

## Greater Dublin Drainage Project Addendum

**Environmental Impact Assessment Report Addendum:  
Volume 3A Part A of 6**

**Chapter 10A Biodiversity (Marine Ornithology)**

**Uisce Éireann**

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# Greater Dublin Drainage Project Addendum

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## 10. Biodiversity (Marine Ornithology)

### 10.1 Introduction

As detailed in Chapter 1A (Introduction) in Volume 2A Part A of this Environmental Impact Assessment Report (EIAR) Addendum, we have reviewed Chapter 10 (Biodiversity (Marine Ornithology)) in Volume 3 Part A of the EIAR submitted with the original 2018 planning application, in the light of:

- Changes to the baseline environment;
- The requirement for updated surveys; and
- Any changes to the law, policy, or industry standards and guidance in the intervening period.

Table 10.1 includes a summary of the project elements which were incorporated into the planning design for the Greater Dublin Drainage Project (hereafter referred to as the Proposed Project) following direction at the Oral Hearing in 2019 and the subsequent planning conditions applied to the 2018 planning application submission. A full description is included in Chapter 4A (Description of the Proposed Project) in Volume 2A Part A of the EIAR Addendum. The remaining elements of the Proposed Project included in the 2018 planning application remain unchanged.

**Table 10.1: Updated Proposed Project Elements**

Updated Element	Outline Description of Updated Element
Ultraviolet (UV) Treatment	<ul style="list-style-type: none"> <li>• UV Treatment is to be included in the treatment process at the proposed wastewater treatment plant (WwTP) in the northern section of the WwTP site.</li> <li>• The UV treatment system will be designed for the expected flows at the plant and will be installed on the final effluent line. UV treatment will be in operation 24 hours a day, 365 days a year.</li> <li>• The UV system will consist of a minimum of three and a maximum of four treatment units located below or partially below ground level with an above-ground Motor Control Centre (MCC) (in a kiosk) along with minor maintenance and control equipment (e.g. shut-off button, frame for supporting, retracting and cleaning of UV lamps etc.).</li> </ul>
River Mayne Culvert Extension	<ul style="list-style-type: none"> <li>• Extension of the River Mayne Culvert on the proposed access road to the WwTP by 4m (from 21m to 25m) to cater for the full width of the future north south link road.</li> </ul>

The updated biodiversity assessment contained in this Addendum Chapter is based on Chapter 4A (Description of the Proposed Project) in Volume 2A Part A of the EIAR Addendum, and the Addendum to the Outline Construction and Environmental Management Plan (CEMP) which is included as a standalone document. The assessment is supported, as necessary, by other specialist assessments of the EIAR Addendum, including for example, Chapter 8A (Marine Water Quality), Chapter 9A (Biodiversity (Marine)), Chapter 15A (Noise and Vibration) and Chapter 17A (Hydrology and Hydrogeology).

This Addendum Chapter should be read in conjunction with the following:

- Appendix A10.1 Ornithology (Marine) Baseline Survey Report) in Volume 3A Part B of the EIAR Addendum, which contains the results of updated estuarine and Vantage Point (VP) surveys;
- Appendix A10.2 Revised Vessel Management Plan;
- Appendix A10.3 Written Responses to Biodiversity (Marine Ornithology) Queries at the 2019 Oral Hearing;; and
- Revised Natura Impact Statement (NIS) Addendum (included as a standalone report).

### 10.2 Methodology

The methodology employed for the purpose of this Addendum assessment was to review the marine biodiversity baseline in terms of the physical environment (based on the completion of updated surveys), and legislative / policy context. This was compared to the baseline that existed in 2018 when the original Chapter 9 (Biodiversity (Marine)) was submitted in Volume 3 Part A of the EIAR in the 2018 planning application.

### 10.2.1 Introduction

This marine ornithology Addendum assessment is based on the construction and operation of the new proposed outfall pipeline route (marine section), in the same manner that the original assessment was carried out for the EIAR in the 2018 planning application.

The following additional sources of information have been used during the Addendum assessment:

- Literature assessment (using published data and literature) of the Fingal coastline, including the latest Fingal County Council (FCC) Fingal Development Plan 2023-2029 (hereafter referred to as the FDP) (FCC 2023), Fingal Local Biodiversity Action Plan (FCC 2022), Ireland's Eye Management Plan 2018-2022 (Nairn 2017), Uisce Éireann's (formerly Irish Water) Biodiversity Action Plan (Uisce Éireann 2020) and citations for Baldoyle Bay, Ireland's Eye and Howth Head Coast Special Protection Areas (SPAs) and the North-West Irish Sea candidate SPA (cSPA);
- Updated walkover survey data collected between September 2020 and June 2023 to characterise the abundance and distribution of bird species associated with the Baldoyle Bay SPA and surrounding habitats;
- VP surveys from two locations between August 2020 and June 2023 to assess usage by bird species of the proposed outfall pipeline route (marine section); and
- Boat-based surveys were not undertaken as part of the update to this EIAR Addendum, as described further in Section 10.2.4.

The following guidelines informing the methodology for the assessment have been updated since the 2018 planning application:

- The Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment in the UK and Ireland – Terrestrial, Freshwater, Coastal and Marine (hereafter referred to as the Guidelines for Ecological Impact Assessment) (CIEEM 2018) [version 1.2]; and
- Environmental Protection Agency (EPA) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (hereafter referred to as the updated EPA Guidelines) (EPA 2022).

The Guidelines for Ecological Impact Assessment were published by CIEEM in 2018, and subsequently modified in 2019 and 2022. The current version is the 2018 version (noted within the Guidelines for Ecological Impact Assessment to be republished in April 2022 as Version 1.2). The principal purpose of and material change in the 2018 Guidelines for Ecological Impact Assessment is that they combine the 2016 Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, 2<sup>nd</sup> edition (CIEEM 2016) and the Guidelines for Ecological Impact Assessment in Britain and Ireland: Marine and Coastal (CIEEM 2010) (both of which informed the assessment for Chapter 10 (Biodiversity (Marine Ornithology)) in Volume 3 Part A of the EIAR in the 2018 planning application), to have only one set of Ecological Impact Assessment (EclA) guidelines in the UK and Ireland. The EclA prepared in accordance with the 2016 Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, 2<sup>nd</sup> edition and the 2010 Guidelines for Ecological Impact Assessment in Britain and Ireland: Marine and Coastal, presented in the EIAR in the 2018 planning application remains valid and robust today, subject to any changes or modifications set out subsequently in this Chapter of the EIAR Addendum.

The updated EPA Guidelines were published by the EPA in 2022. The Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (hereafter referred to as the Draft EPA Guidelines) (EPA 2017) informed the assessment carried out in Chapter 10 (Biodiversity (Marine Ornithology)) in Volume 3 Part A of the EIAR in the 2018 planning application. The Draft EPA Guidelines were made available in 2017 following the transposition deadline set down in Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment (hereafter referred to as the EIA Directive). The Draft EPA Guidelines have been updated following extensive consultation and the introduction of transposing legislation and were formally adopted and published by the EPA in 2022, having been drafted with the primary objective of improving the quality of EIARs with a view to facilitating compliance with the EIA Directive.

Insofar as the updated EPA Guidelines relate to the EclA presented in Chapter 10 (Biodiversity (Marine Ornithology)) in Volume 3 Part A of the EIAR in the 2018 planning application, in terms of describing the nature of effects on biodiversity features (extent, magnitude, duration, frequency and reversibility) and the significance of those effects, those same terms are used in both the Draft EPA Guidelines and the adopted updated EPA Guidelines (e.g. Table 3.3 of the Draft EPA Guidelines on the description of effects has been brought through to the adopted updated EPA Guidelines as Table 3.4).

The updated EPA Guidelines note that '*when more specific definitions exist within a specialised factor or topic, e.g. biodiversity, these should be used in preference to these generalised definitions*', which is the case for Chapter 10 (Biodiversity (Marine Ornithology)) in Volume 3 Part A of the EIAR in the 2018 planning application.

### 10.2.2 Estuarine Ornithological Survey

Updated estuarine bird surveys were undertaken during 2020 / 2021, 2021 / 2022 and 2022 / 2023 to characterise the ornithological interests of Baldoyle Bay and its surrounding areas, particularly with respect to spatial and temporal distribution of key SPA species. A summary of survey effort is provided in Table A10.1 of Appendix A10.1 in Volume 3A Part B of the EIAR Addendum, which contains the results of updated surveys.

Surveys were carried out twice per month between September 2020 and August 2021, November 2021 and March 2022, and October 2022 and June 2023.

The survey methodology and timeframe was based on the British Trust for Ornithology (BTO) Wetland Bird Survey (WeBS) and Irish WeBS (I-WeBS) methodology as outlined in Gilbert *et al.* (Gilbert *et al.* 1998) and BTO (2016a; 2016b) in the same manner that the surveys for the EIAR in the 2018 planning application were based. The survey method included both high tide and low tide waterbird counts. Surveys were conducted throughout a range of weather conditions and times of the day where good visibility prevailed. The spatial extent of the surveys is illustrated in Figure A10.1 of Appendix A10.1 in Volume 3A Part B of the EIAR Addendum. Full details of the methodologies employed during these surveys are provided in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum.

### 10.2.3 Coastal and Marine Vantage Point Surveys

VP surveys were carried out as per the methodology described in the EIAR in the 2018 planning application. Six hours of survey effort per month was carried out from August 2020 to July 2021 and from January to June 2023. A reduced effort was undertaken between October and December 2022, comprising three hours in October, nine hours in November and three hours in December. Surveys were not undertaken at VP2 in February or April 2023 due to poor weather conditions. Survey protocol was designed to count birds on the water (primary focus) and in flight (through snapshot recording).

Two VPs were used: one on the mainland ('Velvet Strand' (IO250423, Lat. 53.41631, Long. -6.11966, mean viewing angle 70° (degrees)), and one on Ireland's Eye ('Ireland's Eye' (IO287415, Lat. 53.40792, Long. -6.06387, mean viewing angle 0°). The Velvet Strand VP covered the area of the proposed outfall pipeline route (marine section) out to sea using a 2 kilometre (km) viewing arc, and the Ireland's Eye VP covered the remaining proposed outfall pipeline route (marine section), also using a 2km viewing arc. In this way, the proposed outfall pipeline route (marine section), and a large buffer, were covered by the surveys. The location of these VPs and their viewing arcs are illustrated in Figure A10.1 Location and Extent of Marine, Coastal and Estuarine Ornithological Surveys.

