



# RISK ASSESSMENT FOR ANNEX IV SPECIES

MDT0915 Broadmeadow Way Greenway

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**MDT0915 Broadmeadow Way Greenway**

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# 1 INTRODUCTION

This Annex IV Risk Assessment has been prepared by RPS to assess whether the proposed greenway will remove/infringe the system of strict protection established for Annex IV species, whether a derogation licence is required, and if so, whether the criteria for derogation are met.

## 1.1 Outline of the Proposed Works

Fingal County Council has submitted a foreshore licence application (FS 006909) to develop the Broadmeadow Way, a new greenway (shared footpath and cycleway) between Malahide Demesne and Newbridge Demesne via the railway causeway across the Malahide Estuary (hereinafter referred to as “the proposed greenway”).

Proposed greenway works which fall within the Malahide Estuary and foreshore are as follows:

- Works to facilitate a new greenway some 615m in length along the existing weir maintenance access track on the western embankment of the Dublin to Belfast railway causeway, extending north from Bissets Strand into Malahide Estuary, to include new surfacing, fencing, boundary walls, local stone fill, route lighting and signage, and a viewing area. Security fencing will be installed along the entire length of this section (minimum 3m from the existing railway tracks) which will separate the proposed greenway from the railway tracks. A solid 1.4m stone wall will be provided on the western side of the proposed greenway across the estuary. The proposed greenway and wall will be constructed on top of the existing surface (with no excavation of the existing causeway) to the proposed levels. A French drain will be installed on the east side of the proposed greenway between the proposed greenway and the new security fencing.
- Provision of a new 12-span pedestrian/cycleway bridge deck of approximately 180m in length on the existing piers located alongside the Dublin-Belfast railway bridge situated on the weir in Malahide Estuary. 12 precast concrete deck sections will be put in place between the extant piers. Each section will be installed by multi-axle transporter working from north to south. As each new span is placed, its ends will be shuttered and grouted. The multi-axle transporter will cross the 12 narrow tidal channels that flow between the abutments of the viaduct which are part of the weir structure upon which the viaduct is built. To achieve this, imported clean stone will be used to form a level running track along the length of the weir on the inner side (west) of the viaduct. A viewing area will be provided on the southern side of the pedestrian bridge which will include seating.
- Works to facilitate a new greenway of approximately 1,000m in length along the shoulder of the western embankment of the Dublin-Belfast railway causeway, from the railway bridge on the weir in Malahide Estuary extending as far as the northern shoreline of Malahide Estuary at Kilcrea, to include new surfacing, fencing, boundary walls, local stone fill, route lighting and signage. The proposed greenway will then continue north on top of the existing causeway at approximately the same level as the railway tracks with the 1.4m high stone wall and security fencing continuing on either side. The proposed greenway and wall will be constructed on top of the existing surface (with no excavation of the existing causeway) to the proposed levels. A French drain will be installed on the east side of the proposed greenway. The raised stone area stops short of the north shore of Malahide Estuary by approximately 70m.

The areas of the proposed Broadmeadow Way Greenway situated within the foreshore are as detailed on the Drawings listed below and submitted as part of the Foreshore Licence Application:

- MDT0915-RPS-00-XX-DR-Z-DG0000
- MDT0915-RPS-00-XX-DR-Z-DG0001
- MDT0915-RPS-00-XX-DR-Z-DG0002
- MDT0915-RPS-00-XX-DR-Z-DG0003

## 1.2 Legislation

Under Article 12 and 13 of the Habitats Directive, Member States must establish systems of strict protection for animal and plant species which are particularly threatened, and which are listed on Annex IV of the

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Habitats Directive. Article 16 provides for derogations from these provisions under limited circumstances. Article 12, 13 and 16 of the Habitats Directive are transposed into Irish law by Regulations 51, 52 and 54 of the European Communities (Birds and Natural Habitats) Regulations 2011, as amended.

Annex IV species are afforded strict protection throughout their range, both inside and outside of designated protected areas. It is an offence to deliberately kill, injure or disturb a specimen in the wild, or damage or destroy a breeding site or resting place of an Annex IV animal species.

The granting of another statutory consent (e.g., a foreshore licence or lease) does not remove the obligation to obtain a derogation licence, and as such, an application for derogation may have to be made to the National Parks and Wildlife Service (NPWS) under Regulation 54, in addition to a foreshore licence or lease application. If satisfied that an application meets the criteria for derogation, the Minister may grant a derogation licence, which may be subject to such conditions, restrictions, limitations, and requirements as the Minister considers appropriate, and these will be specified in the licence.

