (TCOS) methodology

The survey broadly followed the best practice 'standard survey' methodology for otter as recommended by Bailey & Rochford (2006), Chanin (2003) and Lenton et al. (1980) (all based on observations by Erlinge, 1967). However, methodology differed in that the entire waterline was surveyed rather than the standard 500-600m sections selected at regular (5-8km) intervals from accessible points (e.g. bridges). The novel survey technique, known as a total corridor otter survey (TCOS) (Macklin et al., 2019), involved a continuous, unbiased survey effort along both banks of the River Dodder, encompassing the entire channel and riparian zones.

Total corridor survey methodology typically involves the use of two (or more) surveyors working independently (in tandem) along each bank of an individual watercourse (where practical). This also facilitates one to work from a more elevated position (e.g. bank top) with one surveying (with appropriate PPE such as a dry suit or chest waders) from within the channel or watercraft. This holistic approach, whilst labour intensive, greatly increases the likelihood of otter sign detection and facilitates a more accurate estimation of otter usage and activity at the river or catchment scale. This is especially true of more cryptic signs such as holts and couches that are often located in poorly accessible areas often not covered by a standard survey approach.

Figure 2.1 Otter survey area extent on the River Dodder at the former Smurfit Paper Mills site

3. Results

3.1 Study area

The 600m survey area starting upstream of Clonskeagh Bridge and extending to the Lower Smurfit Weir adjoining Beaver Row comprised the heavily modified River Dodder and steep embankments with scrub and mature trees (**Figure 3.1**). The narrow riparian fringes of semi-natural habitats, despite a having a high degree of disturbance and impingement from developed lands, historical retaining walls etc., contained areas of lower disturbance with good vegetation cover and poor access to people that benefitted otter.

3.2 Otter records

A total of *n*=13 otter signs were recorded within the survey area during the April 2025 survey. This equated to a density of 21.6 otter signs per linear kilometre of habitat over the 0.6km riverine habitat survey area. The signs recorded comprised 5 no. spraint sites, three latrine sites (one of which was regularly used), three holt sites (one of which is a new holt since 2024) and one couch (**Table 3.1; Figure 3.1**).

The 3 no. potential breeding areas (i.e. holts) were situated on the southern bank upstream of Clonskeagh Bridge (holts H1 & H3), and on the northern bank downstream of Clonskeagh Bridge (H2), within the area to the east of the existing petrol filling station (**Figure 3.1, 3.2**). The couch site (resting area) was located on the south bank downstream (east) of Clonskeagh Bridge (**Figure 3.1**). A photographic audit of the survey area inclusive of the identified holt and couch areas are presented in **Plates 3.1-3.8** below.

One of the identified holts (H2) is located in close proximity (contiguous) to the proposed development area (**Figure 3.2**). However, this is situated within the riparian area proposed to be retained in its current condition as a wildlife refuge area.

Table 3.1 Summary of the otter signs recorded on the River Dodder, April 2025

Otter sign	Total no.
Spraint site	5
Holt	3
Latrine	3
Couch (with spraint)	1
Slide	1
Total (0.6km linear survey area)	**13**
Density of signs per linear km	**21.6**

Plate 3.1 Otter holt (H1) upstream of Clonskeagh Bridge (south bank) present since January 2024 and still exhibiting signs of use April 2025

Plate 3.2 Newly excavated otter holt (H3) upstream of Clonskeagh Bridge (south bank), April 2025

Plate 3.3 Otter holt (H2) downstream of Clonskeagh Bridge (north bank) near Japanese knotweed

