

Orion Land & Leisure Limited

Plot 1 and Plots 2-6

Otter Report

Issue | 24 April 2024



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1. Introduction

Ove Arup & Partners Ltd (Arup) have been commissioned by Orion Land & Leisure Limited to undertake a range of design and consultancy services to inform the proposed development/redevelopment of land at Cardiff Peninsula (henceforth referred to as the 'site').

A Preliminary Ecological Appraisal Report (PEA)¹, and a range of ecological surveys were carried out by Arup on the site as part of a previous commission for Cardiff Council, for the Cardiff International Sports Village and Peninsula project during 2022 to 2023. These identified the baseline ecological conditions of the site, and will be used inform the assessment of impacts as part of the current proposed planning applications for the Cardiff Peninsula Project.

The PEA identified several desk study records of Eurasian otter (*Lutra lutra*) from the River Taff (0.5km north of Plots 2-6) and the River Ely (immediately north of Plot 1) indicating that the waterbodies directly adjacent to the Site may be used by foraging and commuting otter. The scrub border on the east of the site boundary also presented some potentially suitable otter habitat along with the likely foraging and commuting opportunities in the wider landscape. An otter survey was then carried out on 12th September 2023 covering suitable habitat within 250m from the site; this survey confirmed that otter were commuting and foraging around the edge of Cardiff Peninsula and up into the River Ely. This also identified that suitable habitat for resting or lay ups existed at points where riparian vegetation had managed to establish on the bay edges. A repeat targeted otter survey was recommended to check again if any habitat suitable for resting or lay ups across the area was being used and in particular to check for any evidence of otter underneath the Watermark building.

This document describes this repeat targeted otter survey and camera monitoring that was carried out on a feature that was found underneath the Watermark building.

1.1 Proposed development

Development is proposed in two areas, these are called Plots 2 – 6 and Plot 1, and their respective planning redline boundaries are shown in Figure 1. At the time of writing, the proposal is that Plots 2 – 6 are an Environmental Impact Assessment (EIA) development and therefore an Environmental Statement (ES) will be required to accompany the outline planning permission application.

Plot 1 will not be an EIA development and therefore an Ecological Impact Assessment (EcIA) will be prepared to support the full planning permission application. Descriptions for each planning application are below:

Plots 2 - 6

The EIA proposals are for a comprehensive mixed use development to provide new homes (class C3), business space (class B1) and a mix of complementary leisure, food, drink, hospitality, retail and health and wellbeing uses (class A1, A2, A3, C1, D1 and D2); creation of new and associated landscaped spaces, public realm and other associated ancillary and highway works at the International Sports Village.

Plot 1

Full planning permission for senior living accommodation including landscaping and infrastructure works.

The site is centred on National Grid Reference (NGR) ST 18043 72858 and is bordered by the impounded waterbody of Cardiff Bay to the east and south, and the River Ely to the south.

¹ Arup. (2023) Cardiff International Sports Village and Cardiff Peninsula PEA

1.2 Survey Objectives

The aims and objectives of the survey was to:

- Update the previous otter survey undertaken in 2023;
- Determine the presence and distribution, or likely absence of otters within the study area;
- To provide sufficient information to inform the assessment of impacts on otter from the proposed development as part of the EcIA and ES.

1.3 Legislation and ecology

Otters are afforded protection in the United Kingdom under the Wildlife & Countryside Act 1981 (as amended) and as a European Protected Species (EPS) under The Conservation of Habitats and Species Regulations 2017 (as amended). It is an offence to:

- deliberately capture, injure or kill an otter;
- deliberately or recklessly disturb or harass an otter such as to affect its ability to breed or its local distribution; and
- damage, destroy or obstruct access to a breeding site (holt) or resting place (couch) used by an otter.

Otters were also identified as a species that is a priority for nature conservation (priority species) within the UK Biodiversity Action Plan (UKBAP), which has now been superseded by the 'UK Post-2010 Biodiversity Framework'² but is still an important reference source and has been used to help draw up statutory lists of priority species in each country in the UK.

The Environment (Wales) Act 2016 includes a duty on all public authorities to have regard to the conservation of biodiversity in the exercise of their functions. This duty applies to government bodies, local authorities and statutory undertakers. The Act also requires lists to be published of Habitats and Species considered to be of Principal Importance for the Conservation of Biological Diversity.