### 1.3 Relevant Annex IV Species

Of the animal and plant species on Annex IV known to occur in Ireland<sup>1</sup>, the following species were identified as potentially relevant to the proposed greenway:

- Otter;
- Bats;
- Cetaceans; and
- Turtles.

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<sup>1</sup> <https://www.npws.ie/legislation>

## 2 RISK ASSESSMENT

### 2.1 Baseline

#### 2.1.1 Otter

In section 3.3 of the NIS document, a desktop review was undertaken of available sources of species occurring in the vicinity of the proposed greenway. Ecology field surveys were conducted from July 2011 to March 2014, including detailed mammal surveys. Otter (*Lutra lutra*) spraints were recorded on three occasions within the vicinity of the proposed greenway during ecological surveys, however, these spraints were at the south of Malahide Inner Estuary west of Malahide Estuary (approximately 1km west of the closest works within the foreshore extent at Bissets Strand). A sub-adult otter was recorded swimming west towards Seatown along the southern shore of the Malahide estuary. Spraint was recorded at the southern margin of the railway viaduct in March 2014 and an adult otter was observed feeding to the east of the viaduct in the outer estuary and otters were observed on a number of occasions in the outer estuary. Regular activity was also recorded at the northeast of the railway embankment which may indicate the presence of a holt at that location. No holt was recorded on the west of the railway embankment.

In Ireland otter populations are found along rivers, lakes and coasts, where fish and other prey are abundant, and where the bank-side habitat offers plenty of cover. The otter is an opportunistic predator with a broad and varied diet. They have diverse habitat preferences: lakes, canals, riverine (streams up to major river systems) marshland and estuaries. Otters that live nearer to the coast tend to require access to freshwater for bathing purposes, while any aquatic environment which has nearby vegetation or rock cover will be used by otters (NPWS, 2019).

Although otters are a mobile species, they have defined territories. Females have territories of  $7.5 \pm 1.5$ km in length along a riverine environment and  $6.5 \pm 1.0$ km in coastal environments, while male otter territory along rivers is approximately  $13.2 \pm 5.3$ km in length with a high degree of variability (Reid *et al.*, 2013).

The main threats to otter include pollution, particularly organic pollution resulting in fish kills; and accidental deaths (road traffic and fishing gear (NPWS, 2019). The most recent Article 17 conservation assessment for otters in the Republic of Ireland deemed the species as being in favourable conservation status) (NPWS, 2019).

#### 2.1.2 Bats

Bat species observed during surveys carried out in 2010, 2011 and 2018, were common Pipistrelle (*Pipistrellus pipistrellus*), soprano Pipistrelle (*Pipistrellus pygmaeus*), Leisler's bat (*Nyctalus leisleri*), and Daubenton's bat (*Myotis daubentonii*). Brown long-eared bat (*Plecotus auritus*) has also been recorded in the wider area<sup>2</sup>. No bats were recorded along the route of the proposed greenway or along the Pill River and there were also no records from the shore close to Bissets Strand. Results from the deployment of a passive bat detector (Wildlife Acoustics SM4) near the Pill River on lands at Kilcrea from 31st May to 8th June 2018 confirmed the presence of four bat species. Leisler's bat was the most frequently recorded bat at this location (171 registrations), followed by soprano pipistrelle (67 registrations) and common pipistrelle (44 registrations). Bat activity recorded in the area was relatively low and there was no consistent activity noted in areas close to the proposed greenway. There was also no evidence found of roosting bats on or close to the proposed greenway. However, given the habitats present at Kilcrea and in particular, at both demesnes, it is probable that bats do regularly forage and commute along portions of the proposed greenway.

Leisler's bat are considered a tree-dwelling species across most of its distribution and have the most specific maternity roosting habitat requirements, selecting sites with adjacent woodland and freshwater and avoiding areas of arable land and coniferous woodland (NPWS, 2019). Common pipistrelle are general in their habitat preference foraging in woodland, riparian habitats and parkland, along linear features in farmland, and in towns and cities (NPWS, 2019). Maternity roosts of this species are often in buildings, although it is occasionally found roosting under bridges and in trees. No evidence was found of roosting sites along the railway bridge, and it is considered that there are limited roosting opportunities in this location due to its exposed position. In comparison to soprano pipistrelle which shows some preference for aquatic habitats

<sup>2</sup> [www.biodiversityireland.ie](http://www.biodiversityireland.ie)

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e.g., riparian woodland, rivers and lakes. They are associated broadly with broadleaved woodland, riparian habitats and small amounts of urbanisation (Lundy *et al.*, 2011; Dick and Roche 2017).