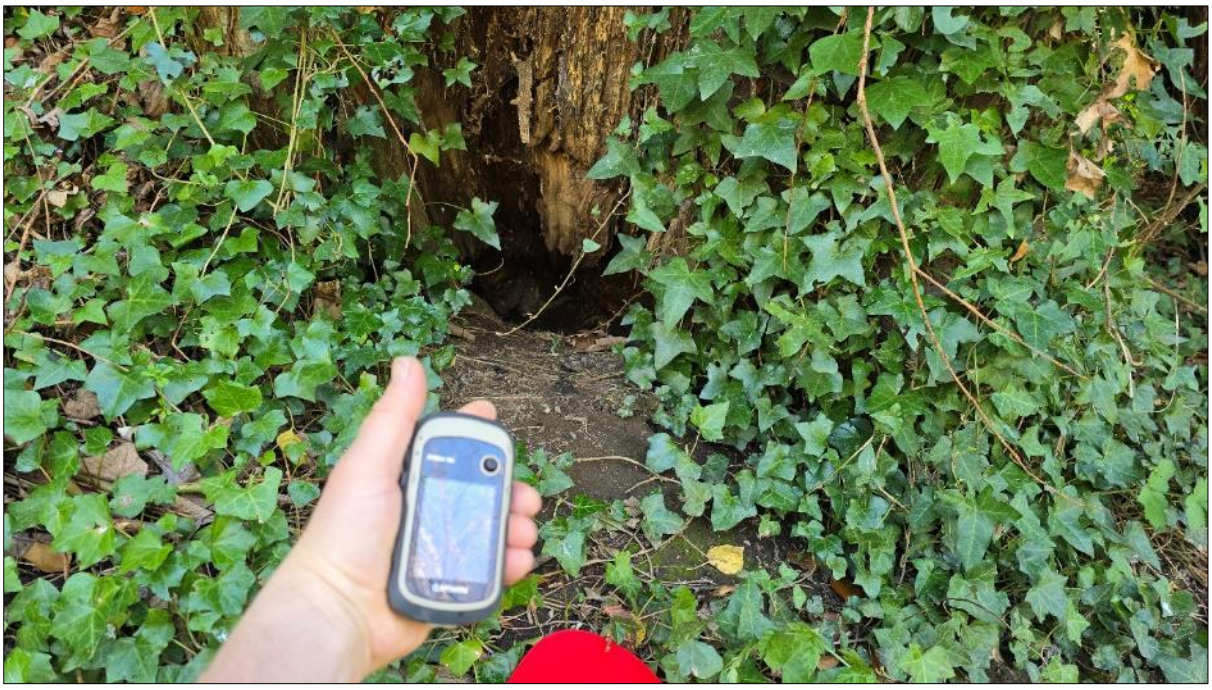

Plate 3.4 Otter couch (resting area) under dead tree root base with spraint at entrance, April 2025

Plate 3.5 Regular spraint site with slide to River Dodder, April 2025

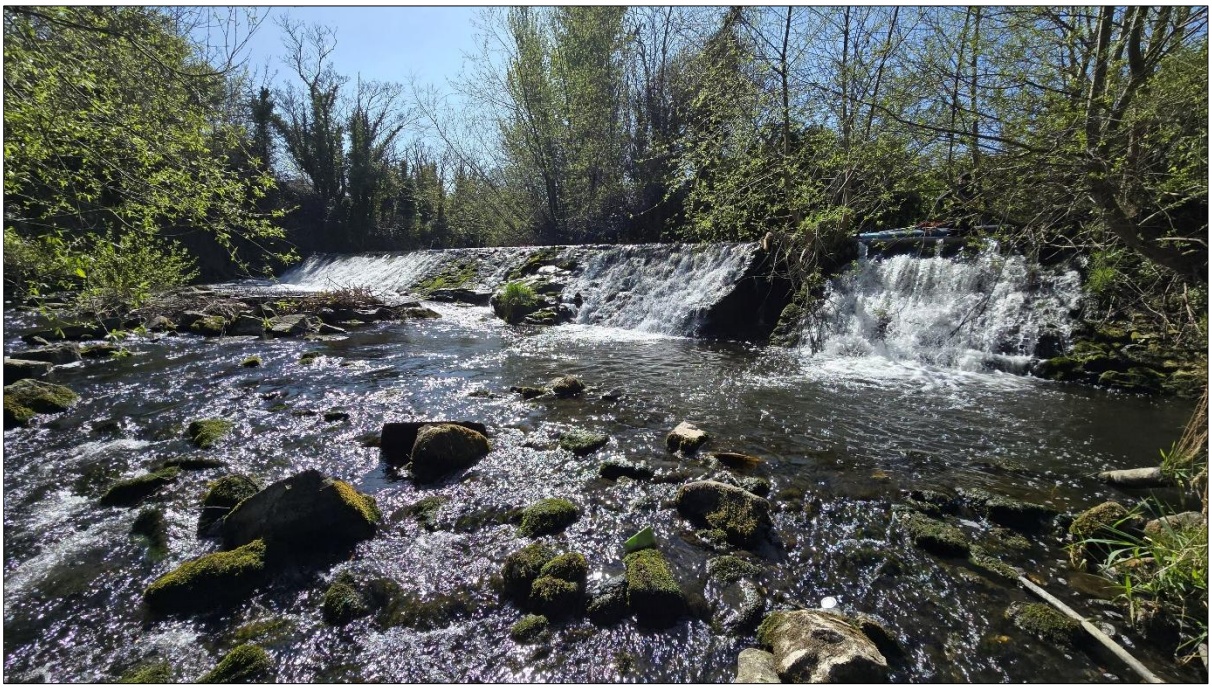

Plate 3.6 Upper Smurfit Weir on the River Dodder, April 2025

Figure 3.1 Otter sign distribution map showing otter signs inclusive of couch and holt sites in the study area, April 2025

