# CHAPTER 07:

# BIODIVERSITY

07

## CHAPTER CONTENTS

# 7.0 BIODIVERSITY

## 7.1 INTRODUCTION

This chapter of the Environmental Impact Assessment Report (EIAR) was carried out by Altemar Ltd. It assesses the biodiversity value of the Proposed Development area and the potential effects of the development on the ecology of the surrounding area and within the potential zone of influence (ZOI). Standard construction and operational phase control measures, in addition to monitoring measures are proposed to minimise potential effects and to improve the biodiversity potential of the Proposed Development site.

The programme of work in relation to biodiversity aspects of the EIAR have been designed to identify and describe the existing ecology of the area and detail designated sites, habitats or species of conservation interest. It also assesses the significance of the likely impacts of the scheme on the biodiversity elements and designs mitigation measures to alleviate identified impacts. Full details of all the mitigation measures for the project are contained in the Outline Construction Management Plan (CMP) prepared by CS Consulting which is contained within the planning application documentation.

A separate Appropriate Assessment (AA) Screening and Natura Impact Statement (NIS), in accordance with the requirements of Article 6(3) of the EU Habitats Directive, has been produced to identify potential effects of the development on Natura 2000 sites, Annex species or Annex habitats. It concludes that “The proposed project will not will adversely affect the integrity of European sites.”

## 7.2 METHODOLOGY

A pre-survey biodiversity data search was carried out. This included examining records and data from the National Parks and Wildlife Service (NPWS), National Biological Data Centre (NBDC) and the Environmental Protection Agency (EPA), in addition to aerial, 6-inch maps and satellite imagery. A Phase I habitat survey of the site was undertaken within the appropriate seasonal timeframe for terrestrial fieldwork. Field surveys were carried out as outlined in Table 7.1. All surveys were carried out in the appropriate seasons with the exception of mammal surveys. However, the site is on built land and good access was possible to all areas on site. Additional mammal surveys were not deemed to be required due to the lack of features on site which would form resting or breeding places for mammals.

***Table 7.1*** *Field Survey Dates*

| Area | Surveyors | Survey Dates |
|---|---|---|
| ***Terrestrial Ecology*** | Bryan Deegan (MCIEEM) of Altemar | 28th of September 2023. |
| ***Bat Fauna*** | Bryan Deegan (MCIEEM) of Altemar | 28th of September, 2023 |

Desk studies were carried out to obtain relevant existing biodiversity information within the ZOI. This area includes the areas of built land and habitats on site. The assessment extends beyond the immediate development area to include those species and habitats that are likely to be impacted upon by the project. The River Liffey is located proximate to the Proposed Development. As a result, the potential ZOI beyond the site would be deemed to be limited to noise and light effects, with the potential for

downstream effects to extend the ZOI beyond the site outline via public drainage networks and River Liffey. Details of the Proposed Development are seen in Chapter 2 of the EIAR.

The proposed layout, drainage strategy and landscape design were reviewed to inform this assessment. Further, Chapter 2, Development Description, Chapter 5, Land and Soils, Geology and Hydrogeology, Chapter 6, Hydrology and Chapter 10, Noise and Vibration of this EIAR were reviewed.

**Proximity to designated conservation sites and habitats or species of conservation interest.**

The designated conservation sites within 15km of the site and those with potential pathways were examined for potential effect, even though these areas were deemed to be outside the ZOI. Sites beyond 15km had no direct or indirect pathways. This assessment included sites of international importance; Natura 2000 sites (Special Areas of Conservation (SAC), Special Protection Areas (SPA)) and Ramsar sites and sites of National importance ((Natural Heritage Areas (NHA), proposed Natural Heritage Areas (pNHA). Up to date GIS data (2024 NPWS data shapefiles) was acquired and plotted against 5, 10 and 15km buffers from the Proposed Development site. A data search of rare and threatened species within 10km of the proposed site was provided by NPWS. Additional information on rare and threatened species was acquired through the National Biodiversity Data Centre maps.

### Terrestrial and Avian Ecology

A pre-survey data search was carried out. This included a literature review to identify and collate relevant published information and ecological studies previously conducted and comprised of information from the following sources: the National Parks and Wildlife Service, NPWS Rare and Protected Species Database, National Biodiversity Data Centre, EPA WMS watercourses data, in addition to aerial, 6 inch, satellite imagery. Following the desktop study, a walk-over assessment of the site was carried out on the 28th of September 2023. Details of this are seen in section 7.5. Surveys were carried out by means of a thorough search within the study area. The presence of mammals is indicated principally by their signs, such as resting areas, feeding signs or droppings - though direct observations are also occasionally made. Habitat mapping was carried out according to Fossitt (2000)[1] using QGIS 10.5 and displayed on Bing satellite imagery or street mapping. Any rare or protected species or habitats were noted. As part of the fieldwork an invasive species assessment was carried out. Birds noted on site were classed based on the Birds of Conservation Concern in Ireland classification of red, amber and green, which is based on an assessment of the conservation status of all regularly occurring birds on the island of Ireland.

### Bat Fauna

Internal and external areas of the onsite structures were inspected for bats and/or their signs using a powerful torch (141 Lumens) – Petzl MYO RXP. The site survey was supplemented by a review of Bat Conservation Ireland's (BCIreland) National Bat

[1] The Heritage Council's A Guide to Habitats in Ireland (Fossitt, 2000) is the standard habitat classification system used in Ireland and can be found at: https://www.npws.ie/sites/default/files/publications/pdf/A%20Guide%20to%20Habitats%20in%20Ireland%20-%20Fossitt.pdf

Records Database. A bat detector and emergent survey was carried out on the 28th September, 2023.

**Rating of Effects**

The terminology for rating effects is derived from the EPA *Guidelines on the information to be contained in Environmental Impact Assessment Reports* (2022) and are included in Chapter 1.

### 7.2.1 Forecasting Methods and Difficulties Encountered

No difficulties were encountered in relation to the surveys and compilation of the reports. Weather conditions were ideal during the site survey.

## 7.3 RECEIVING ENVIRONMENT

### 7.3.1 Designated Conservation Sites

Designated conservation sites and watercourses within 15km of the Proposed Development are demonstrated in Figures 7.1-7.7 below. Given the nature of the proposed demolition and site clearance works, and the close proximity of the River Liffey (25m), out of an abundance of caution it is considered that the ZOI of the proposed project includes the site outline, the River Liffey and Natura 2000 sites located within Dublin Bay. In the absence of mitigation, there is the potential for dust and surface water runoff to enter the River Liffey with the potential for downstream effects on Natura 2000 sites located within Dublin Bay, namely South Dublin Bay SAC, North Dublin Bay SAC, South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA and North-West Irish Sea SPA.