### 2.1.3 Cetaceans

Table 4.1 of the NIS lists European sites within the vicinity of proposed greenway site at Broadmeadow (see Figure 4.1 NIS). The closest Special Area of Conservation (SAC) designated for a cetacean species is Rockabill to Dalkey Island SAC (9km) for harbour porpoise *Phocoena phocoena*. This suggests the harbour porpoise is likely to be encountered in the wider offshore environment near Co. Dublin.

Further research shows that harbour porpoise, bottlenose dolphin, common dolphin and minke whale are the most common cetacean species found off the east coast of Ireland (Wall *et al.*, 2013). Others are either transitional visitors or have only been documented from stranding data (O'Brien *et al.*, 2009; Wall *et al.*, 2013). Harbour porpoise, bottlenose dolphin and common dolphin are thought to be present year-round whilst minke whale is considered to be a seasonal visitor during summer months (Wall *et al.*, 2013).

Harbour porpoise is the most widespread and abundant cetacean species in Irish waters (Berrow 2001). There have been a number of dedicated surveys which have estimated abundances of harbour porpoises in Irish waters. In particular the NPWS commissioned the IWDG to carry out a survey in 2013 for Rockabill to Dalkey SAC following on from past surveys (Hammond *et al.*, 2002, Berrow 2008a; 2008b, and Hammond *et al.*, 2013). Harbour porpoise densities were highest in the Irish Sea with  $1.58 \pm 0.22$  porpoises per km<sup>2</sup> recorded and with an associated CV of 0.14 (Berrow and O'Brien, 2013).

The Irish Whale and Dolphin Group (IWDG) has 152 records of cetacean sightings off the coast of County Dublin for the period May 2021 to May 2022. Species identified include common dolphin, harbour porpoise, bottlenose dolphin and fin whale. Just one sighting of harbour porpoise was recorded from Malahide within the same time period, however, it is not known whether this sighting was within the estuary. Estuaries usually represent the border area of harbour porpoise distribution such that the abundance of these animals in this habitat is lower than in the sea. North Sea harbour porpoise regularly enter adjacent estuaries, and this has been closely linked to their prey distribution (Taupp, 2021). Harbour porpoise in Irish waters feed on mostly gadoids and clupeoids, similar to elsewhere in Europe (Ransijn *et al.*, 2019) with *Trisopterus* spp. and whiting being important prey species (Hernandez-Milian *et al.*, 2011). Species that have been recorded within the Malahide estuary are sand goby (*Pomatoschistus minutus*), sprat (*Sprattus sprattus*), flounder (*Platichthys flesus*), Three-spined stickleback (*Gasterosteus aculeatus*), European eel (*Anguilla anguilla*), sand smelt (*Atherina presbyter*), thick-lipped grey mullet (*Chelon labrosus*), dab, (*Limanda limanda*), pollack, (*Pollachius pollachius*), brown trout (*Salmo trutta*), greater pipefish (*Syngnathus acus*), and long-spined sea scorpion (*Taurulus bubalis*) (Inland Fisheries Ireland, 2011). Species such as sprat and pollack are prey of harbour porpoise therefore, utilisation of the estuary is possible.

### 2.1.4 Turtles

Four Annex IV species of turtle are known to occur in Ireland (leatherback turtle, Kemp's Ridley turtle, loggerhead turtle and hawksbill turtle)<sup>3</sup>. Leatherback turtle (*Dermochelys coriacea*) has been reported on a number of occasions around the Irish coastline and in the Irish Sea, most recently in 2020. Between 2000 and 2018, 198 observations of leatherback turtles were recorded in Irish waters (NPWS, 2019). Leatherbacks are known to have an 'atypical migration pattern', as while they must return to tropical waters to breed and reach preferred nesting grounds, they are known to spend the summer months in productive temperate waters, like Ireland's, feeding on jellyfish and sea squirts (Doyle, 2007). Other turtle species have been less commonly observed in Irish waters.