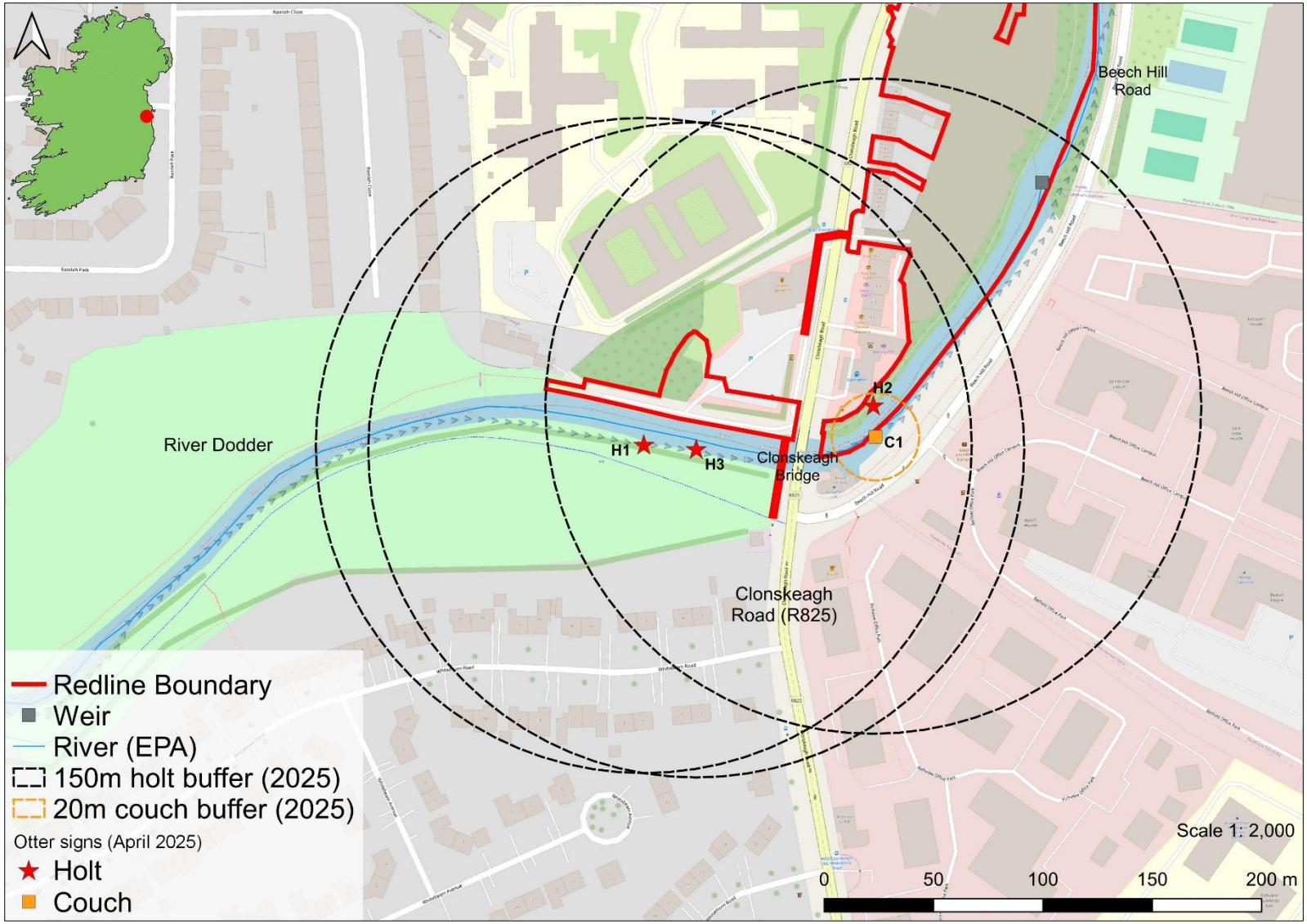

Figure 3.2 Otter sign distribution map showing 20m & 150m buffers for couch and holt sites respectively