The 2km 180° viewing arc was divided into six (30°) sections labelled A to F. Each section was subdivided into 500 metre (m) distance bands (numbered sequentially from 1 to 4 away from the observer). Each section was identified using land features, rangefinders, and by measuring the compass bearing from the observer.

Surveys were timed to give coverage over a range of tidal states throughout the year, and to ensure that both spring and neap tides were covered. Key species / species groups for the VP surveys were primarily seabirds using the marine environment for foraging and roosting / loafing and social interaction.

Full details of the methodologies employed during these surveys, along with a priority species list and detailed records of survey timings, are provided in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum.

### **10.2.4 Boat Based Assessment of Auk Fledging**

Boat-based surveys were not undertaken as part of the updates completed for the EIAR Addendum. These surveys were previously undertaken in 2016 and 2017 in tandem with VP surveys from Ireland's Eye to help further inform the ornithological assessment in the EIAR in the 2018 planning application. Mitigation to offset any potential significant disturbance risk to flightless auks on water was identified and agreed as part of the EIAR in the 2018 planning application. The same mitigation approach (namely the implementation of a Vessel Management Plan) still remains suitable and valid, and can also readily respond to any fluctuations in the distribution and abundance of any rafts of flightless auks present during the outfall construction period (which will be dependent on the weather at the time). Therefore further boat based surveys were not required, as there are no changes to the conclusions reached in Section 10.9 of Chapter 10 (Biodiversity (Marine Ornithology)) in Volume 3 Part A of the EIAR in the 2018 planning application. The Vessel Management Plan has, however, been updated to include reference to the North-west Irish Sea cSPA, although no changes to its measures are required as a risk of potentially significant disturbance still only applies to rafts of flightless auks.

### **10.2.5 Defining Ecological Importance**

There are no changes to defining features of ecological importance, as presented in this Section of the EIAR in the 2018 planning application.

### **10.2.6 Defining Ecological Impacts**

There are no changes to the impact assessment process presented in this Section of the EIAR in the 2018 planning application.

### **10.2.7 Determination of Significance**

There are no changes to the determination of significance, as presented in this Section of the EIAR in the 2018 planning application.

### **10.2.8 Non-Statutory Consultation**

There are no changes to the information presented in this Section of the EIAR in the 2018 planning application, in relation to the consultation undertaken, prior to submission of the 2018 planning application. Following the submission of the application for planning approval for the Proposed Project to An Bord Pleanála (ABP) on 20 June 2018, the application documentation was placed on display during the period 28 June 2018 to 17 August 2018 (a seven week period). Additionally, the application documentation was made available to view and download on a dedicated website ([www.gddapplication.ie](http://www.gddapplication.ie)). Prescribed bodies, the general public, landowners and other interested parties were invited to make submissions on:

- The likely effects on the environment of the Proposed Project; and
- The implications of the Proposed Project for proper planning and sustainable development in the area concerned.

Following this consultation period, it came to the attention of the Applicant on 19 July 2018 that in relation to the documents which were lodged with the planning application, some documentation forming part of the EIAR were inadvertently omitted. By agreement with ABP, these documents were placed on display during the period 13 September 2018 to 18 October 2018 (a five-week period) and prescribed bodies, the general public, landowners and other interested parties were invited to make further submissions on the entirety of the planning application until 18 October 2018. A total of 174 submissions / observations were received; comprising 145 from the first consultation period and 29 from the second consultation period.

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All submissions were reviewed by Uisce Éireann and the Project Team, and responses were provided in a Response to Submissions Report (Uisce Éireann 2019), including those which specifically related to marine ornithology, which was published on the dedicated website in January 2019.

Following an Oral Hearing process, ABP previously made a decision to grant this planning application by Order dated 11 November 2019 under reference number ABP-301908-18 for Proposed Project. That decision was quashed by Order of the High Court and the case was remitted by that Court to ABP for a fresh determination. Following the remittal Order, ABP decided that given the passage of time since the submission of the original planning application, and in accordance with Section 37F(1) of the Planning and Development Act 2000 (as amended), Uisce Éireann should have the opportunity to update, where appropriate, the EIAR and NIS, and any other information submitted.

In light of this, ABP contacted those who had made a submission as part of the original consultation process in 2018 advising that the case had been reactivated under a new reference number (ABP-312131-21) and invited those interested parties to make any further general submissions / observations on the planning application by 30 September 2022. A total of 16 submissions were received and have been considered in the updates to the EIAR as part of this Addendum. Where a submission that relates to marine ornithology does not require an update to this Addendum Chapter, but does require further clarification based on the information provided either in the original EIAR submitted as part of the 2018 planning application or the information in this Addendum, responses will be provided in a new Response to Submissions Report which will be submitted to ABP as a separate report (in line with the process followed for the original 2019 A Response to Submissions Report), following the submission of the Addendum.

### **10.3 Baseline Environment**

#### **10.3.1 Wintering Birds and the Baldoyle Bay Special Protection Area**

There are no changes to the conservation objectives of the Baldoyle Bay SPA, as presented in this Section of the EIAR in the 2018 planning application.

Updated peak counts and five-year population means for each species have been updated to include the 2020 / 2021 season (I-WeBS 2021). These data are summarised in Table 10.2.

#### **10.3.2 Adjacent Special Protection Areas and Designated Sites**

Since the publication of the EIAR in the 2018 planning application, the National Parks and Wildlife Service (NPWS) published site-specific conservation objectives for Skerries Island SPA (in October 2022), which was considered in the EIAR and the NIS included in the 2018 planning application.

These site-specific conservation objectives replace the generic conservation objectives that had been published previously. The date of publication of the conservation objectives used in assessing the effects of the Proposed Project in 2018 are listed in Appendix E of the NIS, which was included as a standalone document in the 2018 planning application.

In July 2023, details of a new candidate cSPA designated under Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (hereafter referred to as the Birds Directive) were announced. The North-West Irish Sea cSPA (004236) extends offshore along the coasts of counties Louth, Meath and Dublin and is approximately 2,333 km<sup>2</sup> (kilometres squared). The site is of special conservation interest for the following species: common scoter, red-throated diver, great northern diver, fulmar, Manx shearwater, shag, cormorant, little gull, kittiwake, black-headed gull, common gull, lesser black-backed gull, herring gull, great black-backed gull, little tern, roseate tern, common tern, Arctic tern, puffin, razorbill and guillemot. Site-specific conservation objectives assigned to this cSPA have recently been published (NPWS 2023) and have been fully considered in this assessment.

In compliance with its legal obligations, Uisce Éireann has treated the cSPA as a fully designated SPA in this assessment. Uisce Éireann has worked with its newly published conservations objectives. The length of the proposed outfall pipeline route (marine section) beyond Velvet Strand to the terminal marine diffuser (4,800m)

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will be located within the North-West Irish Sea cSPA. This comprises 108.5ha (hectares) of the red line boundary of the Proposed Project.

The EIAR Addendum and Revised NIS currently assesses the impact of the Proposed Project on the Ireland's Eye SPA and the North-West Irish Sea cSPA in terms of marine ornithology concluding no predicted impacts on marine ornithological interests during the Construction or Operational Phases.

Following a review of the NPWS website, all other sites relevant to marine ornithology, including Malahide Estuary SPA, Rogerstown SPA, North Bull Island SPA and South Dublin Bay SPA, have not had conservation objectives re-published since the original EIAR and NIS were prepared and published for the 2018 planning application.

There are no other changes to the information presented in this Section of the EIAR in the 2018 planning application.

### 10.3.3 Estuarine Ornithological Baseline

#### Sources of Information

Appendix A10.1 in Volume 3A Part B of the EIAR Addendum presents the peak monthly counts and the mean of these counts (peak mean) of the estuarine walkover surveys. Table A10.2 of Appendix A10.1 contains peak mean data for the Baldoyle Bay SPA species of conservation interest and Table A10.3 contains data for the other named qualifying features. Peak means recorded during the updated estuarine walkover surveys are presented in Table 10.2, along with a range of other information relating to the conservation status of each species and 1% national thresholds.

For bird species that are not qualifying species of the Baldoyle Bay SPA, peak counts by month for the entire estuarine survey programme are presented in Table A10.4 of Appendix A10.1 in Volume 3A Part B of the EIAR Addendum. Table A10.4 ranks these species by peak count.

Figure A10.1 to Figure A10.74C in Appendix A10.1 show the distribution of various species of birds across the Baldoyle Bay estuarine survey area recorded during the estuarine walkover surveys, including species of conservation interest of the Baldoyle Bay SPA and other species included on the Natura 2000 data form. The figures are ordered alphabetically. Figures were produced for species that are named on citations of Ireland's Eye SPA, Howth Head Coast SPA or North-West Irish Sea cSPA, or for other species if more than 10 records of the species were made during the surveys.

#### Special Conservation Interests of the Baldoyle Bay Special Protection Area

Light-bellied brent geese were present in peak numbers during the wintering and passage periods and were generally absent during the breeding season (May to September each year) (refer to Table A10.2 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum), which is broadly consistent with the findings of the data presented in the EIAR in the 2018 planning application. The peak count was 321 birds (previously recorded peak count of 816 birds was presented in the EIAR in the 2018 planning application), which did not exceed the 1% national threshold of 350 birds. Brent geese were observed across the surveyed section of the SPA and on both the seaward and landward sides of the estuary. Within the SPA, birds were frequently seen in association with wetted channels, where they were observed feeding, loafing and bathing. Birds were observed roosting in the north, west and east of the section of the SPA that was surveyed.

Shelduck were present in the estuarine survey area all year round (refer to Table A10.2 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Peaks in the population size occurred over winter during both the baseline and updated surveys, but birds were also present in reasonable numbers during the breeding season. This suggests a small resident population which is swelled by additional wintering birds. The three-year peak count of 305 birds recorded in the updated surveys exceeds the 1% national threshold of 100 birds, but not the 1% International threshold of 2,500 birds. Previously, a peak count of 138 birds was recorded during the baseline surveys. Shelduck were distributed relatively evenly throughout the wetted portion of the SPA covered by the surveys and were infrequently recorded in association with habitats beyond the SPA (refer to Figure



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A10.64 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). They were frequently seen individually or in small groups.