***Table 7.2*** *Proximity to Natura 2000 sites within 15km*

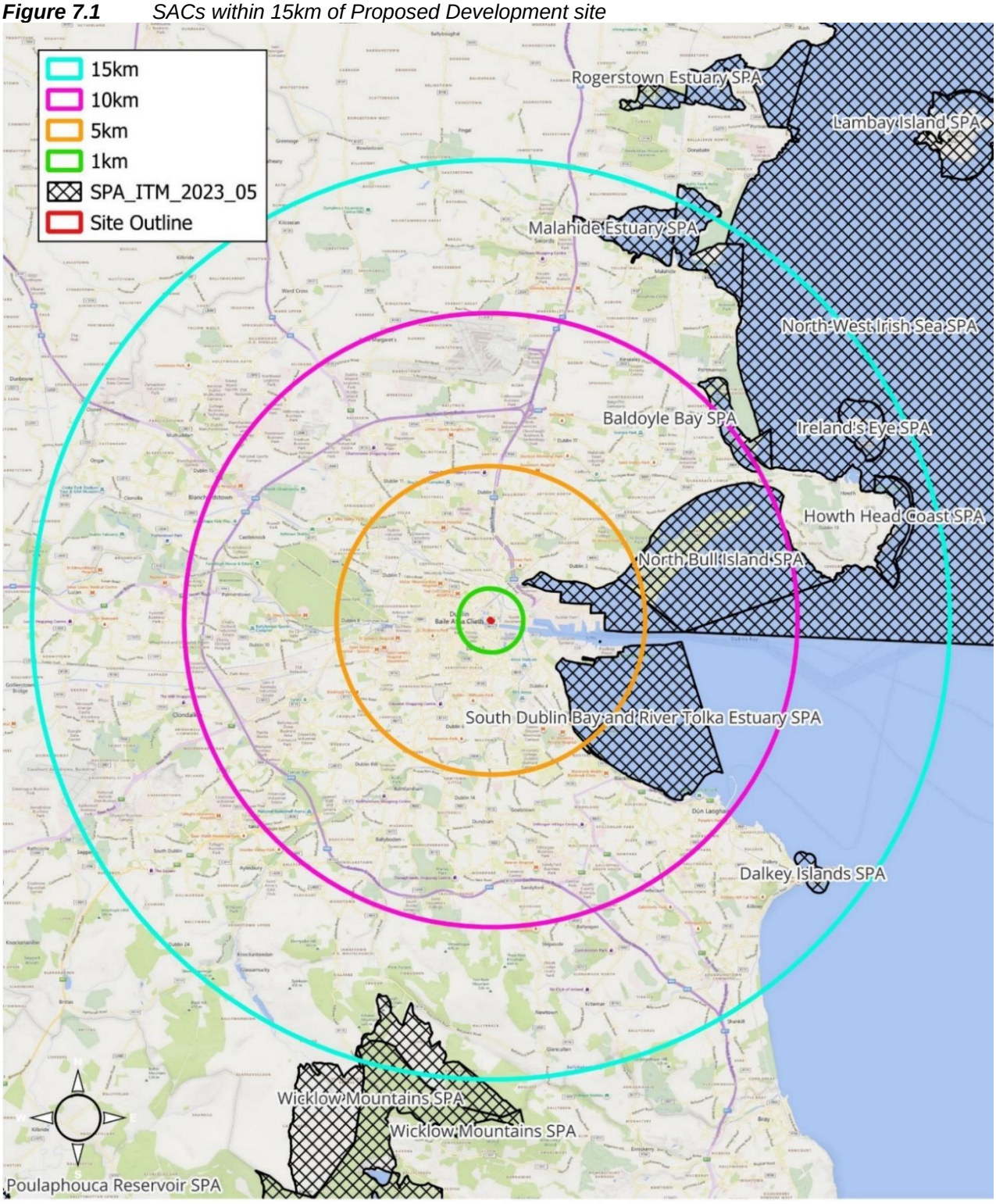
| ***Site Code*** | ***NATURA 2000 Site*** | ***Distance*** |
|---|---|---|
| *Special Areas of Conservation* | | |
| IE000210 | South Dublin Bay SAC | 2.5 km |
| IE000206 | North Dublin Bay SAC | 4.4 km |
| IE000199 | Baldoyle Bay SAC | 9.4 km |
| IE000202 | Howth Head SAC | 10.1 km |
| IE003000 | Rockabill to Dalkey Island SAC | 10.3 km |
| IE000205 | Malahide Estuary SAC | 12.5 km |
| IE002122 | Wicklow Mountains SAC | 12.5 km |
| IE001209 | Glenasmole Valley SAC | 13 km |
| IE002193 | Ireland's Eye SAC | 13.3 km |
| *Special Protection Areas* | | |
| IE004024 | South Dublin Bay and River Tolka Estuary SPA | 1.5 km |
| IE004006 | North Bull Island SPA | 4.4 km |
| IE004236 | North-West Irish Sea SPA | 6.3 km |
| IE004016 | Baldoyle Bay SPA | 9.6 km |
| IE004172 | Dalkey Islands SPA | 12.5 km |
| IE000205 | Malahide Estuary SPA | 12.5 km |
| IE004113 | Howth Head Coast SPA | 12.7 km |
| IE004040 | Wicklow Mountains SPA | 12.7 km |
| IE004117 | Ireland's Eye SPA | 13.0 km |

***Table 7.3*** *Proximity to pNHA and Ramsar Sites within 15km*

| ***Status*** | ***Site Name*** | ***Distance*** |
|---|---|---|

| | | |
|---|---|---|
| pNHA | Royal Canal | 300 m |
| pNHA | Grand Canal | 650 m |
| pNHA | North Dublin Bay | 1.3 km |
| pNHA | South Dublin Bay | 2.6 km |
| pNHA | Dolphins, Dublin Docks | 3.6 km |
| pNHA | Santry Demense | 5.5 km |
| pNHA | Liffey Valley | 7.0 km |
| pNHA | Dodder Valley | 8.7 km |
| pNHA | Fitzsimons Wood | 8.7 km |
| pNHA | Baldoyle Bay | 9.4 km |
| pNHA | Dalkey Coastal Zone and Killiney Hill | 9.9 km |
| pNHA | Howth Head | 10.0 km |
| pNHA | Feltrim Hill | 10.0 km |
| pNHA | Sluice River Marsh | 10.3 km |
| pNHA | Dingle Glen | 12.6 km |
| pNHA | Malahide Estuary | 12.6 km |
| pNHA | Glenasmole valley | 12.9 km |
| pNHA | Ireland’s Eye | 13.3 km |
| pNHA | Lugmore Glen | 13.8 km |
| pNHA | Ballybetagh Bog | 13.9 km |
| Ramsar | Sandymount Strand/Tolka Estuary | 2.6 km |
| Ramsar | North Bull Island | 4.6 km |
| Ramsar | Baldoyle Bay | 9.7 km |
| Ramsar | Broadmeadow Estuary | 12.9 km |

***Figure 7.1*** *SACs within 15km of Proposed Development site*




Project: Office Development
Location: North Wall Quay, Dublin 1
Date: 19th January 2024
Drawn By: Bryan Deegan (Altemar)