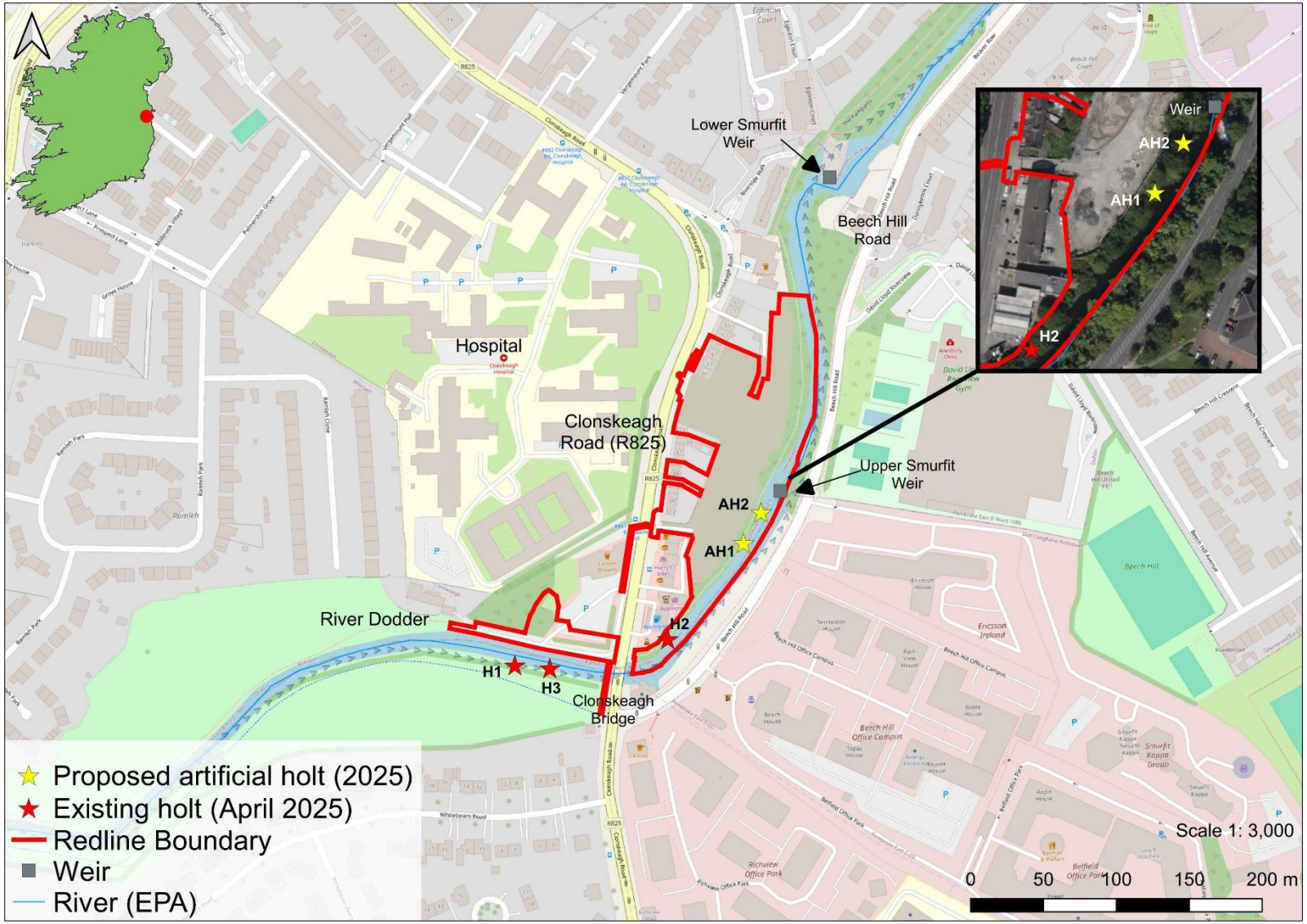

Figure 3.3 Otter holt distribution map including prospective locations for artificial holt installation

4. Discussion

The April 2025 survey recorded a total of *n*=13 otter signs, the majority of which were associated with the faecal depositions of otter (i.e. spraint & latrine sites). Important depositional spraint areas were clearly associated with foraging and or nearby potential breeding and resting habitat. The River Dodder near Clonskeagh, Co. Dublin, is a medium-sized, urban river that flows in a generally north-easterly direction towards the River Liffey. The river exhibits a modified hydromorphology, reflecting its urban setting and history of flood management. Channel modifications such as reinforced banks, weirs, and culverts are common, particularly near bridges and residential areas, including the current proposed development. Despite these alterations, the River Dodder retains some natural features such as gravel and cobble substrates, riffle-pool sequences and areas of marginal vegetation, which contribute to its overall ecological value (including for otter). The riparian corridor in this area is partly vegetated, offering refugia for otter, though urban encroachment and flood protection works have reduced habitat connectivity in places.

Legally protected potential breeding (3 no. holt sites) and resting areas (1 no. couch sites) were also recorded in the study area (**Figure 3.2**). One holt site was located on the north bank downstream of the Clonskeagh Bridge and two holts (inclusive of one newly excavated since January 2024) were located on the south bank upstream of Clonskeagh Bridge (**Figures 3.1-3.2; Plates 3.3 & 3.4**). The couch site was located on the south bank downstream (east) of Clonskeagh Bridge (**Figures 3.1-3.2; Plates 3.1 & 3.6**). The potential breeding (holt) and resting (couch) areas were all situated in moderate to low disturbance areas of channel with good otter seclusion. In accordance with Transport Infrastructure Ireland Guidance thresholds for otter, 20m and 150m buffers around couch and holt areas respectively are shown relative to the development boundary (TII, 2008; **Figure 3.2**). Otter breeding areas (holts) are especially sensitive to direct human disturbance (Mason & Macdonald, 2009), with otter reproductive success known to be higher in less disturbed habitat, hence their preferential fidelity for low disturbance areas of habitat (Brazier & Macklin, 2020; Macklin et al. 2019; Scorpio et al., 2016; Ruiz-Olmo et al., 2011; Loy et at., 2009; Kruuk, 2006).