Ringed plover numbers peaked during the autumn passage and winter periods in 2020 and were also regularly recorded during the breeding season in 2021 (refer to Table A10.2 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). The peak count of 86 birds recorded during the update surveys did not exceed the 1% national threshold of 120 birds. Previously, a peak count of 204 birds was recorded during the baseline surveys. This species showed a preference for the habitats associated with the eastern side of Baldoyle Bay SPA (refer to Figure A10.57 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). As well as being recorded within the SPA, relatively substantial numbers of records were made on the land to the western side of the Portmarnock Golf Course. A handful of records were also made in the Velvet Strand Beach intertidal area to the east of the SPA. These findings are consistent with those presented in the EIAR in the 2018 planning application.

Grey plover were present in peak numbers during the passage periods and were generally absent during the breeding season (April to August 2021). In the winter, the species was only present in low numbers (refer to Table A10.2 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). The peak count of 31 birds recorded during the update surveys exceeded the 1% national threshold of 30 birds, but not the 1% International threshold of 2,000 birds. Previously, a peak count of 487 was recorded during the baseline surveys, which is more than five times higher than the most recent peak. During the update surveys, grey plover were observed within the estuarine survey area almost exclusively within the Baldoyle Bay SPA (refer to Figure A10.27 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Records were made across the estuary of birds feeding, roosting and loafing.

Golden plover, like grey plover, were present in peak numbers during the wintering and passage periods and were generally absent during the breeding season (April to July 2021). The peak count of 945 birds exceeded the 1% national threshold of 920 birds, but not the 1% International threshold of 9,300 birds. A peak count of 3,061 birds had previously been recorded in the same area during the baseline surveys. There were comparatively few records of golden plover during the estuarine surveys, though when recorded, birds were present in large groups of up to 800 birds (refer to Figure A10.21 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Most observations of this species were made within the Baldoyle Bay SPA boundary, though some groups of birds were recorded in the field to the west. Several groups of roosting birds were recorded towards the north of the estuary.

Bar-tailed godwits were present in peak numbers during the wintering and passage periods each year, and in low numbers during the breeding season. The peak count during the update surveys was 205 birds, exceeding the 1% national threshold of 170 birds, but not the 1% International threshold of 1,500 birds. Previously, a peak count of 275 birds was recorded during the baseline surveys that informed the EIAR in the 2018 planning application. Bar-tailed godwit records were predominantly located within the intertidal area of Baldoyle Bay SPA (refer to Figure A10.2 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Small numbers of birds were recorded in the intertidal area of Velvet Strand Beach to the east of the SPA. Over two-thirds of records were feeding birds, with roosting on the estuary fringes the second most commonly recorded behaviour. The main roosting locations were areas in the north and north-west of the SPA, with some roosting birds recorded at the western shoreline of the SPA.

### [Other Named Qualifying Species of the Baldoyle Bay SPA](#)

The other qualifying species listed in the Natura 2000 data form for the Baldoyle Bay SPA can be grouped into three broad categories of temporal distribution.

1. Species that were absent during the breeding season, with peaks in the population occurring in the winter or passage seasons: great crested grebe, knot, pintail, red-breasted merganser and sanderling.

Great crested grebes were recorded on 15 occasions with a peak count of 25 birds within the Baldoyle Bay SPA during the update surveys, compared to 44 birds recorded during the baseline surveys that informed the EIAR in the 2018 planning application. All other records were made in the intertidal area to the east of the SPA at Velvet Strand, where birds were recorded feeding and loafing (refer to Figure A10.24 in Appendix A10.1 in

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Volume 3A Part B of the EIAR Addendum). The peak count of 25 birds did not exceed the 1% national threshold of 30 birds.

Knot were recorded in moderate numbers during the update surveys and favoured the area of Baldoyle Bay several hundreds of metres to the south of the microtunnelled section of the proposed outfall pipeline route (marine section), where they were recorded feeding and roosting (refer to Figure A10.34 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). The peak count of 267 birds exceeded the 1% national threshold of 160 birds, but not the 1% International threshold of 5,300 birds. Only 126 birds had previously been recorded during the baseline surveys that informed the EIAR in the 2018 planning application.

Only three records of pintail were made during the estuarine surveys in November and December 2020, and January 2021 (refer to Figure A10.49 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum), compared to two records during the baseline surveys that informed the EIAR in the 2018 planning application. All three records were within the Baldoyle Bay SPA boundary, just to the south of the proposed microtunnelled section of the proposed outfall pipeline route (marine section). The 1% national threshold of 20 birds was not exceeded.

Red-breasted merganser were observed feeding within the SPA boundary, with the majority of records made in the southern portion of the estuarine survey area (refer to Figure A10.53 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). There were greater numbers of records of this species in the sea off Velvet Strand to the east of the Baldoyle Bay SPA, than in the SPA itself. The peak count was 26 birds, which exceeded the 1% national threshold of 25 birds. However, the 1% International threshold of 800 birds was not exceeded.

Sanderling were recorded frequently during the estuarine surveys, with the majority of records in the south of the SPA (refer to Figure A10.61 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Records for this species were also made in the intertidal area of Velvet Strand to the east of the Baldoyle Bay SPA. The peak count of 76 birds did not exceed the 1% national threshold of 85 birds. A peak count of 50 birds had previously been recorded during the baseline surveys that informed the EIAR in the 2018 planning application.

2. Species that were present in low / very low numbers of non-breeding / early returning birds during the breeding season, with peaks in the population occurring in the winter or passage seasons: black-tailed godwit, dunlin, greenshank, lapwing, redshank, teal and turnstone were present.

Black-tailed godwit were recorded in relatively modest numbers during the estuarine surveys and were located outside of the Baldoyle Bay SPA (refer to Figure A10.5 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). The peak count was 250 birds, which exceeded the 1% national threshold of 200 birds. However, the 1% International threshold of 1,100 birds was not exceeded. A peak count of 166 birds had previously been recorded during the baseline surveys that informed the EIAR in the 2018 planning application.

Dunlin were frequently recorded throughout the Baldoyle Bay SPA (refer to Figure A10.18 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Small numbers of birds were also observed to the west and the south of the SPA and in the intertidal area to the east. The peak count of 1,006 birds was above the 1% national threshold of 460 birds but below the 1% International threshold of 13,300 birds. Around half the number of dunlin were recorded during the baseline surveys that informed the EIAR in the 2018 planning application, with a previous peak count of 525 birds.

Greenshank were recorded feeding and roosting predominantly in the Baldoyle Bay SPA to the north and south of the microtunnelled section of the proposed outfall pipeline route (marine section) (refer to Figure A10.25 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Records for greenshank were also observed in the fields to the north of the SPA and in the intertidal area to the east and west, whereas no birds were recorded in terrestrial habitats during the baseline surveys that informed the EIAR in the 2018 planning application. The peak count for greenshank was 54 birds, which is above the 1% national threshold of 20 birds, but below the 1% International threshold of 3,300 birds.

Lapwing were recorded in the Baldoyle Bay SPA and terrestrial habitats to the west (refer to Figure A10.35 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Within the SPA close to the mouth of the River Mayne, there were numerous records of this species. Birds recorded in the fields to the north and west of the

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estuary were feeding and roosting. The peak count of 263 birds was lower than the 1% national threshold of 850 birds. A peak count of 534 birds had previously been recorded during the baseline surveys that informed the EIAR in the 2018 planning application.

Redshank were recorded across the estuarine section of the survey utilising numerous areas for feeding, loafing and roosting (refer to Figure A10.54 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Most observations throughout the SPA were associated with river channels or the saltmarsh areas at the fringe of the intertidal flats. To the south of the proposed microtunnelled section of the proposed outfall pipeline route (marine section), records were concentrated to the eastern and western margins of the Baldoyle Bay SPA. Small numbers of records were made in the sea off Velvet Strand and to the south of the SPA. The peak count of 197 birds was lower than the 1% national threshold of 240 birds. A peak count of 294 birds had previously been recorded during the baseline surveys that informed the EIAR in the 2018 planning application.

Teal were most frequently associated with river channels in both the estuary itself, but also upstream (refer to Figure A10.70 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). There was a concentration of records within Baldoyle Bay SPA towards the western edge. The peak count of 266 birds was lower than the 1% national threshold of 360 birds. A peak count of 328 birds had previously been recorded during the baseline surveys that informed the EIAR in the 2018 planning application.

Turnstone were recorded infrequently, with records distributed across the Baldoyle Bay SPA section of the estuarine survey area (refer to Figure A10.71 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). A small number of records were also made on the intertidal area to the east of the SPA. The peak count of 29 birds was lower than the 1% national threshold of 95 birds. A peak count of 74 birds had previously been recorded during the baseline surveys that informed the EIAR in the 2018 planning application.

3. Species that are present in larger numbers throughout the year, with peaks in the population occurring in the winter or passage seasons: curlew, grey heron, mallard and oystercatcher. There may be small resident populations of these species, which increase in the winter as birds which have spent the breeding seasons elsewhere arrive to Baldoyle Bay.

Curlew were distributed evenly throughout Baldoyle Bay SPA, with birds recorded feeding and roosting across the SPA habitat (refer to Figure A10.16 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). There were small numbers of birds recorded in the fields to the west of the SPA, on Portmarnock Golf Course to the east, and in the intertidal area to the east of the SPA. The peak count of 115 birds was lower than the 1% national threshold of 350 birds. A peak count of 164 birds had previously been recorded during the baseline surveys that informed the EIAR in the 2018 planning application.

Grey heron was recorded primarily in association with the River Mayne and other watercourses to the west of Baldoyle Bay SPA. They were also recorded frequently in the north-west corner of Baldoyle Bay SPA (refer to Figure A10.26 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum), and in modest numbers across Baldoyle Bay SPA itself, particularly on the western and eastern fringes of the SPA. The peak count of 17 birds was lower than the 1% national threshold of 25 birds. A peak count of 15 birds had previously been recorded during the baseline surveys that informed the EIAR in the 2018 planning application.