These are referred as Section 7 habitats and species after the sections of the Act which require the publication of lists in each devolved area. Otters are listed as a Section 7 Species. Otters are also listed as a priority species in the county by The Cardiff Local Biodiversity Action Plan (LBAP)³.

The Natural Resources Wales (NRW) Evidence Report for otters⁴ conducts national surveys for otters. 'The Severn hydrometric area has maintained almost all positive sites and, along with the Wye, helped to drive recovery in much of England. It could now be described as a stronghold when compared to declines in other areas recorded across Wales'.

Otters have been recorded as using almost all types of watercourse. Otters will utilise both flowing and still waterbodies such as rivers, ditches, lakes, ponds, and reservoirs. In England and Wales, otter activity is generally confined to fresh water. Otters use aquatic features for foraging and commuting; healthy aquatic habitats are vital to ensure there is sufficient food to support the otter.

In addition to aquatic habitats, otters are dependent on terrestrial riparian habitats to provide resting sites. The term resting sites includes a variety of features, for example natal holts, holts, couches, and hovers. Otters will utilise a wide range of features for resting sites, including holes in the ground, tree roots, gaps between rocks, tall ruderal vegetation, and scrub. The use of such habitats is very variable².

Some correlations have identified a preference for otters utilising less disturbed locations, where dense vegetation and woodland provides cover.

² <https://jncc.gov.uk/our-work/uk-post-2010-biodiversity-framework/>

³ <https://www.outdoorcardiff.com/wp-content/uploads/Cardiff-LBAP-2008.pdf>

⁴ <https://cdn.cyfoethnaturiol.cymru/media/694539/osw-6th-report-final.pdf>

Otters are largely nocturnal, and occur at very low population densities, with the average home range of a female being approximately 20km of a watercourse, and males covering 32km. Depending on the quality of the habitats this range can vary widely.

2. Methodology

2.1 Desk Study

The methodology of the desk study undertaken previously is provided within the Cardiff International Sports Village and Cardiff Peninsula Otter Report from 2023⁵. Three waterbodies were identified within 2km of the site boundary as having the potential to support otter; the River Ely (immediately south of Plot 1), the River Taff, (0.5km north of Plots 2-6) and Cardiff Bay (directly adjacent to Plot 1 and Plots 2-6).

2.2 Field Survey

The survey was undertaken on March 7th 2024 and led by an experienced Arup ecologist meeting the CIEEM Competencies for otter survey⁶, and in line with best practice guidelines⁷. The survey extent was 250m either side of the development in areas of suitable habitat for otter as shown in Figure 1. Surveyors undertook a combination of bank-top and boat-based surveys of the waterbodies and within the adjacent habitats, where the area was searched for field signs of otter.

Signs of otter that were searched for included:

- Natal holts, holts, and potential holt sites (breeding places)
- Couches/lay-ups (resting places)
- Spraints – categorised as fresh, recent or old as described by Devon Biodiversity Records Centre⁸:
 - Fresh – usually black, tarry and sticky. It will have a distinct sweet musky smell
 - Recent – will be starting to dry out, it may be turning grey and crumble when touched. It may still smell slightly of otter
 - Old – completely dried becoming very pale and crumbly. It may have crumbled completely, leaving a grey ashy deposit, with some fish bones still present
- Anal jelly
- Tracks / footprints
- Silt / sand heaps and slides
- Feeding remains

All field signs found were photographed, mapped with GPS (accurate to <5m). When recording otter signs, levels of activity were used to categorise the status of any resting site, as per the methodology discussed by Basset and Wynn (2010)⁹. Resting sites were defined as having low, medium or high levels of activity.

Target notes were used to record any incidental sightings of protected/notable species.

2.2.1 Camera trap monitoring

A trail camera (Spypoint Force-Dark Trail Camera) was set up by Arup ecologists during the survey on the 7th March 2024 and collected on the 26th March 2024, to determine whether or not otter were using a hole which was located under the watermark building. The camera was secured to a pipe on the building such that the hole located under the building was in view. Photograph 1 below displays the camera set up and Figure 1 shows where it was located.