It is very important to maintain the observed low to moderate disturbance levels during construction works given continued fragmentation of otter habitats on the River Dodder with increased suburbanisation pressures. Furthermore, the existing scrub and treeline vegetation provides extra separation between the River Dodder and adjoining suburbia which should be preserved. This seclusion also benefits riparian birds that feed on prey resources within the river. To this end the proposed development design has retained the western riverbank of the Dodder in its current condition as a wildlife refuge to be managed by Dublin City Council (DCC). No access will be provided to the wildlife refuge for future residents of the proposed development or the public, with access for DCC maintenance being the only exception. A Biodiversity Enhancement and Management Plan (BEMP) has also been prepared for the Smurfit Paper Mills Site by Enviroguide, the project's ecological consultant. This BEMP details the proposed management for the wildlife refuge which follows a low-intervention approach and the maintenance and bolstering of the existing dense scrub vegetation along the length of the riverbank, ensuring shelter and cover for otters and other wildlife is maintained along this section of the river into the future.

Provided that the mitigation measures outlined in this report are fully implemented, inclusive of the relevant actions detailed in the Construction and Environmental Management Plan (CEMP) and

Biodiversity and Environmental Management Plan (BEMP), and subject to the granting of a derogation licence for indirect disturbance to otter, it is anticipated that no significant adverse effects on otters will result from the proposed development. The retention and enhancement of existing riparian vegetation along the riverbank, combined with restricted access for future residents, will maintain essential shelter and cover for otters and other riparian wildlife. Furthermore, the installation of an artificial otter holt in a suitable, undisturbed location along the river corridor will provide additional secure resting and breeding opportunities, enhancing habitat resilience and supporting the long-term presence of otters in the area.

5. Derogation licence application

As outlined above, the April 2025 otter survey undertaken by Triturus Environmental Ltd. detected the presence of 3 no. otter holts (potential breeding areas) and 1 no. couch (resting area) along the River Dodder in close proximity to the proposed development. One of the identified holts (H2) is located in close proximity (contiguous) with to the proposed development area (**Figure 3.2**), being located along the riverbank within the proposed wildlife refuge area. A couch site (C1) is also located in close proximity to the proposed development (i.e. within a 20m buffer), albeit on the opposite bank to proposed works. Otters, along with their breeding and resting places, are protected under provisions of the Irish Wildlife Acts 1976-2021 and also pursuant to the requirements of Articles 12, 13 and 16 of the Habitats Directive (92/43/EEC) as an Annex IV species.

Despite the survey area having a moderate degree of existing disturbance, construction activity and or increased activity associated with other developments (such as the Dodder Greenway) may directly or indirectly disturb otter breeding/resting areas if active at the time of the works. It is noted that no works associated with the proposed development will occur near the holts (H1, H2 or H3), and so no direct disturbance to otters is likely to occur. Potential effects are therefore limited to temporary and indirect disturbance if the holts or couches are in active use during the construction phase due to their proximity to the construction site. As such, a derogation licence will be required in advance of any works in these areas as per Article 16 of the Habitats Directive and Regulation 54 of the European Communities (Birds and Natural Habitats) Regulations, 2011-2021.

A mitigation-by-design approach has been integrated into the development's Biodiversity and Environmental Management Plan (BEMP). In addition to a pre-construction survey (as outlined above) and construction best practice (e.g. water quality protection), numerous mitigation measures will be applied to reduce disturbance and impacts to otter. These are outlined in **section 5.1** below.

Given likely unavoidable disturbance to the breeding and or resting places of otter in areas adjoining the proposed development, a derogation licence is requested for the proposed works, with the following details:

Applicant: Harley Issuer DAC, 32 Molesworth Street, Dublin 2.

Supervised by: Ross Macklin & Bill Brazier of Triturus Environmental Ltd, Unit 5 Anchor Business Park, Little Island, Co. Cork, T45 XN59.

Species: European otter (*Lutra lutra*)

Activity: Smurfit Paper Mills housing development

Timeline: January 2026 – January 2028 (Estimated, depending on planning process).

5.1 Justification for the derogation - Test 1 (reason for derogation)

The derogation is sought under **Article 16(1)(c)** of Regulation 54(2) given that the proposed works are;

- ***(c) In the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment.***

The justifications for this are as follows:

Public Health and Public Safety

The development incorporates key elements of the River Dodder Phase 3 Flood Alleviation Scheme, including upstream defences at Farmer Browns/Clonskeagh Bridge and a flood wall along the eastern site boundary. These works are essential to remove the risk of flooding and provide long-term protection to surrounding residential and business properties, multiple public roads, and key infrastructure which currently flood from 1% AEP flood events, in this urban area.