Mallard were recorded across Baldoyle Bay Estuary and surrounding habitats, with several 'hotspots' where numbers of records were much higher (refer to Figure A10.41 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). These hotspots were used for feeding and roosting and were generally located close to the estuary and SPA edges where rivers flow into it. They were also seen regularly on the River Mayne to the west of the SPA. Substantial numbers were recorded on Portmarnock Golf Course to the east of the SPA in association with water bodies. The peak count of 131 birds was lower than the 1% national threshold of 290 birds. A peak count of 185 birds had previously been recorded during the baseline surveys that informed the EIAR in the 2018 planning application.

Oystercatcher were most frequently recorded within the SPA boundary to the south of the microtunnelled section of the proposed outfall pipeline route (marine section) (refer to Figure A10.46 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). In addition, birds were recorded frequently on Portmarnock Golf Course feeding and roosting, and also in the intertidal zone to the east of Portmarnock Golf Course and the SPA at Velvet Strand. The peak count of 348 birds was lower than the 1% national threshold of 610 birds. A

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peak count of 739 birds had previously been recorded during the baseline surveys that informed the EIAR in the 2018 planning application.

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**Table 10.2: Species Listed on the Baldoyle Bay Special Protection Area Citation Recorded During Updated Estuarine Surveys Undertaken Between September 2020 and June 2023**

Species	Common Name	Baldoyle Bay SPA Qualifying Species*	Annex 1 Species	BoCCI Status**	Recent Five-Year Peak Mean	Site Population Trend (Five Year)	Site Population Trend (12 Year)	Site Conservation Condition	1% International Threshold***	1% All Ireland Threshold***	Peak Count During Baseline 2017-2018 Surveys****	Peak Count During Updated 2020-2023 Surveys****	Month in Which Peak Recorded (2020-2023)
<i>Branta bernicla</i>	Brent goose	SCI	No	Amber (w)	521	+30.0	+43.7	Favourable	400	350	816	321	Jan 2021
<i>Tadorna tadorna</i>	Shelduck	SCI	No	Amber (b, w)	140	118.1	+141.5	Favourable	2,500	100	138	305	Jan 2023
<i>Charadrius hiaticula</i>	Ringed plover	SCI	No	Amber (b, w)	1	-4.3	-7.3	Intermediate Unfavourable	240	120	204	86	Oct 2020
<i>Pluvialis squatarola</i>	Grey plover	SCI	No	Red (w)	102	-53.6	-49.3	Unfavourable	2,000	30	487	31	Dec 2020
<i>Pluvialis apricaria</i>	Golden plover	SCI	Yes	Red (b, w)	707	-1.6	-37.7	Unfavourable	9,300	920	3,061	945	Jan 2021
<i>Limosa lapponica</i>	Bar-tailed godwit	SCI	Yes	Red (w)	61	-7.4	-52.8	Highly Unfavourable	1,500	170	275	205	Oct 2020
<i>Podiceps cristatus</i>	Great crested grebe	Yes	No	Amber (b, w)	0	-	-	-	6,300	30	40	25	Sep 2020
<i>Anas crecca</i>	Teal	Yes	No	Amber (b, w)	126	-	-	-	5,000	360	328	303	Feb 2023
<i>Anas platyrhynchos</i>	Mallard	Yes	No	Amber (b, w)	93	-	-	-	53,000	280	185	131	Sep, Dec 2020
<i>Anas acuta</i>	Pintail	Yes	No	Amber (w)	0	-	-	-	600	20	1	2	Nov, Dec 2020, Jan 2021
<i>Mergus serrator</i>	Red-breasted merganser	Yes	No	Amber (b, w)	5	-	-	-	860	25	26	26	Sep 2020
<i>Haematopus ostralegus</i>	Oystercatcher	Yes	No	Red (b, w)	235	-	-	-	8,200	610	739	348	Feb 2023
<i>Vanellus vanellus</i>	Lapwing	Yes	No	Red (b, w)	225	-	-	-	72,300	850	534	263	Oct 2020
<i>Calidris canutus</i>	Knot	Yes	No	Red (w)	320	-	-	-	5,300	160	126	267	Oct 2020
<i>Calidris alpina</i>	Dunlin	Yes	No	Red (b, w)	271	-	-	-	13,300	460	525	1006	Jan 2023

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Species	Common Name	Baldoyle Bay SPA Qualifying Species*	Annex 1 Species	BoCCI Status**	Recent Five-Year Peak Mean	Site Population Trend (Five Year)	Site Population Trend (12 Year)	Site Conservation Condition	1% International Threshold***	1% All Ireland Threshold***	Peak Count During Baseline 2017-2018 Surveys****	Peak Count During Updated 2020-2023 Surveys****	Month in Which Peak Recorded (2020-2023)
<i>Limosa limosa</i>	Black-tailed godwit	Yes	No	Red (w)	172	-	-	-	1,100	200	166	250	Oct 2020
<i>Numenius arquata</i>	Curlew	Yes	No	Red (b, w)	70	-	-	-	7,600	350	164	115	Dec 2021
<i>Tringa tetanus</i>	Redshank	Yes	No	Red (b, w)	123	-	-	-	2,400	240	294	197	Dec 2020
<i>Tringa nebularia</i>	Greenshank	Yes	No	Green	6	-	-	-	3,300	20	12	54	Mar 2023
<i>Arenaria interpres</i>	Turnstone	Yes	No	Amber (w)	11	-	-	-	1,400	95	74	29	Feb 2021
<i>Calidris alba</i>	Sanderling	Yes	No	Green	0	-	-	-	2,000	85	50	76	Nov 2020
<i>Ardea cinerea</i>	Grey heron*****	Yes	No	Green	5	-	-	-	5,000	25	15	17	Oct 2020

**Notes**  
 SCI = Special Conservation Interest, Yes = Named Natura 2000 Species  
 \*\*b = breeding, w = wintering  
 \*\*\*taken from I-WeBS 2021 and British Trust for Ornithology (BTO) 2020 if no data from I-WeBS  
 \*\*\*\*Highest peak in a single survey recorded during estuarine surveys  
 \*\*\*\*\*Species of Interest only

### Other Bird Species

Auk species, which are SCIs and / or qualifying species of the North-West Irish Sea cSPA, Ireland's Eye SPA and Howth Head Coast SPA, were recorded in very low numbers within Baldoyle Bay. Birds were recorded during the winter / passage period and the late summer in each year following either failed breeding or fledging (refer to Table A10.4 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). The peak count was seven each for common guillemot and black guillemot, and three for razorbill. Records of auks within Baldoyle Bay SPA were very infrequent, with 17 guillemot observations recorded (refer to Figure A10.28 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Black guillemot (refer to Figure A10.3 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum) and razorbill (refer to Figure A10.52 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum) were only recorded in the sea off Velvet Strand Beach within the North-West Irish Sea cSPA. Given that these groups of birds are seabirds and are not primarily associated with estuaries, it is not considered that Baldoyle Bay is a habitat of great importance to auks. This is consistent with the findings presented in the EIAR in the 2018 planning application.

Divers were recorded in relatively low numbers during the wintering and passage periods (September to March in each year) (refer to Table A10.4 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). There were single individuals present during the breeding season. The single great northern diver recorded (refer to Figure A10.74B in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum) and the majority of red-throated diver records (refer to Figure A10.55 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum) were recorded in the sea off Velvet Strand Beach within the North-West Irish Sea cSPA. The peak counts were 11 for red-throated diver (recorded on a single occasion close to the mouth of the River Sluice in the north of the SPA) and one great northern diver. These numbers do not exceed the 1% national thresholds for these species (20 and 25 respectively). This is consistent with the findings presented in the EIAR in the 2018 planning application. Given that these species typically inhabit nearshore or more marine environments (other than when at their freshwater breeding grounds), they are not primarily associated with small, enclosed estuaries like Baldoyle Bay, so the SPA is not a habitat of significant importance to them.

Dark-bellied brent geese were only observed during passage periods, distributed within and adjacent to the estuary (refer to Figure A10.17 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum).

Mute swans were present at Baldoyle Bay in low numbers throughout each year 2020 to 2023, suggesting a small resident population. They were recorded in association with river channels (refer to Figure A10.45 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum), with records more frequent at the mouths of the River Sluice in the north of Baldoyle Bay, and the River Mayne. This is consistent with the findings presented in the EIAR in the 2018 planning application.

Wigeon were regularly recorded in relatively moderate numbers during the winter and passage periods each year. Records were confined to within the Baldoyle Bay SPA boundary (refer to Figure A10.73 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). The peak of 247 birds did not exceed the 1% national threshold of 560 birds. The species was largely absent from the estuarine survey area in May, June, July and August (2020 and 2021), but present in more substantial numbers in passage and winter months in each year. A peak count of 257 birds had previously been recorded during the baseline surveys that informed the EIAR in the 2018 planning application.

Of the more infrequently recorded species, eider ducks were recorded on a single occasion in September 2020. Goldeneye, shoveler and common scoter were present slightly more regularly, but only in small numbers with peak counts of two birds respectively. A peak count of 27 pochard was recorded on a single survey in January 2022. However, these were not recorded on any other survey. Common scoter (an SCI of the North-West Irish Sea cSPA) were recorded in relatively low numbers during the spring and autumn passage periods with a peak count of 30 birds. Coot, moorhen, little grebe and water rail were recorded in low numbers throughout each year between 2020 and 2023, suggesting the presence of small resident populations (refer to Table A10.4 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Coots were only observed in association with freshwater habitats (refer to Figure A10.14 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum), and little grebes were located predominantly in association with water features on the Portmarnock Golf Course (refer to Figure A10.39 in Appendix A10.1 in Volume 3A Part B of the EIAR

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Addendum). The distribution of moorhen (refer to Figure A10.44 in Appendix A10.1 in Volume 3A Part B of the EIA Addendum) and water rail was similar.

Seven species of gull were recorded throughout each year during the update surveys: black-headed gull (refer to Figure A10.4 in Appendix A10.1 in Volume 3A Part B of the EIA Addendum), common gull (refer to Figure A10.10 in Appendix A10.1 in Volume 3A Part B of the EIA Addendum), great black-backed gull (refer to Figure A10.23 in Appendix A10.1 in Volume 3A Part B of the EIA Addendum), herring gull (refer to Figure A10.29 in Appendix A10.1 in Volume 3A Part B of the EIA Addendum), kittiwake, lesser black-backed gull (refer to Figure A10.36 in Appendix A10.1 in Volume 3A Part B of the EIA Addendum) and Mediterranean gull. Of these, black-headed gull, common gull, great black-backed gull, herring gull, kittiwake, and lesser black-backed gull are all SCIs of the North-West Irish Sea cSPA. In addition, herring gull is an SCI of Ireland's Eye SPA, with great black-backed gull a named qualifying species. These commonly encountered gull species were recorded across many habitats found within the estuarine survey area. They are highly adaptable birds and will utilise a range of coastal, inland and offshore habitats. Kittiwake and Mediterranean gulls were very occasional visitors and were recorded in low numbers.