⁵ Arup. 2023. Cardiff International Sports Village & Cardiff Peninsula. Otter Report.

⁶ CIEEM (2013). Competencies for Species Survey: Eurasian Otter. Available at: [CSS-EURASIAN-OTTER-April-2013.pdf \(cieem.net\)](https://www.cieem.net/CSS-EURASIAN-OTTER-April-2013.pdf).

⁷ Chanin, P. (2003). Monitoring the Otter *Lutra lutra*. Conserving Natura 2000 Rivers Monitoring Series No. 10, English Nature, Peterborough

⁸ Devon Biodiversity Records Centre (2017) Otter surveying [online] available at: <http://www.dbr.org.uk/otter-and-mink-signs/>

⁹ Basset, S. and Wynn, J. (2010) Otters in Scotland - How Vulnerable are they to disturbance. In Practice, No 70, December 2010

Disturbance to any otters potentially using the cavity was avoided by placing the camera trap at a suitable distance from the potential resting place. The camera was retrieved on the 26th March 2024, and all recorded footage reviewed for otter activity. Incidental animals were also noted.



Photograph 1. Camera trap set up under watermark building.

2.3 Limitations

The surveys were undertaken at a suitable time of the year under optimal conditions where possible. At the start of survey the weather was 10°C and dry. No rain was recorded in the three days prior to the survey, however strong winds were present at the time of survey causing wave action on the east edge of the site against the sheet piles and low-lying rocks on the edge of the bay; as a result some signs such as spraints may have been washed away. Nevertheless, weather conditions were not considered to be a significant limitation to the survey results. The surveys provide a snapshot of activity at the site and therefore there is always the risk, regardless of weather conditions, of protected species being overlooked, either owing to the timing of the survey or the scarcity of the species at the site.

One area to the northeast of the site, adjacent to the watermark building comprising of approximately 40m, was not possible to search thoroughly within it due to dense vegetation and unsafe access; the area underneath the watermark building itself was inspected, but some of the denser vegetation in the water just east of the building could not be thoroughly inspected due to its dense nature. The entire perimeter of this area however was inspected for paths entering the vegetation as an indicator of whether otter use the vegetation, and no entry or exit points were seen. As such, this is not considered to be a significant limitation.

Despite these limitations, sufficient information has been recorded to inform an appropriate Precautionary Method of Working (PMW), and Ecological Impact Assessment.

3. Results

3.1 Desk Study

The results of the desk study undertaken previously are reported within the 2023 otter survey report⁵.

3.2 Field Survey

Evidence of otter was recorded during the survey in the form of spraints at five locations across the site and suitable habitat for lay-ups found at four locations along the northeast site boundary and to the southwest. The locations of these are shown in Figure 1 and some photographs are included below.

Note that the areas of habitat suitable for lay-ups were the same as the that found during the 2023 survey, located in areas of scrub and woodland that had developed on raised land at the edge of Cardiff Bay or inaccessible vegetated areas by Cardiff Marina. The areas noted as being potentially suitable for lay-ups were generally inaccessible on foot due to dense vegetation, however the edges of the scrub and vegetation were carefully inspected for any evidence of otter use or pathways, and none were found in these areas. The scrub or vegetation within these areas was suitably dense that it would have been expected that a pathway would have been observed if otter were regularly using any of the areas. Photographs of these areas are available within the 2023 otter report⁵.

The spraints found were either fresh, recent or old, and were located on a combination of floating platforms, steps, rocks and a fallen tree along the edges of the site, tracking the edge of the Cardiff Peninsula and going up into the River Ely along the northern edge of the river, with an additional regular sprainting site being found on steps located on the south bank of the River Ely opposite the Yacht Club.

One new feature comprising of a hole, large enough to be used by otter was identified in the large cavity underneath the Watermark building, excavated between an area of concrete foundation and the made ground, above the high-water level of Cardiff Bay. This feature was not present during the 2023 otter survey. The cavity and hole under the Watermark building is shown in Photograph 1 and location shown on Figure 1. Numerous fox prints were observed in the vicinity of the hole, and on the soft sediment underneath the building, and there was a smell of fox in the area. No otter prints were observed despite the extensive soft ground throughout the area on which the fox prints were present. As a precaution, camera monitoring was set up as described in Section 2.2.1 and results reported in Section 3.2.1.