Social & Economic Public Interest

The project will deliver 439 purpose-built student accommodation (PBSA) bedspaces and 16 new apartments, together with the renovation of 14 currently vacant and deteriorating dwellings. The area is an established suburb, and development of the area is essential for the long-term future expansion of Dublin City. The subject site is brownfield and chronically underutilized despite being zoned for development under the City Development Plan. The proposal addresses urgent accommodation shortages in proximity to University College Dublin, freeing up private rental stock and supporting educational access for the long-term. The regeneration of this 1.6ha vacant brownfield site aligns with compact growth policy, reducing development pressure on greenfield lands and lowering car dependency in accordance with climate mitigation and adaptation strategies. The proposal directly supports the objectives of the National Planning Framework, the National Development Plan, Housing for All, and the Dublin City Development Plan, making a material long-term contribution to both local and national housing supply. In addition, the development will deliver social housing units in accordance with Part V of the Planning and Development Act, directly contributing to the provision of secure, long-term homes for those in need. This element of the scheme strengthens both its social impact and its alignment with public policy objectives.

Policy Alignment:

- National Planning Framework (NPF) – Supports brownfield regeneration, compact growth, and climate-resilient urban areas.
- National Development Plan (NDP) – Prioritises flood defence schemes and strategic housing delivery.
- Housing for All – Addresses acute housing shortages, particularly in urban university areas.

Beneficial consequences of primary importance for the environment.

The development includes removal of sluice gates and installation of grade control structures to Smurfit Weir to restore fish passage in a section of the River Dodder currently classified as a complete barrier to migration. This will improve ecological connectivity, benefitting salmonids and other Annex II species, while retaining the weir's cultural heritage value. The removal of barriers to fish passage at Smurfit Weir will improve migration routes for salmonids and eels, which are important prey for otters.

The project includes a 10m riparian setback and riparian corridor enhancement including invasive species removal, native tree planting and additional suitable foraging, commuting and nesting habitat for local populations including birds, bats and mammals. These measures will improve long-term habitat quality for otters over approximately 3,000 m². This is in alignment with and contributes to the National Biodiversity Action Plan objectives which call for removal of river barriers and enhancement of biodiversity corridors.

5.2 Justification for the derogation - Test 2 (assessment of alternatives)

The European Commission guidance requires demonstration that no satisfactory alternatives exist that meet the project's objectives with less impact on the species concerned. Alternatives were assessed as follows:

Do-Nothing

Retains high flood risk to surrounding residential and business properties, fails to deliver over 450 new bedspaces/dwellings, and misses the opportunity to integrate fish passage and habitat improvements. Fails to accord with national and local planning policy and environmental protection objectives.

Alternative Locations

No other locations can deliver the requisite flood defences which are essential at Clonskeagh Bridge and along the site's eastern boundary to protect the surrounding Dodder catchment area from flooding. No equivalent site within UCD catchment with zoning, scale, and service connectivity and would likely require greenfield land take, increasing habitat loss and contradicting NPF objectives. Other locations are constrained by zoning, flood risk, or availability.

Alternative Designs

Previous planning permissions on this site included buildings set closer to the river, with a riverside walkway located directly along the bank. In contrast, the current proposal adopts a more environmentally sensitive approach, shaped by the site's narrow, linear configuration—bounded by the river on one side and established residential development on the other.

The design prioritises protection of the riparian corridor and full compliance with required separation distances from neighbouring homes on the western boundary. These considerations have led to the development of narrower building footprints, which in turn allow for a 10-metre setback from the river—delivering significant ecological benefits.

The proposed layout is the result of extensive design team collaboration and multiple iterations to balance environmental protection, residential amenity, and development viability. The physical constraints of the site limit the scope for meaningful alternative arrangements: buildings cannot be shifted further inland without breaching separation distance requirements, and a reduced-scale scheme would be unable to fund the significant public-benefit infrastructure proposed, including major flood defence works at Farmer Browns/Clonskeagh Bridge, integrated on-site flood protection, and modifications to the weir to facilitate fish passage.

5.3 Derogation licence checklist

The following summary information provides responses to four key issues which will be considered during the derogation licence decision making process;

5.3.1 *Explanation as to why the derogation licence sought is the only available option for works and no suitable alternative exists as per Regulation 54 of the European Communities (Birds and Natural Habitats) Regulations.*

The derogation is sought under **Article 16(1)(c)** of Regulation 54(2) given that the proposed works are;

- ***(c) In the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment.***

As outlined in section 5.2 above, no suitable alternative designs or locations for the development exist.

The derogation is required given the location of identified otter breeding and resting areas (i.e. three holts & one couch) in close proximity to the proposed (permitted) purpose-built student accommodation and residential development. One holt location (holt H2) and one couch location (C1) is contiguous with the proposed site/development boundary. There is no alternative option but to proceed with the development in the vicinity of the identified breeding and resting areas in light of limited available land take. Although any holt closure has been avoided through the design process, indirect disturbance during the works will be unavoidable.