ALTEMAR
Marine & Environmental Consultancy

***Figure 7.2*** *SPAs within 15km of Proposed Development*


***Figure 7.3*** *Watercourses within 1km of the Proposed Development site*

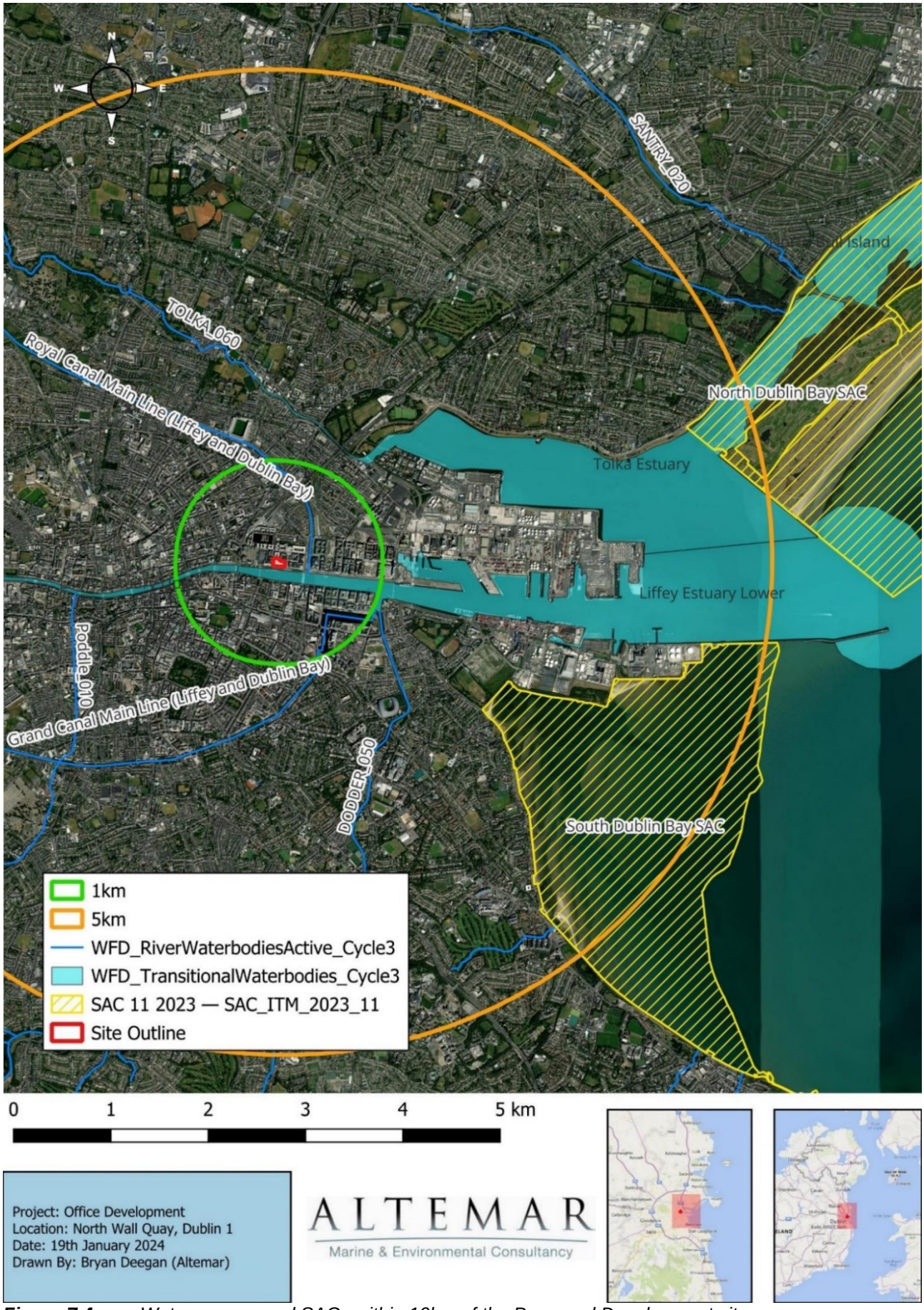



***Figure 7.4*** *Watercourses and SACs within 10km of the Proposed Development site*

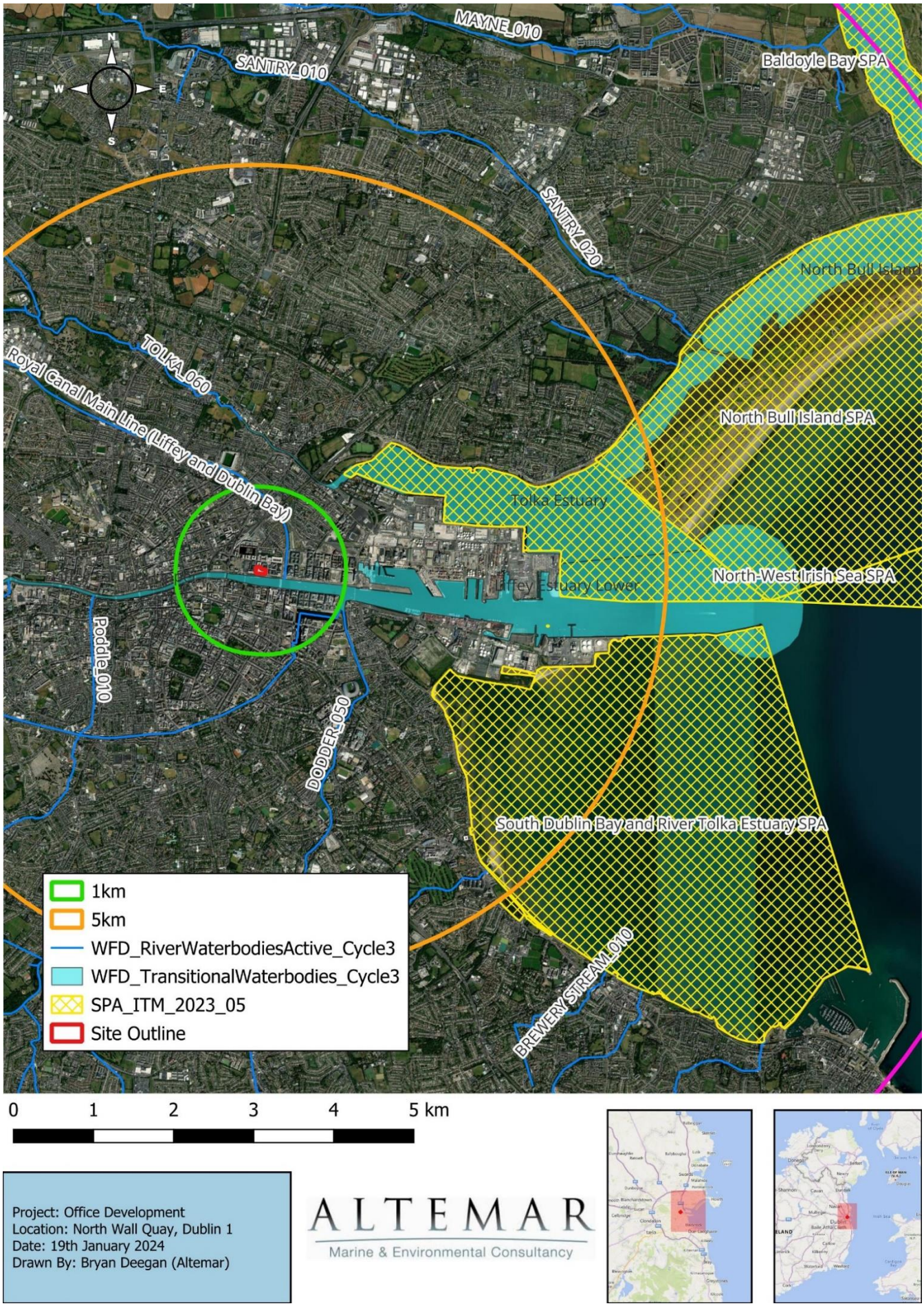



***Figure 7.5*** *Watercourses and SPAs within 10km of the Proposed Development site*

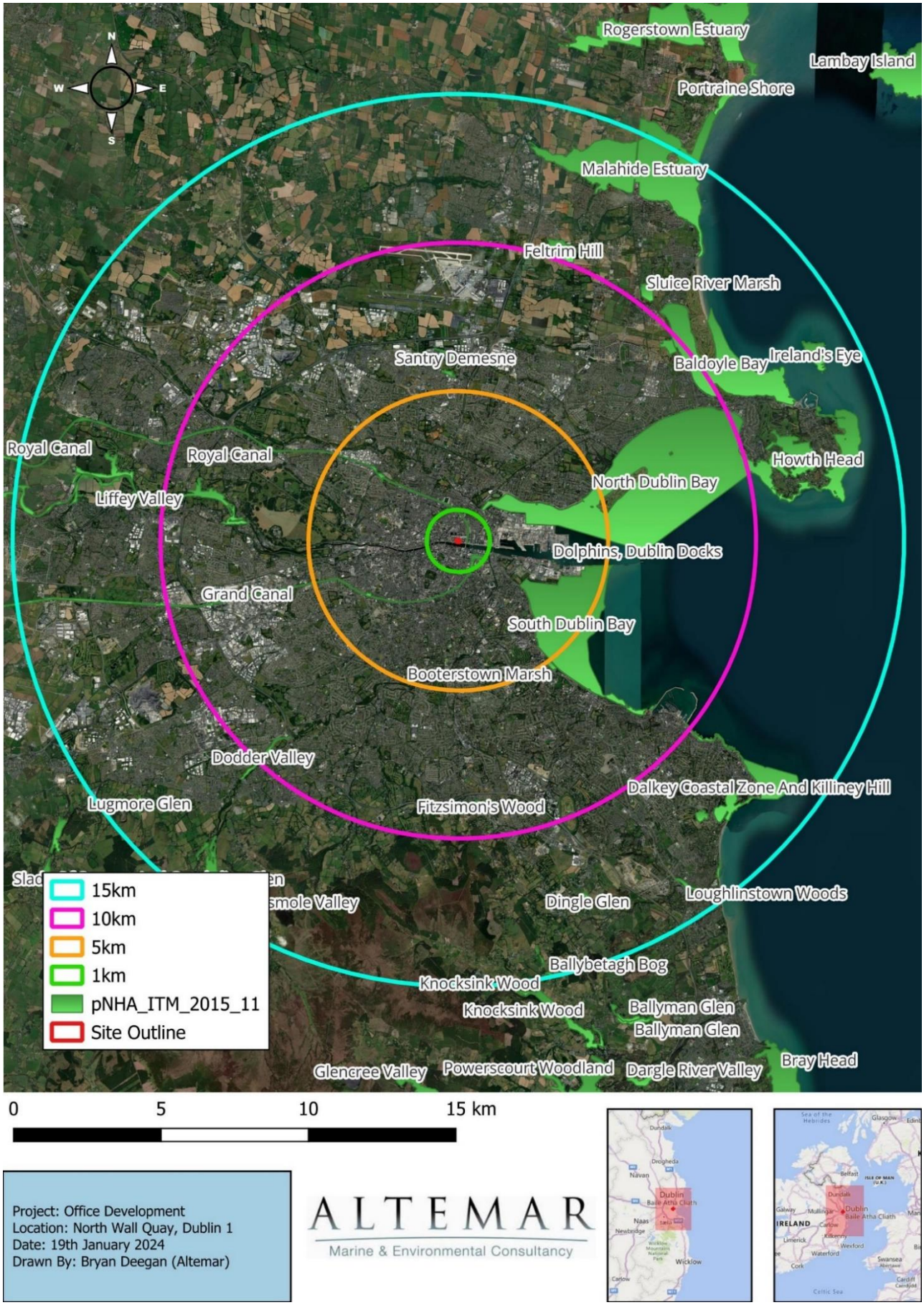



***Figure 7.6*** *Proposed NHAs within 15km of the Proposed Development site*

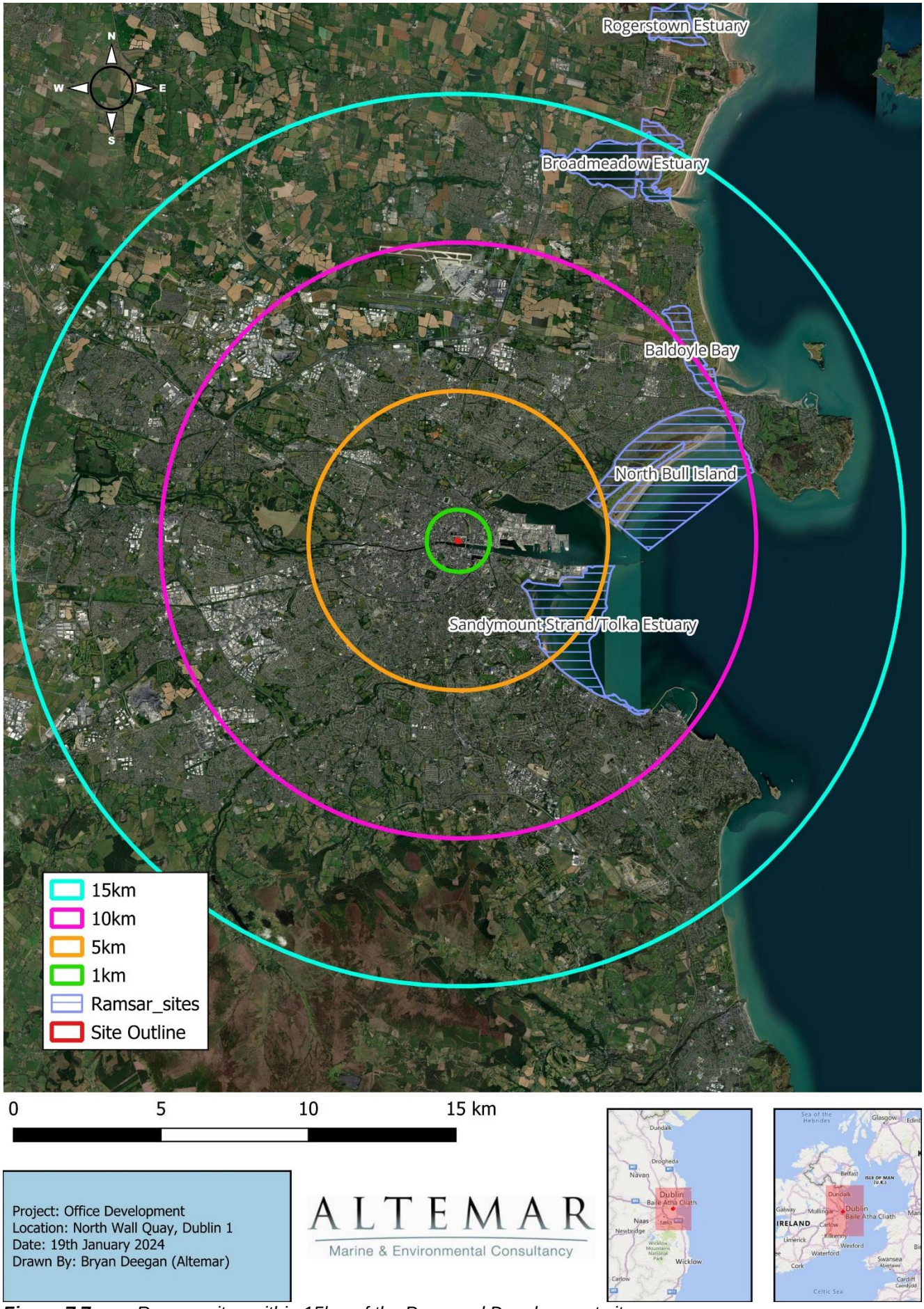



***Figure 7.7*** *Ramsar sites within 15km of the Proposed Development site*

### 7.3.2 Biodiversity Records

The National Biodiversity Data Centre's online viewer was consulted to determine the extent of biodiversity and / or species of interest in the area. An assessment of the site-specific area was carried out and it recorded no species of interest within the site area. Following this, a 2km$^2$ grid was assessed (O13S). Table 7.4 provides a list of all species of interest recorded in the 2km$^2$ grid area.