Cormorant (an SCI of Ireland's Eye SPA and North-West Irish Sea cSPA) and shag (an SCI of the North-West Irish Sea cSPA) were recorded regularly, but in low numbers throughout most of each year between 2020 and 2023, with cormorants being the more commonly encountered of the two species (refer to Table A10.4 in Appendix A10.1 in Volume 3A Part B of the EIA Addendum). The presence of these species is common in coastal locations. Whilst shags (refer to Figure A10.63 in Appendix A10.1 in Volume 3A Part B of the EIA Addendum) were recorded only in the sea off Velvet Strand, cormorants (refer to Figure A10.15 in Appendix A10.1 in Volume 3A Part B of the EIA Addendum) were recorded both off Velvet Strand and in Baldoyle Bay SPA. The 1% national threshold was not exceeded for either species.

Three species of raptor were occasionally observed during the estuarine surveys undertaken between September 2020 and June 2023 (refer to Table A10.4 in Appendix A10.1 in Volume 3A Part B of the EIA Addendum). Buzzards and kestrels were the most frequent and numerous raptors recorded. Buzzard records were confined to the open fields to the west of Baldoyle Bay SPA, with a small number of individuals flying over the estuary (refer to Figure A10.7 in Appendix A10.1 in Volume 3A Part B of the EIA Addendum). Kestrels were also observed in similar areas, with a further three records over Portmarnock Golf Course (refer to Figure A10.33 in Appendix A10.1 in Volume 3A Part B of the EIA Addendum). Three records for peregrine (which is an SCI of Howth Head Coast SPA) were observed over Portmarnock Golf Course in September 2020 and January 2023.

Four species of tern were recorded within Baldoyle Bay SPA during the breeding season (i.e. between March and August each year) (refer to Table A10.4 in Appendix A10.1 in Volume 3A Part B of the EIA Addendum). Of these, common and Sandwich tern were the most abundant, with Arctic and roseate terns (both SCIs of the North-West Irish Sea cSPA) only recorded in low numbers. It is likely that these were either foraging birds from local breeding colonies or birds on passage. The two most frequently recorded tern species (i.e. common tern (refer to Figure A10.13 in Appendix A10.1 in Volume 3A Part B of the EIA Addendum) and Sandwich tern (refer to Figure A10.62 in Appendix A10.1 in Volume 3A Part B of the EIA Addendum)) and Arctic (refer to Figure A10.74A in Appendix A10.1 in Volume 3A Part B of the EIA Addendum) and roseate terns (refer to Figure A10.74C in Appendix A10.1 in Volume 3A Part B of the EIA Addendum) were recorded almost exclusively off the coast of Velvet Strand in the North-West Irish Sea cSPA. Common tern is a SCI species of the North-West Irish Sea cSPA. Three sandwich tern were recorded within the Baldoyle Bay SPA.

Four other species of wader were recorded during the surveys: common sandpiper, common snipe, ruff and whimbrel. They were usually recorded in small numbers (<10) (refer to Table A10.4 in Appendix A10.1 in Volume 3A Part B of the EIA Addendum), with the exception of ruff which recorded a peak count of 36 birds in January 2021 (refer to Figure A10.59 in Appendix A10.1 in Volume 3A Part B of the EIA Addendum) and whimbrel which recorded a peak count of 29 birds in April 2023 (refer to Figure A10.72 in Appendix A10.1 in Volume 3A Part B of the EIA Addendum). Records for both species were distributed across Baldoyle Bay SPA with a higher concentration of whimbrel in the north of the SPA. Common snipe were recorded in the north and around the fringes of Baldoyle Bay SPA, and on the fields to the west of the SPA boundary (refer to Figure A10.66 in Appendix A10.1 in Volume 3A Part B of the EIA Addendum). Common sandpiper was most



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numerous at the mouth of the River Sluice (refer to Figure A10.11 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum) in the north of the SPA.

Little egrets were recorded throughout the intertidal area during the update estuarine surveys undertaken between September 2020 and June 2023 (refer to Figure A10.38 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). The peak count for this species was 21 birds during June 2023, but smaller numbers were recorded throughout all other years.

A single individual of the following species was seen only once: corn bunting, grasshopper warbler, house sparrow, long-tailed tit, magpie, red-legged partridge and sedge warbler.

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Table 10.3: Species Not Listed on the Baldoyle Bay Special Protection Area Citation Recorded During Baseline Estuarine Surveys Between September 2020 and June 2023

Species	Common name	Ireland's Eye SPA Qualifying Species	Howth Head Coast SPA Qualifying Species	North-west Irish Sea cSPA	Annex 1 Species	BoCCI Status	Peak Count During Baseline 2017-2018 Surveys*	Peak Count During Updated 2020-2023 Surveys*	All Ireland Threshold**	Month in Which Peak Recorded (Updated Surveys)
<i>Anas penelope</i>	Wigeon	-	-	-	-	Amber (b, w)	257	247	560	Nov
<i>Sturnus vulgaris</i>	Starling	-	-	-	-	Amber (b)	0	213	-	May
<i>Larus argentatus</i>	Herring gull	SCI	Yes	SCI	-	Amber (b, w)	331	203	10,200***	May
<i>Chroicocephalus ridibundus</i>	Black-headed gull	-	-	SCI	-	Amber (b, w)	404	175	20,000***	Oct
<i>Columba palumbus</i>	Woodpigeon	-	-	-	-	Green	0	53	-	Dec
<i>Philomachus pugnax</i>	Ruff	-	-	-	Yes	Amber (p)	5	36	20,000***	Jan
<i>Carduelis</i>	Goldfinch	-	-	-	-	Green	0	32	-	Jun
<i>Larus canus</i>	Common gull	-	-	SCI	-	Amber (b, w)	84	31	16,400***	Feb
<i>Hirundo rustica</i>	Swallow	-	-	-	-	Amber (b)	0	30	-	Jun
<i>Melanitta nigra</i>	Common scoter	-	-	SCI	-	Red (b, w)	233	24	110	Feb
<i>Larus marinus</i>	Great black-backed gull	Yes	-	SCI	-	Green	69	29	3,600***	Sep
<i>Numenius phaeopus</i>	Whimbrel	-	-	-	-	Green	76	29	6.700***	Apr
<i>Aythya ferina</i>	Pochard	-	-	-	-	Red (b, w)	0	27	110	Jan
<i>Phalacrocorax carbo</i>	Cormorant	SCI	-	SCI	-	Green	42	26	110	Oct
<i>Fringilla coelebs</i>	Chaffinch	-	-	-	-	Green	0	25	-	Oct
<i>Egretta garzetta</i>	Little egret	-	-	-	Yes	Green	20	21	20	Jun
<i>Anthus pratensis</i>	Meadow pipit	-	-	-	-	Red (b)	0	17	-	Jun
<i>Delichon urbica</i>	House martin	-	-	-	-	Amber (b)	0	15	-	Jun
<i>Cygnus olor</i>	Mute swan	-	-	-	-	Amber (b, w)	15	15	90	Nov
<i>Corvus cornix</i>	Hooded crow	-	-	-	-	Green	4	13	-	Jun
<i>Alauda arvensis</i>	Skylark	-	-	-	-	Amber (b)	0	12	-	Mar
<i>Gavia stellata</i>	Red-throated diver	-	-	SCI	Yes	Amber (b, w)	16	11	20	Sep
<i>Corvus corone</i>	Carrion crow	-	-	-	-	Green	0	11	-	Dec

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Species	Common name	Ireland's Eye SPA Qualifying Species	Howth Head Coast SPA Qualifying Species	North-west Irish Sea cSPA	Annex 1 Species	BoCCI Status	Peak Count During Baseline 2017-2018 Surveys*	Peak Count During Updated 2020-2023 Surveys*	All Ireland Threshold**	Month in Which Peak Recorded (Updated Surveys)
<i>Riparia</i>	Sand martin	-	-	-	-	Amber (b)	-	9	-	Jun
<i>Linaria cannabina</i>	Linnet	-	-	-	-	Amber (b)	0	9	-	Oct
<i>Larus fuscus</i>	Lesser black-backed gull	-	-	SCI	-	Amber (b, w)	46	8	5,500***	Oct
<i>Cephus grylle</i>	Black guillemot	Yes	-	-	-	Amber (b)	4	7	-	Aug
<i>Uria aalge</i>	Guillemot	SCI	Yes	SCI	-	Amber (b)	20	7	-	Oct
<i>Turdus viscivorus</i>	Mistle thrush	-	-	-	-	Green	1	7	-	May
<i>Corvus monedula</i>	Jackdaw	-	-	-	-	Green	0	7	-	May
<i>Motacilla Alba</i>	Pied wagtail	-	-	-	-	Green	0	7	-	Jun
<i>Gallinago gallinago</i>	Common snipe	-	-	-	-	Red (b, w)	35	6	20,000***	Nov, Dec
<i>Tachybaptus ruficollis</i>	Little grebe	-	-	-	-	Green	5	6	20	Jun
<i>Sterna sandvicensis</i>	Sandwich tern	-	-	-	Yes	Amber (b)	42	6	1,700***	Aug
<i>Ichthyaetus melanocephalus</i>	Mediterranean Gull	-	-	-	Yes	Amber (b)	4	6	2,400***	Sep
<i>Corvus corax</i>	Raven	-	-	-	-	Green	0	6	-	Oct
<i>Sterna hirundo</i>	Common tern	-	-	SCI	Yes	Amber (b)	34	6	1,800***	May
<i>Actitis hypoleucos</i>	Common sandpiper	-	-	-	-	Amber (b)	3	6	12,000***	Jun
<i>Rissa tridactyla</i>	Kittiwake	SCI	SCI	SCI	-	Red (b)	6	5	20,000***	Dec
<i>Parus major</i>	Great tit	-	-	-	-	Green	0	5	-	Jun
<i>Corvus Frugilegus</i>	Rook	-	-	-	-	Green	0	5	-	Feb, May
<i>Gallinula chloropus</i>	Moorhen	-	-	-	-	Green	12	4	20,000***	Oct
<i>Emberiza schoeniclus</i>	Reed bunting	-	-	-	-	Green	0	4	-	Dec
<i>Turdus iliacus</i>	Redwing	-	-	-	-	Red (w)	0	4	-	Dec
<i>Buteo</i>	Buzzard	-	-	-	-	Green	3	4	-	Jan
<i>Sterna paradisaea</i>	Arctic tern	-	-	SCI	Yes	Amber (b)	5	3	20,000	Jun, Jul
<i>Phalacrocorax aristotelis</i>	Shag	Yes	-	SCI	-	Amber (b)	11	3	2,000	Nov
<i>Alca torda</i>	Razorbill	SCI	Yes	SCI	-	Red (b)	6	3	-	Sep
<i>Saxicola rubicola</i>	Stonechat	-	-	-	-	Green	11	3	-	Jan, Feb