No holts, slides or footprints were recorded during the survey, and the area surveyed was generally considered unsuitable for holts due to the sheet piling or rock armour which formed the banks around the majority of the site, and lack of large enough cavities within these. Areas which were not sheet piled were also subject to wave action. Additionally, there was a relatively high levels of disturbance in most areas due to water craft or buildings in use close to the water front.

3.2.1 Camera trap monitoring

The camera trap recorded from the 7th March to the 26th March 2024, covering a total of 20 days. No animals were observed on the footage between these dates. Upon collecting the camera trap, the area under the watermark building was searched for signs of otter, including footprints, which would have been easy to see in the extensive soft sediment present. No footprints of other signs of otter were found.



Photograph 2. Fresh spraint recorded on rock by yacht club, Reference 2 on Figure 1.



Photograph 3. Spraints on steps on the south bank of the river Ely, a regularly marked spot with fresh spraints present. Reference 5 on Figure 1.



Photograph 4. Old spraint on the end of wooden platform at Cardiff International White Water Centre (CIWW), close to the south edge of Plot 1, Reference 3 on Figure 1.



Photograph 5. Two old spraints recorded on platform near Cardiff International Whitewater Centre. Reference 4 on Figure 1.

3.2.2 Incidental observations

Cetti's warbler (*Cettia cetti*) was recorded using the patch of scrub within the northeast of the survey extent, on the edge of the Watermark building (TN1 on Figure 1). In addition, the following bird species were recorded to the southwest of the survey extent (TN2 on Figure 1):

- Two common sandpiper (*Actitis hypoleucos*);
- Two common redshank (*Tringa totanus*);
- Displaying great crested grebe (*Podiceps cristatus*);
- Mallard (*Anas platyrhynchos*) on eggs by Cardiff International Whitewater Centre;

- Grey heron (*Ardea cinerea*);
- Grey wagtail (*Motacilla cinerea*);

House sparrow (*Passer domesticus*), blackbirds (*Turdus merula*), pied wagtail (*Motacilla alba*), and mallard were all recorded using the reedbed habitat which was present along the north edge of the river Ely, just west of CIWW.

Nesting woodpigeon were recorded within sheet piles on the southern border of Plot 1 (TN3 on Figure 1), in an area where ivy had established on the sheet piles and a small area of vegetation had managed to grow up from the edge of the river. Shown in Photographs 7 and 8 below.



Photograph 6. Location of nesting woodpigeon within ivy on sheet piling, Reference TN3 on Figure 1.



Photograph 7. Woodpigeon nest within ivy, zoomed in from Photograph 7, Reference TN3 on Figure 1.

4. Conclusion and Recommendations

The otter survey undertaken in March 2024 identified otter activity across site, comprising of fresh, recent and old spraints. Habitats offering suitability for lay-ups were also identified. Some habitats were not fully accessible due to dense vegetation, although the perimeter of these areas was searched for any signs of entry or exit points, and none were found. Although some habitats are suitable for lay-ups, no confirmed or potential lay ups were identified. Due to anthropogenic disturbances or wave action combined with hard banks (either rock armour or sheet piles) these areas were not considered to be suitable for holts, and no holts were identified during the survey.

Due to the location of spraints found, it is reasonable to conclude that otter commute and forage around the entire extent of the Cardiff Peninsula site, from the Watermark building located in the north, along the entire length of the eastern boundary of Plots 2-6, around the point of the peninsula where the yacht club is located and into the mouth of the river Ely, along at least as far as the whitewater centre. They commute along the north bank of the Ely which runs directly adjacent to the boundary of Plot 1, and also use the South bank of as evidenced by the location of spraints.