***Table 7.4*** *Species recorded by NPWS within 2km$^2$ grid (013S)*

| ***Species of Interest*** | |
|---|---|
| Cherry Laurel (*Prunus laurocerasus*)<br>House Mouse (*Mus musculus*)<br>Eastern Grey Squirrel (*Sciurus carolinensis*)<br>Giant Hogweed (*Heracleum mantegazzianum*)<br>Indian Balsam (*Impatiens glandulifera*)<br>Japanese Knotweed (*Fallopia japonica*)<br>Harlequin Ladybird (*Harmonia axyridis*)<br>Butterfly-bush (*Buddleja davidii*)<br>Himalayan Honeysuckle (*Leycesteria formosa*)<br>Narrow-leaved Ragwort (*Senecio inaequidens*)<br>Ragweed (*Ambrosia artemisiifolia*)<br>Sycamore (*Acer pseudoplatanus*)<br>Traveller's-joy (*Clematis vitalba*)<br>Three-cornered Garlic (*Allium triquetrum*)<br>European Otter (*Lutra lutra*)<br>Common Dolphin (*Delphinus delphis*)<br>Striped Dolphin (*Stenella coeruleoalba*)<br>Lesser Noctule (*Nyctalus leisleri*)<br>Nathusius's Pipistrelle (*Pipistrellus nathusii*)<br>Pipistrelle (*Pipistrellus pipistrellus sensu lato*)<br>Soprano Pipistrelle (*Pipistrellus pygmaeus*)<br>Common Frog (*Rana temporaria*)<br>West European Hedgehog (*Erinaceus europaeus*)<br>Little Egret (*Egretta garzetta*)<br>Common Kingfisher (*Alcedo atthis*)<br>Common Tern (*Sterna hirundo*) | Tufted Duck (*Aythya fuligula*)<br>Eurasian Curlew (*Numenius arquata*)<br>Black Guillemot (*Cepphus grylle*)<br>Black-legged Kittiwake (*Rissa tridactyla*)<br>Brent Goose (*Branta bernicla*)<br>Common Linnet (*Carduelis cannabina*)<br>Common Starling (*Sturnus vulgaris*)<br>Common Swift (*Apus apus*)<br>Great Cormorant (*Phalacrocorax carbo*)<br>House Sparrow (*Passer domesticus*)<br>Lesser Black-backed Gull (*Larus fuscus*)<br>Mew Gull (*Larus canus*)<br>Mute Swan (*Cygnus olor*)<br>Sand Martin (*Riparia riparia*)<br>Black-headed Gull (*Larus ridibundus*)<br>Herring Gull (*Larus argentatus*)<br>Large Red Tailed Bumble Bee (*Bombus (Melanobombus) lapidarius*)<br>Megachile (*Delomegachile) willughbiella*<br>Megachile (*Megachile) centuncularis*<br>Moss Carder-bee (*Bombus (Thoracombus) muscorum*)<br>Andrena (*Melandrena) nigroaenea*<br>Rock Pigeon (*Columba livia*)<br>Common Wood Pigeon (*Columba palumbus*)<br>Mallard (*Anas platyrhynchos*) |

An assessment of files received from the NPWS (Code No. 2022_120) which contain records of rare and protected species and grid references for sightings of these species was carried out. There are no recorded sightings within the site itself, however there are some records for grids that are in close proximity to the subject site. The following table provides a summary of the species identified, the year of identification, survey name and Grid Reference.

***Table 7.5*** *Table of species, NPWS*

| ID | Species | Survey Name | Sample Year |
|---|---|---|---|
| 9330 | Rana temporaria | Frog – National Frog Survey 2011 additional records | 2011 |
| 2014 | Red Hemp-nettle | Galeopsis angustifolia | 2014 |

### 7.3.3 Terrestrial Ecology

As site assessment was carried out on the 28th September 2023 and noted the following:

#### 7.3.3.1 Habitats and Species


**Figure 7.8:** Habitats of subject site according to Fossitt (2000).

**BL3 – Artificial surfaces and buildings.**

The site is a modern functioning bank (Citibank) with an underground car park. Outside of the building, the ground is paved for footpaths and roadways. No derelict areas were noted on site.

***Plate 1:*** *Building onsite. (Looking east)*

***Plate 2:*** *Rooftop of building onsite.*

***Plate 3:*** *Underground carpark.*

### BC4- Flower beds and boarders

Throughout the site, various ornamental flower beds were positioned for aesthetic value. They contained species such as brown-eyed Susan (*Rudbeckia triloba*), New Zealand flax (*Phormium tenax*), spurge- laurel (*Daphne laureola*), Algerian ivy (*Hedera canariensis*), spider-plant (*Chlorophytum comosum* ), Alpine lady-fern (*athyrium distentifolium*), fatsia (*Fatsia japonica*), sweet bay leaf (*Laurus nobilis*) and hydrangea (*Hydrangea sp*.).

***Plate 4:*** *Flowerbed north of the site.*

### WS3 – Ornamental/non-native shrubs

This habitat comprised mainly of Cotoneaster (*Cotoneaster sp*.), cherry laurel (*Laurocerasus officinalis*), with some buddleja (*Buddleja davidii*) and Himalayan firethorn (*Pyracantha crenulata*). Also included were trees of Caucasian lime (*Tilia euchlora*), Callery pear (*Pyrus calleryana Chanticleer*), Persian ironwood (*Parrotia persica*) and pin oak (*Quercus palustris*).


**Plate 5:** *Cotoneaster (Cotoneaster sp.) shrub.*

**Plate 6:** *Himalayan firethorn (Pyracantha crenulata) shrub.*

### 7.3.3.2 Invasive Species

No invasive plant or animal species listed under the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011) Section 49, the Third Schedule: Part 1 Plants, Third Schedule: Part 2A Animals were noted on site. No terrestrial or

aquatic invasive species such as Japanese knotweed, giant rhubarb, Himalayan balsam, giant hogweed etc. that could hinder removal of soil from the site during groundworks were noted.

#### 7.3.3.3 Fauna

##### Bats

A bat survey of the building and an emergent/detector survey were carried out on site. No evidence of past or current bat presence. No bats were observed foraging on site. No bats were seen emerging from buildings on site. The trees along the onsite have no potential for roosting bats as they are mostly tall, thin specimens and, in some cases, multi-stemmed with no features such as hollows or crevices that might be used by bats. No evidence of past or current use by bats of any of the onsite structures or trees was found when surveys were undertaken.

##### Terrestrial Mammals

No signs of badger activity or an active sett were noted on site. No mammal species of conservation importance were noted site during surveys.

##### Amphibians and Reptiles

No amphibians or reptiles were noted on site. There are no water features are noted on site.