Avoidance and mitigation measures are summarised below in section 5.3.3 and presented in the accompanying BEMP (Enviroguide). The disturbance impacts of the works on the identified otter breeding and resting areas cannot be fully avoided or mitigated considering the proximity to and nature of proposed works.

5.3.2 *Evidence that actions permitted by a derogation will not be detrimental to the maintenance of the populations of the species to which the Habitats Directive relates at a favourable conservation status in their natural range as is required under Section 54(2) of the European Communities (Birds and Natural Habitats) Regulations.*

No breeding (holt) or resting (couch) areas will be directly disturbed due to the proposed development/works. However, short-term, indirect disturbance to otter breeding and resting areas during the construction phase cannot likely be avoided. Numerous mitigation measures, including mitigation by design, focusing on the minimisation of disturbance to otter (see below) will be implemented.

These measures are designed to ensure that the permitted actions will not be detrimental to the maintenance of otter populations, thereby supporting the species' favourable conservation status within their natural range in compliance with Section 54(2) of the European Communities (Birds and Natural Habitats) Regulations.

5.3.3 *Details of any mitigation measures planned for the species affected by the derogation at the location, along with evidence that such mitigation has been successful elsewhere.*

Numerous measures will be implemented to minimise disturbance to otter, their habitat and prey resources during both the construction and operation phases of the development. Measures align with best practice guidance for otter (e.g. NPWS, 2021; TII, 2009) with evidence of successful implementation in previous infrastructure projects across Ireland and elsewhere. These include:

- A trail camera monitoring program[1] will be implemented by the Project Ecologist/ ECoW to observe otter activity and detect any disturbance-related impacts. Monitoring will continue throughout the construction period to ensure mitigation measures are effective and to allow for real-time adjustments as needed.
- Construction activities will be timed to avoid direct disturbance to identified otter breeding and resting sites. Works will be scheduled outside of critical breeding periods, and heavy machinery will not operate within the designated buffer zones when breeding and rearing of cubs is taking place (as advised by otter monitoring surveys).
- As advised by the Project Ecologist/ ECoW, no-works buffer zones of 150m will be implemented around identified otter holt (breeding) sites and 20m around otter couch (resting) sites (as per TII, 2009). These buffers are designed to minimize disturbance to otters during both the Construction and Operational Phases of the development.
- Temporary acoustic barriers will be installed around the construction site particularly along the southern and eastern boundaries of the Site i.e., in the vicinity of identified potential breeding and resting areas, to reduce noise disturbance. This measure is especially important during the otter breeding season when animals are most sensitive to noise.
- Existing scrub and treeline vegetation along the River Dodder will be preserved to maintain natural barriers and seclusion for otters and other riparian wildlife. Additional planting of native trees and stock-proof scrub (e.g. hawthorn) will be carried out to enhance cover around holt and couch areas, further reducing visual and noise disturbances.
- Retention of the western/ river bank of the Dodder in its current condition as a wildlife refuge area/corridor (to be managed by Dublin City Council, DCC) will further minimise disturbance to otter during the operation phase.
- Human activity in proximity to otter habitat will be minimized to prevent unnecessary disturbance. Access to the riverbanks will be controlled and restricted during both Construction and Operational phases, particularly in areas close to otter holts and couches.

[1] Please note that pre-construction trail camera monitoring of the holt sites will be completed under a Section 9 & 23 licence, once received from the NPWS.

- No access will be provided to residents of the proposed housing development along the west bank of the River Dodder post construction (occasional management access by DCC staff only).
- A robust tree protection barrier (timber hoarding) will be installed during the construction phase to preserve the wildlife refuge area. This will also further protect otters form visual and noise disturbance.
- Internal lighting design has been modified to minimise the effects of light pollution on bat populations within the footprint of the proposed development which also serve to minimise potential light disturbance to otter. The light pollution mitigation prescribed by IES (2025), which include the installation of correct light fittings and their positioning, the retention of trees and a three-meter-high bank of vegetation will significantly reduce light levels to between zero and one lux along the river. In addition to protecting bats, these measures will also minimise light pollution impacts on otter within the footprint of the proposed development.
- The installation of two **artificial otter holts** as part of habitat enhancement for the site (within the wildlife refuge area) will help support local otter populations by offering additional protection from predators, disturbance and flood risk. These artificial holts shall be located in an area suitable for otter (i.e. low disturbance) and will help to stabilise the current Dodder otter population in light of the indirect disturbance from proposed works and encourage population growth by providing an additional breeding site. Triturus Environmental Ltd. have identified two areas along the west bank of the river adjoining the proposed development which would be suitable for the installation of artificial holts (**Figure 3.3** above). The artificial holts will follow best practice for Irish otter holt design and installation (Triturus, 2025 in prep) and will follow methodology developed by Triturus for several other sites and projects in Ireland.
- Ecological Clerk of Works (EcoW) supervision during construction phase.
- The local ranger of the NPWS will also be contacted to agree on the final appropriate schedule of mitigation in accordance with the conditions of the derogation licence.
- A **follow up pre-construction otter survey** is also recommended prior to the commencement of construction works in advance of the appointment of the contractor. This is a standard recommendation to update the results of the surveys carried out to date, given that a period of time will have elapsed between the current April 2025 survey and the commencement of works.
- The development also includes several embedded design features to avoid or mitigate negative impacts as set out in **Table 5.1** below