## 2.2 Assessment of Potential Impacts

### 2.2.1 Otters

Impacts to otters can occur as a result of permanent loss of breeding or resting sites, habitat loss, disturbance/displacement, and injury/mortality.

<sup>3</sup> <https://www.npws.ie/legislation> Accessed online 17 May 2022



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Given the nature of activities to be carried out within the foreshore, i.e., minor works to concrete piers, the installation of precast concrete bridge deck beams, construction of an approach ramp to the north and south bridge and finishing off works such as railings, lights and surfacing. There is potential for slight disturbance of otters using the areas to rest, commute or forage in, however, given the timing of the works (07:00 to 19:00 hrs) from May to September, the highly mobile and crepuscular nature of the species, limited spraints and holts recorded and their favourable conservation status, it is highly unlikely that significant disturbance which would result in the removal of the strict protections for otter will occur. Increased activity is expected along Bisset Strand as it will become a new scenic route and increased parking will be available. However, as the area is already heavily utilised by the public the impact is expected to be negligible.

The proposed works do not offend the system of strict protection of otters under Article 12 of the Habitats Directive.

### 2.2.2 Bats

The construction phase activities have some potential to disturb or displace the bats that forage and commute within the vicinity of the area. Bat activity in the area was relatively low and there was no consistent activity noted in areas close to the proposed greenway. There was no evidence found of roosting bats on or close to the proposed greenway within the foreshore extent, therefore destruction of important bat habitat is highly unlikely. Given that suitable bat habitats are present at Kilcrea and the demesnes, it is probable that bats do regularly forage and commute along portions of the proposed greenway within the foreshore extent, however, as these works will take place within the hours of 07:00 to 19:00 from May to September, it is highly unlikely that any works will kill, injure or disturb commuting bats.

The proposed greenway works do not offend the system of strict protection of bats under Article 12 of the Habitats Directive.

### 2.2.3 Cetaceans

It is considered that there will be no risk of collision, injury, or mortality from the proposed greenway due to the lack of *in situ* works in the marine environment. No underwater noise will be emitted as a result of the proposed greenway. The risk of disturbance to cetacean life cycles is considered extremely low given that there are unlikely to be any cetaceans in the vicinity of the proposed greenway development. However, as harbour porpoise prey species e.g., sprat are recorded in the vicinity of the proposed greenway works it is plausible for harbour porpoise to utilise the area.

As the proposed activity will not cause injury, disturbance, or death to the variety of cetaceans species recorded in the wider area and that no cetaceans are likely to be exposed to the construction activities, there is no sensitive time that can be impacted as any disturbance would be temporary in nature.

The proposed greenway works do not offend the system of strict protection of cetaceans under Article 12 of the Habitats Directive.

### 2.2.4 Turtles

Given the low numbers of turtles recorded in Irish waters over an 18-year time period, it is highly unlikely that turtles will occur within the project area. Given the rarity of occurrence of turtles in Irish waters, and the lack of *in situ* marine works it is concluded that there will be no significant disturbance, injury, or death of turtle species as a result of the survey activities. There will be no deterioration or destruction of breeding sites or resting places.

The proposed greenway works do not offend the system of strict protection of turtles under Article 12 of the Habitats Directive.

## 2.3 Mitigation Measures

A comprehensive pre-construction baseline ecological survey will be carried out to ensure that there is no new evidence of bat roosts or otter holts within the proposed greenway Foreshore Licence Application area. Construction operations will take place during the hours of daylight to minimise disturbances to nocturnal mammal species (Fingal County Council, 2019a). The proposed greenway will be illuminated with low lux LED lamps which will dim or extinguish during periods when the amenity is not in active use (Fingal County



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Council, 2019a). Bespoke mitigation and commitments presented in the CEMP will ensure that any risks are negligible in magnitude (Fingal County Council, 2019b). Ecological activity will also be monitored at the site in the year of construction and for the first two years of operation by Fingal County Council. A report will be submitted to NPWS at the end of each annual survey period (Fingal County Council, 2019a).

### 3 CONCLUSION

Following an assessment of potential impacts to Annex IV species, it is concluded that the proposed project complies with the system of strict protections afforded by Article 12 of the Habitats Directive to the following species found in Ireland:

- All cetacean species;
- All bat species;
- All turtle species; and
- Otter.

Consequently, a derogation licence is not required for the proposed greenway works.

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