##### Birds

The site is currently of very low nesting potential for birds. It should be noted that no features on site would result in foraging of wintering bird species and the site is not an ex-situ site for wintering birds. During the site assessment no brent geese were noted flying overhead. However, herring gulls (*Larus argentatus)* were noted flying proximate to the site in the vicinity of the River Liffey. Herring gulls (*Larus argentatus*) were noted on the building during the survey. No nesting behaviour was noted. The site is not a regular flightline path for such species like Brent Geese or other species of significant interest, and that these species are not frequently encountered passing through this area. The proposed development is located with a dense urban environment with buildings of a similar height e.g. Capital Dock (22 floors), EXO building (17 floors), Millenium Tower (16 floors), Liberty Hall (17 floors) and Alto Vetro (16 floors). The integration of bird friendly design has been taken into account in the form of the external “fins” on the building. These form clear and distinct visual vertical markers for birds. As a result, the building would be clearly visible to birds both during construction and operation. The following bird species were noted on site:

***Table 7.4*** *Bird species noted within or in the vicinity of the Proposed Development*

| Common Name | Scientific Name |
|---|---|
| Herring gull (Amber Listed) | *Larus argentatus* |

##### Discussion of species and habitats

The Proposed Development consists largely of Built land (BL3) with some ornamental shrubs, and flower beds. No flora or habitats of National or International conservation importance were noted on site during the surveys. No invasive flora species were noted

on site. No flora species of conservation importance or invasive species were noted on site during site surveys. No amphibians or reptiles were noted on site.

### 7.3.4 Do Nothing Scenario

In the do nothing scenario it would be expected that the current operations would continue on site and the biodiversity, primarily ornamental species would continue to be maintained on site.

## 7.4 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

The purpose of this section is to provide an overview of the key relevant details of the construction phase and operational phase of the Proposed Development. The information presented in this section is informed by the project design, but it is not a complete description of the Proposed Development. Therefore, it should be read in conjunction with the full planning application. For a more comprehensive understanding of the Proposed Development, please refer to Chapter 2 (Description of the Proposed Development) of the EIA Report. Chapter 2 provides a detailed overview of the lifecycle of the project, including reference to the architectural and civil engineering, drawings, plans, reports, and other relevant document in order to define the Proposed Development. The Proposed Development includes the redevelopment of the Citigroup headquarters site at 1 North Wall Quay, Dublin 1. This includes the demolition of the existing office building and the construction of a new building.

## 7.5 POTENTIAL EFFECTS OF THE PROPOSED DEVELOPMENT

### 7.5.1 Construction Phase

*Designated Conservation sites within 15km*

In the absence of mitigation, the construction of the Proposed Development, would affect the existing ecology of the site and the surrounding area. These construction effects would include effects that may arise during the site clearance, re-profiling of the site and the building phases of the Proposed Development which include works proximate to the River Liffey. Construction phase mitigation measures are required on site particularly as significant reprofiling of the site is proposed which can lead to dust and silt laden and contaminated runoff. The Proposed Development is not located within a designated conservation site. Runoff during site works re-profiling and the construction of project elements could effect on the River Liffey and downstream European sites at Dublin Bay.

The AA Screening concludes "*In a strict application of the precautionary principle, it has been concluded that significant effects on the integrity of South Dublin Bay SAC, North Dublin Bay SAC, South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA and North-West Irish Sea SPA are likely from the proposed works in the absence of mitigation measures, primarily as a result of a direct hydrological connection to the site during construction via dust and surface water runoff to the River Liffey and the potential for a pollution event given the presence of hazardous waste materials on-site. For this reason, an NIS was carried out to assess whether the proposed project, either alone or in combination with other plans or projects, in view of best scientific knowledge and in view of the sites' conservation objectives, will adversely affect the integrity of the European Site. All other Natura 2000 sites were screened out at initial screening.*

*Construction and demolition works will create localised light and noise disturbance that will not impact on Natura 2000 sites. Mitigation measures will be in place to ensure that there are no significant impacts on the River Liffey that leads to European sites at Dublin Bay.*

*Following the implementation of the mitigation measures outlined, the construction and operation of the Proposed Development would not be deemed to adversely affect the integrity of the European site."*

Effects: Low Adverse / International / Negative Effect / Not significant / short term. Mitigation is required to prevent effects on designated sites.

*Biodiversity*

The effect of the development during construction phase will be a loss of existing habitats and species on site in addition to localised noise and dust generated from construction. It would be expected that the flora and fauna associated cleared habitats would also be displaced.

*Terrestrial mammalian species*

During the site visits no terrestrial mammal species of conservation importance were recorded on site or in NPWS or NBDC records.

Effects in the absence of mitigation: Low adverse / site / Negative Effect / Not significant / short term. Mitigation is needed in the form of a pre-construction inspection for terrestrial mammals of conservation importance.

*Flora*

No protected flora or invasive species were noted on site. Site clearance will remove the flora species on site.

Effects in the absence of mitigation: Low adverse / site / Negative Effect / Not Significant / Short term

*Bat Fauna*

There is no evidence of a bat roost on site, therefore no significant negative effects on bats are expected to result from the Proposed Development. No foraging was noted on site.

Effects: Low adverse / site / Negative Effect / Not significant / short term. Mitigation is needed in the form of a pre-construction inspection and the control of light spill during construction. A post construction assessment of lighting will be required.

*Aquatic Biodiversity*

The River Liffey runs parallel to the southern boundary of the subject site. However, foul and surface water will be diverted to a combined sewer and will be treated in Ringsend WwTP under licence. During construction silt and pollution could potentially effect the water quality of river in absence of mitigation.

Effects in the absence of mitigation: Low adverse / local / Negative Effect /not significant effects/ short term. Mitigation is needed in the form of control of silt and petrochemical and dust during construction.

*Bird Fauna*

Site clearance could effect on bird nesting if carried out during bird nesting season. Noise during construction could potentially effect on roosting wintering birds proximate to the site.

Effects in the absence of mitigation: Low adverse / Local / Negative Effect / Not significant / short term. Mitigation is needed in the form of site clearance of vegetation outside bird nesting season and a pre construction assessment for nesting herring gulls on the roof of the building.

### 7.5.2 Operational Phase

Once constructed, all on-site foul drainage will be directed to a combined sewer on Commons Street where it will ultimately flow to Ringsend WwTP for treatment under licence. In the absence of mitigation, no significant effects on the qualifying interests of Natura 2000 sites are foreseen via foul water drainage. The existing office building on the development site has surface water drainage connections to the stormwater sewers in Clarion Quay and Commons Street and will comply with SUDS. It is proposed to retain these and use them for the Proposed Development. There is therefore an indirect hydrological pathway between the subject site and Natura 2000 sites in Dublin Bay via surface water drainage to the River Liffey during the operational phase of development.

*Designated Conservation sites within 15km*

No significant effects on designated sites are likely during operation.

Effects in the absence of mitigation: Negligible / International / Neutral Effect / Not significant / Long-term

*Biodiversity*

*Terrestrial mammalian species*

No protected terrestrial mammals were noted on site.

Effects in the absence of mitigation: Low adverse / site / Negative Effect / Not significant / long term.

*Flora*

No protected flora was noted on site. The landscape improvements will add biodiversity to the site which will be locally important insect species.

Effects in the absence of mitigation: Beneficial / local / Negative Effect / Not significant / long-term

*Bat Fauna*

The Proposed Development is within an existing brightly lit urban environment. The Proposed Development will change the local environment as new structures are to be erected and some of the existing vegetation will be removed. However, additional vegetation will be added which will improve plant species diversity and thus insect populations. No bat roosts or potential bat roosts will be lost due to this development. The Proposed Development would not be seen to have a significant collision risk for bat strikes.

Effects: Neutral / International / Not significant / long term.