Table 5.1 Embedded design features and their potential to act to avoid or mitigate impacts on the local ecology and environment

Embedded Design Feature	Avoidance / Mitigation Potential
SuDS: • Green/blue roofs • Bioretention planters • Detention basin • Attenuation tank • Petrol/oil separators • Flow Control Devices	Surface water at the current Site flows directly and unattenuated into the River Dodder. This system does not incorporate any flow control or attenuation measures, resulting in uncontrolled surface water discharge. The SuDS features included in the project design will ensure the surface water discharge from the Proposed Development is reduced to greenfield runoff rates. These features will be implemented as part of the surface water drainage design.
Project Design: • Weir amendment	The proposed sluice gate removal and grade control structure at the weir will increase the passability of the weir to fish species e.g., salmonids and lampreys.
Landscape Design: • Retention of existing riparian woodland buffer along the River. • Additional native shrub and tree planting of gaps in proposed wildlife refuge vegetation.	The retention of the only vegetated habitat of note at the Site as a wildlife refuge along the riverbank offsets the loss of any scrub habitats at the Site and retains nesting habitat for birds and foraging and shelter habitat for fauna. The planting of native and non-native tree/shrub species through the Site will provide new habitat and an increase in tree cover across what is currently a barren, open site. The planting of additional vegetation along the wildlife refuge will further screen any light-spill from proposed apartment blocks, protecting the Dodder River and the wildlife refuge as a dark corridor for bats and other wildlife.
Lighting Design: • Light fixture placement. • 30° fixed angle of internal light fixtures away from windows. • Retention of dark corridor along the River Dodder and its banks.	The external and internal lighting designs have been designed in line with best practice guidance for bats. It has also been designed to facilitate the provision of a dark corridor along the eastern boundary of the Site, protecting the River Dodder and local bat populations.

5.3.4 *As much information as possible to allow a decision to be made on this application.*

Very robust information pertaining to otters inclusive of detailed mitigation proposals have been provided in the current report to best inform the decision process.

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7. Appendix A – otter signs database

Table 7.1 Summary of the *n*=13 otter signs recorded in the survey area during April 2025 (**breeding and resting areas marked in bold**)

Sign ID	Sign	No. spraint sites (no. spraints)	Sign age	Notes	ITM x	ITM y
2025_H1	**Holt**	**n/a**	Well-worn entrance	Excavated holt in moderately secluded section of south bank of River Dodder	717294	730692
2025_H3	**Holt**	**n/a**	Recent signs of activity	Excavated holt with latrine near entrance under old willow roots c. 1.2m above base flow. Was excavated after previous January 2024 survey	717318	730690
2025_01	Spraint site	1 (2)	Old	Old spraint on retaining wall on north bank	717350	730685
2025_02	Spraint site	1 (5)	Mixed aged	Mixed age spraint site on exposed rocks on south bank under bridge	717385	730687
2025_03	Slide	n/a	n/a	Slide to River Dodder from muddy plinth on south bank with nearby latrine in mud	717385	730680
2025_C1	**Couch (& spraint site)**	**1 (7)**	Mixed age	Couch under eroded roots of dead willow with very regular spraint site and slide to River Dodder	717400	730696
2025_H2	**Holt**	**n/a**	n/a	Old holt with partially infilled entrance with cobwebs behind Japanese knotweed stand on north bank of River Dodder	717399	730710
2025_04	Latrine	2 (5)	Mixed aged	Regular latrines on grass with spraints on rock and slides to River Dodder on north bank	717452	730772
2025_05	Spraint site	1 (4)	Mixed aged	Mixed age spraint on old carpet under steel gangway near weir crest north bank	717481	730824
2025_06	Latrine	1 (2)	Old	Old latrine site on muddy plinth under buddleja and sycamore	717479	730837
2025_07	Latrine	1 (1)	Old	Old latrine on muddy hummock under crack willow limbs	717490	730836
2025_08	Spraint site	1 (1)	Fresh	Recent spraint on boulder south bank of River Dodder downstream of Smurfit Weir	717486	730820
2025_09	Latrine	1 (1)	Old	Old latrine on sand under sycamore tree south bank	717495	730857

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