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Species	Common name	Ireland's Eye SPA Qualifying Species	Howth Head Coast SPA Qualifying Species	North-west Irish Sea cSPA	Annex 1 Species	BoCCI Status	Peak Count During Baseline 2017-2018 Surveys*	Peak Count During Updated 2020-2023 Surveys*	All Ireland Threshold**	Month in Which Peak Recorded (Updated Surveys)
<i>Turdus merula</i>	Blackbird	-	-	-	-	Green	0	3	-	Mar
<i>Turdus philomelos</i>	Song thrush	-	-	-	-	Green	1	3	-	May
<i>Branta bernicla</i>	Dark-bellied brent goose	-	-	-	-	Green	0	2	2,100***	Jan, Feb, Mar, Oct, Nov, Dec
<i>Fulica atra</i>	Coot	-	-	-	-	Amber (b, w)	4	2	190	May, Jun
<i>Bucephala clangula</i>	Goldeneye	-	-	-	-	Red (w)	8	2	40	Sep, Oct
<i>Motacilla cinerea</i>	Grey wagtail	-	-	-	-	Red (b)	0	2	-	Sep
<i>Anthus petrosus</i>	Rock pipit	-	-	-	-	Green	0	2	-	Jan
<i>Troglodytes</i>	Wren	-	-	-	-	Green	0	2	-	Mar
<i>Phasianus colchicus</i>	Pheasant	-	-	-	-	Green	1	2	-	Feb
<i>Prunella modularis</i>	Dunnock	-	-	-	-	Green	0	2	-	Jun
<i>Sterna dougallii</i>	Roseate tern	-	-	SCI	Yes	Amber (b)	11	1	-	Aug
<i>Anas clypeata</i>	Shoveler	-	-	-	-	Red (b, w)	2	1	20	Oct, Dec
<i>Falco tinnunculus</i>	Kestrel	-	-	-	-	Red (b)	2	1	-	Jan, Feb, Apr, Jul, Aug, Sep, Oct, Nov
<i>Falco peregrinus</i>	Peregrine	Yes	-	-	Yes	Green	2	1	-	Sep
<i>Rallus aquaticus</i>	Water rail	-	-	-	-	Green	0	1	-	Jan, Feb, Mar, Apr, May, July
<i>Gavia immer</i>	Great northern diver	-	-	SCI	Yes	Amber (w)	6	1	20	Nov
<i>Somateria mollissima</i>	Eider	-	-	-	-	Red (b, w)	3	1	30	Sep
<i>Emberiza calandra</i>	Corn bunting	-	-	-	-	Green	0	1	-	Dec
<i>Alectoris rufa</i>	Red-legged partridge	-	-	-	-	Green	1	1	-	Mar
<i>Erithacus rubecula</i>	Robin	-	-	-	-	Green	0	1	-	Oct
<i>Cyanistes caeruleus</i>	Blue tit	-	-	-	-	Green	1	1	-	Jun
<i>Locustella naevia</i>	Grasshopper warbler	-	-	-	-	Green	0	1	-	Mar
<i>Aegithalos caudatus</i>	Long-tailed tit	-	-	-	-	Green	0	1	-	Feb
<i>Pica</i>	Magpie	-	-	-	-	Green	0	1	-	Jun

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Species	Common name	Ireland's Eye SPA Qualifying Species	Howth Head Coast SPA Qualifying Species	North-west Irish Sea cSPA	Annex 1 Species	BoCCI Status	Peak Count During Baseline 2017-2018 Surveys*	Peak Count During Updated 2020-2023 Surveys*	All Ireland Threshold**	Month in Which Peak Recorded (Updated Surveys)
<i>Acrocephalus Schoenobaenus</i>	Sedge warbler	-	-	-	-	Green	0	1	-	Jun
<i>Branta canadensis</i>	Canada goose	-	-	-	-	Green	73	0	-	-
<i>Podiceps nigricollis</i>	Black-necked grebe	-	-	-	-	Red (w)	14	0	-	-
<i>Plectrophenax nivalis</i>	Snow bunting	-	-	-	-	Green	6	0	-	-
<i>Calidris ferruginea</i>	Curlew sandpiper	-	-	-	-	Green	6	0	-	-
<i>Clangula hyemalis</i>	Long-tailed duck	-	-	-	-	Red (w)	4	0	-	-
<i>Chlidonias niger</i>	Black tern	-	-	-	Yes	Green	2	0	-	-
<i>Calidris maritima</i>	Purple sandpiper	-	-	-	-	Green	2	0	-	-
<i>Anser brachyrhynchus</i>	Pink-footed goose	-	-	-	-	Green	1	0	-	-
<i>Aythya fuligula</i>	Tufted duck	-	-	-	-	Red (w)	1	0	-	-
<i>Larus delawarensis</i>	Ring-billed gull	-	-	-	-	Green	1	0	-	-
<i>Fulmarus glacialis</i>	Fulmar	Yes	Yes	SCI	-	Green	1	0	-	-
<i>Alcedo atthis</i>	Kingfisher	-	-	-	Yes	Amber (b)	1	0	-	-
<i>Oenanthe oenanthe</i>	Wheatear	-	-	-	-	Amber (b)	1	0	-	-
<i>Accipiter nisus</i>	Sparrowhawk	-	-	-	-	Amber (b)	1	0	-	-
<i>Recurvirostra avosetta</i>	Avocet	-	-	-	Yes	Green	1	0	75***	-
<i>Calidris minuta</i>	Little stint	-	-	-	-	Green	1	0	-	-

**Notes**  
 SCI = Special Conservation Interest, Yes = Named Natura 2000 Species  
 \*Highest peak recorded during estuarine surveys.  
 \*\*Taken from I-WeBS 2021 and British Trust for Ornithology (BTO) 2020 if no data from I-WeBS.  
 \*\*\*International 1% threshold, used when no all-Ireland threshold available

#### **10.3.4 Marine Birds and Related Species Protection Areas in the Vicinity of Dublin Bay**

The majority of information pertaining to breeding colonies at nearby SPAs and the details associated with the conservation objectives and Natura 2000 forms remain unchanged, with the exception of the new North-West Irish Sea cSPA. In compliance with its legal obligations, Uisce Éireann has treated the candidate SPA as a fully designated SPA, considering the newly published conservation objectives for the site (NPWS 2023)

It should also be noted that during the summer of 2022 there was a large-scale outbreak of Highly Pathogenic Avian Influenza (HPAI) across multiple seabird colonies within Ireland, the UK and throughout Europe (BTO, 2022). Colonies were impacted in different ways, with some reporting 100% chick mortality with fewer adult birds impacted, whereas others had large-scale adult mortality (Adlhoch *et al.*, 2022). The total number of birds dying at different colonies ranges from 10s to 1000s of individuals, and it is therefore possible this will have reduced numbers of birds recorded during the updated surveys.

Details associated with the Ireland's Eye and Howth Head Coast SPAs and North-West Irish Sea cSPA, which were taken from conservation objectives and Natura 2000 forms, are presented in Table 10.4, along with the peak VP survey count from a single survey from the previous baseline (2017 to 2018) and update (2020 to 2023) surveys.

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**Table 10.4: Species Included on Citations of Ireland's Eye and Howth Head Coast Special Protection Areas and North-West Irish Sea candidate Special Protection Area and Single Peak Vantage Point Survey Counts Recorded During Baseline and Updated Surveys**

Species	Common Name	Listed on Annex I of Directive 2009/147/EC	Ireland's Eye SPA		Howth Head Coast SPA		North-West Irish Sea SPA		Single Survey Peak Count (Baseline Survey)	Single Survey Peak Count (Updated Survey)
			Special Conservation Interest?	SPA Population at Citation	Special Conservation Interest?	SPA Population at Citation	Special Conservation Interest?	SPA Population at Citation		
<i>Rissa tridactyla</i>	Kittiwake	No	Yes	941 pairs	Yes	2,329 pairs	Yes	-	557	783
<i>Uria aalge</i>	Common guillemot	No	Yes	2,191 individuals	-	995 individuals	Yes	-	1,513	1,572
<i>Alca torda</i>	Razorbill	No	Yes	522 individuals	-	416 individuals	Yes	-	1,038	2,626
<i>Phalacrocorax carbo</i>	Cormorant	No	Yes	306 pairs	-	-	Yes	-	69	55
<i>Larus argentatus</i>	Herring gull	No	Yes	250 individuals	-	-	Yes	-	239	1,693
<i>Chroicocephalus ridibundus</i>	Black-headed gull	No	-	-	-	-	Yes	-	223	299
<i>Larus canus</i>	Common gull	No	-	-	-	-	Yes	-	40	72
<i>Larus marinus</i>	Great black-backed gull	No	-	100 individuals	-	-	Yes	-	97	111
<i>Melanitta nigra</i>	Common scoter	No	-	-	-	-	Yes	-	478	151
<i>Gavia stellata</i>	Red-throated diver	No	-	-	-	-	Yes	-	112	62
<i>Larus fuscus</i>	Lesser black-backed gull	No	-	-	-	-	Yes	-	25	11
<i>Sterna hirundo</i>	Common tern	No	-	-	-	-	Yes	-	109	122
<i>Phalacrocorax aristotelis</i>	Shag	No	-	32 individuals	-	-	Yes	-	129	104
<i>Sterna dougallii</i>	Roseate tern	No	-	-	-	-	Yes	-	3	2
<i>Gavia immer</i>	Great northern diver	No	-	-	-	-	Yes	-	9	2
<i>Fulmaris glacialis</i>	Fulmar	No	-	70 pairs	-	33 pairs	Yes	-	159	166
<i>Puffinus puffinus</i>	Manx shearwater	No	-	-	-	-	Yes	-	128	9
<i>Sternula albifrons</i>	Little tern	No	-	-	-	-	Yes	-	10	-
<i>Fratercula arctica</i>	Puffin	No	-	10-20 individuals	-	-	Yes	-	173	103
<i>Falco peregrinus</i>	Peregrine	Yes	-	1 pair	-	1 pair	-	-	4	3