*Bird Fauna*

The Proposed Development will change the local environment as new structures are to be erected. The buildings are comprised of solid materials consisting of a solid material on the exterior. These buildings would be clearly visible to bird species and would not pose a significant collision risk.

Effects: Low adverse / local / Negative Effect / Not significant / Short term.

## 7.6 MITIGATION MEASURES

### 7.6.1 Construction Phase

A project ecologist will be appointed and consulted in relation to all onsite drainage during works.

All site clearance and drainage work methodologies will have prior approval of a project ecologist.

The project will be carried out in consultation with the project ecologist to reduce risks of onsite drainage to the River Liffey.

Local drainage connections, gullies and watercourses will be protected from dust, silt and surface water throughout the works.

All onsite drainage network connections will be blanked off and sealed at the first phase of the construction works.

There will be no entry of solids or petrochemicals to the drainage network during the works.

Spill containment equipment shall be available for use in the event of an emergency. The spill containment equipment shall be replenished if used and shall be checked on a scheduled basis.

Dust mitigation will be in place as outlined in Chapter 8 (Air Quality).

A pre-demolition inspection for roosting bats and nesting birds will be carried out.

A watching brief will be incorporated on site in relation to contaminated soils and the project ecologist informed if any contaminated material is found on site. Should any contaminated material be found on site a methodology statement will be provided to the project ecologist for treatment/removal in compliance with legislation.

### 7.6.2 Operational Phase

Standard operational mitigation measures as outlined in the engineering report will be in place to protect surface water networks from pollution. Refer to Engineering Services Report (prepared by CS Consulting Engineers) submitted as part of this planning application which details the proposed separate foul and surface water drainage system.

## 7.7 MONITORING OR REINSTATEMENT MEASURES

### 7.7.1 Construction Phase

A project ecologist will be appointed to oversee construction works on site.

### 7.7.2 Operational Phase

No operational monitoring/reinstatement measures are required.

## 7.8 RESIDUAL EFFECTS OF THE PROPOSED DEVELOPMENT

### 7.8.1 Construction Phase

Based on the successful implementation of the construction phase controls and the works to be carried out in accordance with this EIAR and the accompanying AA Screening/NIS, it is likely that there will be no significant ecological impact arising from construction works proposed for the proposed project. Designated conservation sites will not be impacted by the Proposed Development during construction.

A robust series of construction phase control measures have been outlined to ensure that the proposed project does not impact on species or habitats of conservation importance, conservation areas or watercourses during construction. It is essential that these measures are complied with to ensure that the proposed works do not have downstream environmental impacts. These measures are to protect the River Liffey, which is potentially the primary vector of impacts from the site, is not impacted during construction and operational phases of the Proposed Development.

Based on the implementation of the mitigation and monitoring measures set out in Section 7.6 and 7.7 above, in addition to the mitigation measures set out in Chapter 5, Land and Soils, Geology and Hydrogeology, Chapter 6, Hydrology and Chapter 10, Noise and Vibration of this EIAR the residual effects on biodiversity during the construction phase are: ***Slight effects / site / Negative effect / Not significant / short term / likely***. Standard mitigation will be in place on site. No significant effects on biodiversity are likely in relation to the operation of the Proposed Development.

### 7.8.2 Operational Phase

Based on the successful implementation of the operational phase controls and the works to be carried out in accordance with this EIAR including surface water controls during construction, and the accompanying AA Screening/NIS, it is likely that there will be no significant ecological impact arising from operation of the proposed project. Designated conservation sites will not be impacted by the Proposed Development.

Standard operational phase control measures have been outlined to ensure that the proposed project does not impact on species or habitats of conservation importance,

conservation areas or watercourses. It is essential that these measures are complied with, to ensure that the proposed works do not have downstream environmental impacts. These measures are to protect the River Liffey, which is potentially the primary vector of impacts from the site, is not impacted during operational phases of the Proposed Development.

Based on the implementation of the mitigation and monitoring measures set out in Section 7.6 and 7.7 above, in addition to the mitigation measures set out in Section 5.6 and 5.7 of Chapter 5 (Land, Soils, Geology and Hydrogeology) and in Section 6.6 and 6.7 of Chapter 6 (Hydrology) the residual effects on biodiversity during the operational phase are: ***Slight effects / site / Negative effect / Not significant / long term/likely.*** Standard mitigation will be in place on site. No significant effects on biodiversity are likely in relation to the operation of the Proposed Development.

## 7.9 CUMULATIVE EFFECTS OF THE PROPOSED DEVELOPMENT

The cumulative impact of the Proposed Development with any/all relevant other planned or permitted developments are discussed below. For details on the developments considered refer to Chapter 2, Appendix 2.1 of this EIA Report.

### 7.9.1 Construction Phase

In relation to the potential cumulative impact on biodiversity during the construction phase, the construction works which would have potential cumulative impacts are as follows (in the absence of mitigation measures on site):

- Surface water run-off or ground water pumping.
- Dust to surrounding sensitive receptors including the River Liffey.

A review of the permitted and Proposed Developments set out in in Chapter 2, Appendix 2.1 of this EIA Report has been undertaken to identify any substantial projects that are concurrent with the construction phase of the Proposed Development that may result in cumulative effects in respect on biodiversity. It is important to note that standard mitigation measures will be in place on the Proposed Development at North Wall Quay, to comply with legislative requirements particularly in relation to water quality, noise and dust.

The implementation of mitigation and monitoring measures detailed in Section 7.6.1; and 7.7.1, in addition to the mitigation measures set out in Chapter 5, Land and Soils, Geology and Hydrogeology, Chapter 6, Hydrology and Chapter 10, Noise and Vibration of this EIAR, as well as the compliance of the proposed and permitted developments in close proximity to the Proposed Development (Chapter 2, Appendix 2.1) with their respective planning conditions, will ensure there will be no significant potential for cumulative impacts.

The residual cumulative impact of the Proposed Development in combination with other planned or permitted developments can therefore be considered to be ***neutral, imperceptible*** and ***short-term***.

### 7.9.2 Operational Phase

In relation to the potential cumulative impact on biodiversity during the operational phase, the Proposed Development outlines the standard design features that will be in place. These include petrochemical interception of surface water where required and

a standard connection for foul water to the public treatment network. Foul effluent will be treated at Ringsend WwTP which is currently undergoing an upgrade and is compliant.

A review of the permitted and Proposed Developments set out in in Chapter 2, Appendix 2.1 of this EIA Report has been undertaken to identify any substantial projects that are concurrent with the operational phase of the Proposed Development that may result in cumulative effects in respect of biodiversity. This review identified the permitted developments, which are capable of combining. with the Proposed Development and have the potential to result in significant cumulative effects due to their scale and close proximity to the Proposed Development site.

Furthermore, all developments listed in Chapter 2, Appendix 2.1 of this EIA Report are required to ensure they do not have an impact on the receiving water environment in accordance with the relevant legislation (Water Framework Directive and associated legislation) such that they would be required to manage run-off and fuel leakages.

The implementation of mitigation and monitoring measures detailed in Section 7.6; and 7.7 as well as the in addition to the mitigation measures set out in Chapter 5, Land and Soils, Geology and Hydrogeology, Chapter 6, Hydrology and Chapter 10, Noise and Vibration of this EIAR will ensure there will be minimal cumulative potential for change in surface water during the operational phase of the Proposed Development. The residual cumulative impact of the Proposed Development in combination with other planned or permitted developments can therefore be considered to be ***neutral, imperceptible*** and ***long-term***.