Due to the current use of the site by otter for commuting and foraging with the potential for otter to use the areas of dense vegetation in close proximity to the site boundary to temporarily rest, a Precautionary Method of Working (PMW) should be implemented to minimise disturbance and impacts to otter. The following mitigation measures are recommended:

- Pre-construction survey (at least 10 weeks prior to construction) is undertaken of all suitable habitat within 100m of the works to identify any resting places which may be directly impacted by the proposed works. The 100m distance should be kept under review by the project ecologist when further details of likely construction methods (such as percussive piling requirements) are determined.
- If any otter holts or resting places are found and are likely to be disturbed by the works, a European Protected Species (EPS) licence will need to be applied for from Natural Resources Wales. Monitoring with a trail camera may be necessary to establish if any holts or resting places are in active use by otters at that time.
- A pollution management plan should be produced prior to construction and incorporated into a Construction Environmental Management Plan (CEMP). This must include site-specific methods to ensure that all site activities in proximity to watercourses and waterbodies are undertaken in accordance with relevant legislation and undertaken in compliance with the relevant Guidance for Pollution Prevention (GPP) (e.g. GPP 5: Works and maintenance in or near water¹⁰) and industry best practice.
- Good practice working methods should be adhered to which prevent any adverse impact to otter; i.e. materials should not be left overnight in an area accessible to these species and excavations should not be left uncovered overnight. If any excavations are required to be left open overnight, a ramp should be created to allow any animals to escape.
- Access for otter along all waterbodies should be maintained during construction and operation.
- All works close to the water should be carried out during daylight hours (up to 30 minutes after sunrise and 30 minutes before sunset) where possible, to avoid disturbance to commuting or foraging otters. Any use of task lighting should be directional to avoid illumination of the water or commuting areas at night.
- If any otter resting places are found during pre-construction checks, additional mitigation measures may also be required to reduce disturbance.
- The design of any development within the redlines of Plot 2-6 and Plot 1 should take otter into account at an early stage in the design process, in particular ensuring minimal disturbance from construction or operational impacts to the water along the edges of the site. Sensitive lighting design should be used to

¹⁰ <https://www.netregs.org.uk/media/1418/gpp-5-works-and-maintenance-in-or-near-water.pdf>

avoid lighting of the water, and the design should seek to improve the quality and connectivity of the riparian edges for commuting and foraging; this could include the provision of floating platforms or riparian vegetation.

This report is the result of survey work undertaken in March 2024. This report refers, within the limitations stated, to the condition or proposed development of the site at the time of the inspections. Changes in legislation, guidance, best practice, etc. may necessitate a re-assessment/survey. No warranty is given as to the possibility of future changes in the condition of the site.

The results of these surveys are considered valid for 18 months. If more than 18 months elapses before any planning application is submitted, the requirement for repeat surveys should be reviewed in line with guidance¹¹.

This report is produced solely for the benefit of Orion Land & Leisure Limited and no liability is accepted for any reliance placed on it by any other party. This report is prepared for the proposed uses stated in the report and should not be used in a different context.

¹¹ Chartered Institute of Ecology and Environmental Management (2019). Advice Note on the Lifespan of Ecological Reports and Surveys

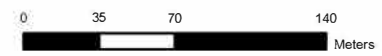
Figure 1 Otter survey results 2024



Legend

- plot 1 red line boundary
- plots 2-6 red line boundary
- Target Notes
- Suitable habitat for lay-up
- Sprints
- Survey extent
- ★ Camera location

Coordinate System:
British National Grid



01	13/03/2024	EH	RC	PC	--
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Plot 1 and Plots 2-6

Drawing Title
Otter Survey Results (March 2024)

Scale at A3
1:3,500

Role
Ecology

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Drawing Number
Figure 1

TN1:- Incidental sighting of Cetti's warbler (*Cettia cetti*) using the patch of scrub
TN2:- Incidental sightings of the following species using the river Ely riparian corridor:
 • Two common sandpiper (*Actitis hypoleucos*);
 • Two common redshank (*Tringa totanus*);
 • Displaying great crested grebe (*Podiceps cristatus*);
 • Mallard (*Anas platyrhynchos*) on eggs by CIWW;
 • Grey heron (*Ardea cinerea*);
 • Grey wagtail (*Motacilla cinerea*);
 • House sparrow (*Passer domesticus*), blackbirds (*Turdus merula*), pied wagtail (*Motacilla alba*), and mallard using reedbeds
TN3:- Incidental sighting of wood pigeon (*Columba palumbus*) nesting in sheet piles