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Species	Common Name	Listed on Annex I of Directive 2009/147/EC	Ireland's Eye SPA		Howth Head Coast SPA		North-West Irish Sea SPA		Single Survey Peak Count (Baseline Survey)	Single Survey Peak Count (Updated Survey)
			Special Conservation Interest?	SPA Population at Citation	Special Conservation Interest?	SPA Population at Citation	Special Conservation Interest?	SPA Population at Citation		
<i>Morus bassanus</i>	Gannet	No	-	142 pairs	-	-	-	-	225	379
<i>Cephus grylle</i>	Black guillemot	No	-	15 individuals	-	-	-	-	22	34



### 10.3.5 Marine Birds Ornithological Baseline

#### Sources of Information

Table A10.6 and Table A10.10 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum provide information on the bird species of Ireland's Eye SPA, Howth Head Coast SPA and North-West Irish Sea cSPA recorded during VP surveys for the breeding season (April to August) (refer to Table A10.10 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum) and wintering season (October to December) across all surveyed years (refer to Table A10.6 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum), respectively. Presented is the number of observations of each species (i.e. a measure of how often a species was recorded), the total number of each species recorded in flight and on the sea, the peak count of each species recorded in flight and on the sea during a single survey, and an overall peak count (i.e. the maximum number of individuals seen during a single survey). In addition, graphs are presented in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum, to illustrate the numbers recorded over time for each key species.

The distribution of SPA qualifying marine bird species from the Ireland's Eye VP during the breeding season is presented in Figure A10.75 to Figure A10.86 of Appendix A10.1 in Volume 3A Part B of the EIAR Addendum. The figures focus on birds recorded on the water. Findings are discussed by species below.

Table A10.7 and Table A10.11 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum provide information on Baldoyle Bay SPA qualifying species recorded during VP surveys for the breeding (April to August) (refer to Table A10.11 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum) and wintering (October to December) across all surveyed years (refer to Table A10.7 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum) seasons, respectively. Presented is the number of observations of each species (i.e. a measure of how often a species was recorded), the total number of each species recorded in flight and on the sea, the peak count of each species recorded in flight and on the sea during a single survey, and an overall peak count (i.e. the maximum number of individuals seen during a single survey). In addition, graphs are presented in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum which show the timing of occurrence for key species. The graphs have been produced for species where greater than 50 birds were observed on the sea during either the breeding or the wintering season.

Appendix A10.1 in Volume 3A Part B of the EIAR Addendum provides information on non-designated marine bird species recorded during VP surveys for the breeding (April to August 2021) (refer to Table A10.12 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum) and wintering (October to December 2022) (refer to Table A10.8 and Table A10.9 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum) seasons, respectively. Presented is the number of observations of each species (i.e. a measure of how often a species was recorded), the total number of each species recorded in flight and on the sea, the peak count of each species recorded in flight and on the sea during a single survey, and an overall peak count (i.e. the maximum number of individuals seen during a single survey). In addition, graphs are presented in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum showing the timing of occurrence for key species.

Table A10.13 to Table A10.49 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum provide details on the distribution of birds recorded during VP surveys between August 2020 and June 2023. Records are split by VP, distance from the observer, and the behaviour code assigned to each record.

#### [Special Conservation Interests of the Ireland's Eye Special Protection Area, Howth Head Coast Special Protection Area and / or North-West Irish Sea Candidate Special Protection Area](#)

Kittiwake is the only species which is a SCI of the North-West Irish Sea cSPA, Ireland's Eye SPA and Howth Head Coast SPA. Kittiwakes were observed throughout the breeding and wintering/passage seasons, but in highest numbers in March 2023 (refer to Table A10.6 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). The peak single survey count was 783 birds (refer to Table A10.10 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Across all survey years, a substantial decrease in numbers of birds was observed in June (refer to Graph A10.2 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Numbers then remained low until around February, before increasing again in March. All of the 2,135 kittiwakes observed on the sea between March and October were recorded from the VP on Ireland's Eye (Table A10.32, Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Of these, 1,574 birds (73.7%) were recorded

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loafing. Records of kittiwakes on the water were distributed more to the north-east of the Ireland's Eye VP viewing arc, and in general, the sectors in which most birds were recorded were situated further away from Ireland's Eye within the marine waters of the North-West Irish Sea cSPA (refer to Figure A10.83 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum).

During the breeding season, the species that were recorded in the highest numbers were guillemot and razorbill. Both species are SCIs of the North-West Irish Sea cSPA and Ireland's Eye SPA. Peak numbers of both species were observed in May 2023. The peak single survey count was 1,572 for guillemot and 2,626 for razorbill (refer to Table A10.10 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). In total, around 80% of birds from both species that were recorded during VP surveys were observed between May and June each year (refer to Graph A10.1 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). No observations were noted for either species in February in any year, with numbers remaining low between August and December; and a slight increase in guillemot observations in January (refer to Graph A10.1 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Numbers began to increase in March and April. In addition, substantial numbers of guillemots or razorbills that were not identified to species level were also recorded (refer to Table A10.10 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum) in May, June and July each year. This is because birds were routinely detected, but identification to species level can be more difficult depending on sea state, lighting conditions or distance (or a combination of these) (refer to Figure A10.81 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum).

The great majority of guillemots (refer to Table A10.29 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum) and razorbills (refer to Table A10.39 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum) were recorded on the sea between March and October from VP2 on Ireland's Eye (6,314 of 6,374 (99.1%) guillemots and 6,403 of 6,477 (98.9%) razorbills). Of these observations, 96.1% of guillemots and 95.5% of razorbills were observed loafing. Feeding behaviour accounted for only 0.03% of guillemots and 0.04% of razorbills recorded on the sea from the Ireland's Eye VP. Both guillemots (refer to Figure A10.80 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum) and razorbills (refer to Figure A10.85 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum) were recorded within 500m of the Ireland's Eye VP, but also in relatively large numbers between 500m and 1km away from the VP in the marine waters of the North-West Irish Sea cSPA. The most frequently recorded behaviour of both species were non-feeding (generally loafing) birds most often recorded within 500m of the Ireland's Eye VP.

Herring gulls are an SCI of Ireland's Eye SPA and the North-West Irish Sea cSPA. They were observed throughout the breeding season, with numbers peaking in June (refer to Graph A10.2 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum), though numbers in January and May were also high. Lower numbers of birds were present in the area for the second half of the year between July and December (refer to Graph A10.2 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). The peak single monthly count was 1,693 birds during the breeding season (refer to Table A10.10 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum), and 1,108 birds in the winter season (refer to Table A10.6 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). A greater number of birds on the water were recorded at VP1 between March and October, with the majority recorded either feeding or loafing (refer to Table A10.31 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Birds on the water were distributed quite evenly throughout the VP viewing arcs, though the most birds occurred within 0m to 500m of the Ireland's Eye VP. Records on the water from Ireland's Eye were quite heavily restricted to western VP sectors (refer to Figure A10.82 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum), which is where the majority of nest sites have previously been recorded.

Cormorants are an SCI of the Ireland's Eye SPA and North-West Irish Sea cSPA and were recorded most frequently during the breeding season (refer to Graph A10.4 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Cormorant records during the breeding season were the most numerous in May, with a single monthly peak of 21 birds (refer to Table A10.10 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). The maximum winter peak was 55 birds (refer to Table A10.6 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Between March and October, birds were recorded on the water most frequently in distance bands 3 and 4 for VP1 (Velvet Strand), and 1 and 2 for VP2 (Ireland's Eye) (refer to Table A10.20 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Birds were recorded behaving in a variety of ways (feeding, preening, loafing and roosting) across the entire VP survey area. Birds were observed most

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frequently between the inshore areas between Ireland's Eye and Velvet Strand (refer to Figure A10.76 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum).

Great black-backed gull is a Natura 2000 species of Ireland's Eye SPA and SCI of the North-West Irish Sea cSPA. This species was present for the majority of the year, with a peak in numbers during the winter / passage season observed between October and December 2022 (refer to Graph A10.2 and Table A10.10 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Great black-backed gulls on the water were evenly distributed across most of the sectors in the Ireland's Eye VP viewing arc (refer to Figure A10.79 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Birds on the sea were recorded more frequently loafing in distance bands closer to the VPs (refer to Table A10.25 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Of all birds recorded on the sea, 45.2% were either loafing or roosting.

Fulmar, a Natura 2000 species of Ireland's Eye and Howth Head Coast SPAs and SCI of North-West Irish Sea cSPA, were observed in relatively small and consistent numbers for much of the year (refer to Graph A10.3 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). The breeding season peak was 45 birds in June (refer to Table A10.10 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum), and the winter peak was 166 birds in January (refer to Table A10.6 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Fulmar observations were quite heavily restricted to the eastern sectors of the VP viewing arc (VP2, Ireland's Eye). Between March and October, most fulmars observed on the water (102 birds, 98.1%) were recorded at VP2 on Ireland's Eye (refer to Table A10.23 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Of these observations, 94 birds (92.2%) were recorded either loafing, feeding or roosting.

Shag are a Natura 2000 species of the Ireland's Eye SPA and SCI of the North-West Irish Sea cSPA. This species was recorded most frequently during the breeding season (refer to Graph A10.4 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum), with a single monthly peak of 45 birds (refer to Table A10.10 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum) and 104 birds during the winter season (refer to Table A10.6 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Of the 725 birds recorded on the water between March and October of all survey years, 549 birds (75.7%) were seen from VP2. Of these, 220 birds (40.7%) were feeding, most frequently between the shoreline and 1km from the VP in the inshore marine waters of the North-West Irish Sea cSPA and the marine waters of the Ireland's Eye SPA. Feeding behaviour was also the most commonly encountered activity for this species from VP1. From VP2, shags showed a preference for inshore waters between Ireland's Eye and Velvet Strand (refer to Figure A10.86 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum).