## 7.10 REFERENCES


1. Brickell C. (1998) The Horticultural Society's Encyclopaedia of Garden Plants. The Royal Horticultural Society. Curtis T.G.F. & McGough H.N. (1988) The Irish Red Data Book. 1. Vascular Plants.
2. Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn).
3. Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) 1982
4. Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) 1979
5. Dempsey E. (2002) The Complete Guide to Ireland's Birds. 2nd Ed. Gill and Macmillan. European Communities (Natural Habitats) Regulations, 1997 (S.I. No. 94 of 1997). Fossitt J.A. (2000 ) A Guide to Habitats in Ireland. The Heritage Council. Fitter R., Fitter A. & Blamey M. (1974) The Wild Flowers of Britain and Northern Europe.
6. Dempsey E and O'Clery M. (2005). Pocket Guide to the Common Birds of Ireland. Gill and Macmillan, Dublin.Dublin Naturalists' Field Club (1998). Flora of County Dublin. Dublin.
7. EPA (2022). Guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR)
8. EC Directive on The Conservation of Natural habitats and of Wild Fauna and Flora (Habitats Directive) 1992
9. European Communities (Birds and Natural Habitats) Regulations 2011 Government of Ireland, Dublin
10. Fossitt JA (2000). A Guide to Habitats in Ireland. The Heritage Council. Hayden T and Harrington R (2000). Exploring Irish Mammals. Duchas, the Heritage Service.
11. Hayden T. & Harrington R. (2001) Exploring Irish Mammals, Dúchas The Heritage Service. Hume R. (1998) The Guide to Birds of Britain and Europe. Macmillan.
12. Joint Nature Conservancy Council (1993) Phase I Habitat Survey Techniques. JNCC. National Parks and Wildlife Service (Dept. of the Environment, Heritage and Local Government) Designated Site Information.
13. Kelleher, C. and Marnell, F. 2007 *Bat Mitigation Guidelines for Ireland – Irish Wildlife Manuals No. 25*. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin
14. Marnell F, Kingston N. & Looney D. (2010). Ireland Red List NO.3: Terrestrial Mammals. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland.
15. Marnell, F., Kingston, N. and Looney, D. 2009 *Ireland Red List No. 3: Terrestrial Mammals.* National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin
16. National Roads Authority (2005), Guidelines for the Treatments of Badgers Prior to the Construction of National Road Schemes. National Roads Authority, Dublin
17. National Biodiversity Data Centre (2012), Online Map Viewer Datasets. http://maps.biodiversityireland.ie
18. National Parks and Wildlife Service online resource www.npws.ie
19. National Roads Authority (2008), Ecological Surveying Techniques for Protected Flora & Fauna during the Planning of National Road Schemes. Dublin: National Roads Authority.
20. Phillips R. (1977) Wild Flowers of Britain. Macmillan. Phillips R. (1978) Trees in Britain, Europe and North America. Macmillan. Phillips R. (1980 Grasses, Ferns, Mosses & Lichens of Great Britain and Ireland.
21. Scannell M.J.P & Synnott D.M. (1987) Census catalogue of the flora of Ireland. (2nd Ed.). Stationery Office, Dublin.
22. Smal. C. (1995), The badger and habitat survey of Ireland ; Summary report / report. Dublin: Stationery Office,

23. Webb D.A., Parnell J. and Doogue D. (1996) An Irish Flora. Dundalgan Press, Dundalk.
24. Whilde A. (1993) Irish Red Data Book 2: Vertebrates. HMSO, Belfast. Wildlife (Amendment) Act, 2000 (S.I. No. 38 of 2000).
25. Wildlife Act 1976 and Wildlife Amendment Acts 2000 and 2010. Government of Ireland.
26. Fingal County Council (2004). Ecological Study of the Coastal Habitats in County Fingal Phase II – Birds (Hans Visser, Fingal County Council, John Coveney, Coveney Wildlife Consulting Ltd., David Kelly, Zoology Dept., Trinity College Dublin, Frank McManus, Sean Pierce & David Dillon, BirdWatch Ireland, Fingal Branch)
27. Barron, S., Delaney, A., Perrin, P., Martin, J. and O'Neill, F. (2011) National survey and assessment of the conservation status of Irish sea cliffs. Irish Wildlife Manuals, No. 53. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland.
28. Browne, A. (2005) National inventory of sea cliffs and coastal heaths. Unpublished report to the National Parks and Wildlife Service, Dublin.
29. Curtis, T.G.F. and McGough, H.N. (1988) The Irish Red Data Book 1. Vascular Plants. The Stationery Office, Dublin. Doogue, D., Nash, D., Parnell, J., Reynolds, S. and Wyse Jackson, P. (1998) Flora of County Dublin. The Dublin Naturalists' Field Club, Dublin.
30. NPWS (2013) Conservation Objectives: Malahide Estuary SAC 000205. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
31. NPWS (2012) Conservation Objectives: Baldoyle Bay SAC 000199. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
32. NPWS (2013) Conservation Objectives: North Dublin Bay SAC 000206. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
33. NPWS (2013) Conservation Objectives: Rockabill to Dalkey Island SAC 003000. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
34. NPWS (2017) Conservation Objectives: Ireland's Eye SAC 002193. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.
35. NPWS (2016) Conservation Objectives: Howth Head SAC 000202. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.
36. NPWS (2013) Conservation Objectives: South Dublin Bay SAC 000210. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
37. NPWS (2017) Conservation Objectives: Wicklow Mountains SAC 002122. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.
38. NPWS (2021) Conservation objectives for Glenasmole Valley SAC [001209]. Generic Version 8.0. Department of Housing, Local Government and Heritage.
39. NPWS (2013) Conservation Objectives: Malahide Estuary SPA 004025. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
40. NPWS (2013) Conservation Objectives: Baldoyle Bay SPA 004016. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
41. NPWS (2015) Conservation Objectives: North Bull Island SPA 004006. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
42. NPWS (2015) Conservation Objectives: South Dublin Bay and River Tolka Estuary SPA 004024. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
43. NPWS (2022) Conservation objectives for Ireland's Eye SPA [004117]. First Order Sitespecific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.

44. NPWS (2022) Conservation objectives for Howth Head Coast SPA [004113]. First Order Sitespecific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.
45. NPWS (2022) Conservation objectives for Wicklow Mountains SPA [004040]. First Order Site-specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.
46. NPWS (2022) Conservation objectives for Dalkey Islands SPA [004172]. First Order Sitespecific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.
47. Chartered Institute of Ecology and Environmental Management (2021). Bat Mitigation Guidelines: A guide to impact assessment, mitigation and compensation for developments affecting bats. Beta version. Chartered Institute of Ecology and Environmental Management, Winchester.
48. Chartered Institute of Ecology and Environmental Management (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal, and Marine. Chartered Institute of Ecology and Environmental Management, Winchester.
49. Institution of Lighting Professionals (2018). Bats and Artificial Lighting in the UK – Bats and the Built Environment Series: Guidance Note 08/18. Institution of Lighting Professionals and the Bat Conservation Trust.
50. Marnell, F., Kelleher, C., & Mullen, E. (2022), BAT MITIGATION GUIDELINES FOR IRELAND – V2 https://www.npws.ie/sites/default/files/publications/pdf/IWM134.pdf
51. George F. Smith, Paul O'Donoghue, Katie O'Hora and Eamonn Delaney (2011), Best Practice Guidance for survey and mapping.
52. Office of the Planning Regulator (OPR) (2021). Practice Note PN01 Appropriate Assessment Screening for Development Management