Puffin is a species listed as a Natura 2000 species of Ireland's Eye SPA and SCI of the North-West Irish Sea cSPA. Puffins were only recorded between May and July, with the majority of records in June (refer to Graph A10.6 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum), with a peak count of 103 birds (refer to Table A10.10 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Puffins were predominantly recorded within 500m of Ireland's Eye (61.6% of records), and in smaller numbers between 500m and 1km from Ireland's Eye in the marine waters of the North-West Irish Sea cSPA (refer to Figure A10.84 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). In total, 245 of 268 records on the water (91.4%) were recorded from VP2 (refer to Table A10.38 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Of these birds, 240 were recorded loafing or preening (98.0%) and only five feeding.

Black-headed gulls are an SCI of the North-West Irish Sea cSPA. They were recorded throughout the year between 2020 and 2023 (refer to Graph A10.12 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). The month in which the most gull records were made was October 2022, whilst during the breeding season birds were present in relatively consistent numbers, with August having slightly more records than other months. The peak count was 299 birds (refer to Table A10.6 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum) and 27 during the breeding season (refer to Table A10.10 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). In total, 549 black-headed gulls were recorded on the water between March and October, of which 547 (99.6%) were observed from VP1 (refer to Table A10.14 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Of these, 235 birds (43.0%) were recorded roosting or loafing on water.

Common gulls are an SCI of the North-West Irish Sea cSPA. They were recorded throughout the year (refer to Graph A10.12 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum), but in much lower numbers

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than black-headed gulls. In winter, the peak count was 72 (refer to Table A10.6 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum) and six birds in the breeding season (refer to Table A10.10 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Between March and October, most records of birds on the water (95.5%) were made at VP1 (refer to Table A10.17 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Feeding was the most frequently recorded behaviour, followed by roosting and loafing. The most commonly recorded behaviour from VP2 was roosting.

Lesser black-backed gulls are an SCI of the North-West Irish Sea cSPA. They were similar to common gulls in their temporal distribution and observed during the VP surveys only in low numbers (refer to Graph A10.12 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). As with common gull, the wintering / passage season saw the highest number of individuals recorded, with a peak of 11 (refer to Table A10.6 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). In the breeding season, the peak was seven (refer to Table A10.10 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Spatial distribution of records on the sea between March and October was quite equal over the entire VP survey area, though numbers recorded from VP1 were greater (refer to Table A10.34 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Overall numbers were low, and the majority of birds were recorded roosting or loafing.

Red-throated divers are a SCI of the North-West Irish Sea cSPA. They were present throughout the winter and passage periods, being present between August to April (refer to Graph A10.13 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Between May and July, birds were absent. The peak survey count was 62 birds in November (refer to Table A10.6 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum) and two birds in the breeding season (refer to Table A10.10 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Birds observed on the water were predominantly recorded from VP1, with 195 of 262 birds (74.4%) (refer to Table A10.42 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Most records were located in distance bands 3 and 4 from both VPs (i.e. between 1km and 2km from the VP in the marine waters of the North-West Irish Sea cSPA), with the most common behaviours being feeding and loafing.

Great northern divers are an SCI of the North-West Irish Sea cSPA. They were recorded in small numbers (refer to Graph A10.13 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum) during the winter period, with a peak count of two birds (refer to Table A10.6 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). All of the 11 birds recorded during the VP surveys were recorded in distance bands 3 and 4 (i.e., between 1km and 2km from the VP in the marine waters of the North-West Irish Sea cSPA) (refer to Table A10.28 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum).

Several tern species were relatively abundant in the marine environment during the breeding season (refer to Graph A10.15 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). The most commonly occurring species was common tern. The peak count was 122 birds recorded during the breeding season (refer to Table A10.10 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum), of which 79.2% were recorded on the sea. The majority of common tern observations (97.9%) were recorded from VP1. Birds were most frequently seen plunge diving in distance band 4. Common terns were less likely to be observed within 500m of VPs compared with the rest of the VPs. Roseate tern was also recorded plunge feeding on a small number of occasions from both VPs (refer to Table A10.44 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Roseate terns were only recorded in May and June (refer to Graph A10.15 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Both common tern and roseate terns are SCIs of the North-West Irish Sea cSPA.

Common scoters are an SCI of the North-West Irish Sea cSPA with a peak count of 151 birds in November (refer to Table A10.6 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Common scoter were completely absent between April and August and present in relatively low numbers during other months (refer to Graph A10.14 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Of the 95 common scoters recorded on the water during VP surveys between March and October, 77 (81.2%) were recorded loafing, whilst 13 birds (13.7%) were recorded feeding (refer to Table A10.18 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Records were the most numerous in bands and sectors away from coastlines and in open water.

Manx shearwater is a SCI of the North-West Irish Sea cSPA and was recorded in low numbers during June and September only (refer to Graph A10.16 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum).

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The peak count was nine birds in June (refer to Table A10.10 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum), all of which were recorded as either flying or plunge feeding in distance bands 3 and 4 (i.e. 1.5km to 2km from the VP in the marine waters of the North-West Irish Sea cSPA).

Although not a marine species, peregrine is a Natura 2000 species of Ireland's Eye SPA and Howth Head Coast SPA. Birds were observed in very low numbers throughout the year (refer to Graph A10.7 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). The peak single monthly count was two birds during April 2021 (refer to Table A10.10 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum), and three during the wintering period (refer to Table A10.6 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum).

### Other Named Qualifying Species of the Ireland's Eye Special Protection Area and / or Howth Head Coast Special Protection Area

Gannet is a Natura 2000 species of Ireland's Eye SPA. The peak count of gannets in a single survey was 379 birds in June (refer to Table A10.10 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Of the 713 gannets recorded on the sea between March and October, 614 birds were observed from VP2 (86.1%) (refer to Table A10.24 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Around two-thirds of these birds were recorded either loafing or preening, and 63 birds (10.2%) were recorded plunge diving. Most of these records were located between the shoreline and 1km from the VP. Gannet observations were almost entirely to the east of the SPA (refer to Figure A10.78 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). In winter, the peak count was 42 birds (refer to Table A10.6 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum).

Black guillemot, a Natura 2000 species of Ireland's Eye SPA, was present throughout much of the year in low numbers (refer to Graph A10.6 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Records were more numerous between March and July. The peak single monthly breeding season count was 14 in May (refer to Table A10.10 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum), with the corresponding winter count being 34 (refer to Table A10.6 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Black guillemots were most frequently recorded in the western count sectors of the Ireland's Eye VP (refer to Figure A10.75 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). They were recorded in similar numbers across both VPs, favouring the more distant areas of the VP1 viewing arc from the VP, and areas of sea within 1km of the Ireland's Eye VP (refer to Table A10.13 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). The most common behaviour recorded was feeding, accounting for 47.3% of records at VP1 and 64.5% of records at VP2.

### Other Bird Species

Great-crested grebes were regularly recorded in the marine environment between October and March (refer to Graph A10.8 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). The peak single survey count was 1,648 birds in December 2022 (refer to Table A10.7 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). In general, numbers of this species recorded were much lower than the occasional peaks that were observed. Birds recorded from the VP were located mainly within distance bands 3 and 4 for both VPs (3,654 of 4,286, 85.2%) (refer to Table A10.26 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Of these, 2,477 (67.8%) were recorded either feeding or loafing between 1.5km and 2km of the VPs. Much lower peaks (255 birds) were recorded during the baseline surveys that informed the EIAR in the 2018 planning application.

Oystercatchers were present in fairly consistent numbers during the VP surveys for the majority of the year (refer to Graph A10.8 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum), and the most frequently recorded species of the Baldoyle Bay SPA citation during VP surveys (refer to Tables A10.7 and A10.11 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). The peak single survey count was 4,139 birds during the winter 2022 (refer to Table A10.7 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum), and 945 birds during the breeding season (refer to Table A10.11 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Peak counts of 210 and 145 birds were recorded during the baseline surveys that informed the EIAR in the 2018 planning application. Most commonly, birds were recorded within 500m of both VPs (refer to Table A10.32 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum).

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Both sanderlings and dunlin were recorded in the marine environment between September and April (refer to Graph A10.9 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). All observations of both species were made from VP1. The peak single monthly count was 65 birds for sanderling (refer to Table A10.7 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum) and 85 birds for dunlin (refer to Table A10.22 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum), with birds most frequently recorded in distance bands 3 and 4 (refer to Table A10.45 and A10.22 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum).

Red-breasted mergansers were present in the marine environment in low numbers throughout much of the year (refer to Graph A10.9 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Peak numbers were recorded in November, with much lower numbers recorded during the breeding season. The peak single survey count was 32 birds (refer to Table A10.7 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum), and two birds during the breeding season (refer to Table A10.11 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Of the 54 birds recorded between March and October during VP surveys, 50 were from VP1 (refer to Table A10.41 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Birds were most frequently recorded feeding in distance band 2.

The temporal pattern of turnstone presence in the marine environment was relatively similar to dunlin and red-breasted merganser, but with lower overall abundance and a more obvious absence during most of the breeding season (refer to Graph A10.10 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). The peak single survey count was 43 birds during the winter (refer to Table A10.7 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum), and 17 birds during the breeding season (refer to Table A10.11 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). All 64 birds recorded between March and October were from VP1 (refer to Table A10.49 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum).

Ringed plover were recorded throughout the majority of the year, with a peak single count of 31 birds (refer to Table A10.11 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Ringed plovers were only recorded from VP1 with 73 out of 107 observations (68.2%) made within distance band 4.

Additional birds listed in Table A10.7 and Table A10.11 of Appendix A10.1 in Volume 3A Part B of the EIAR Addendum can be grouped into the following broad category of temporal distribution in the area covered by the marine VP surveys:

- Species that were recorded in the wintering and breeding periods in the marine environment, in low or very low numbers, or predominantly in flight: brent goose, curlew, grey heron, redshank and shelduck; and
- Species that were not recorded in the marine environment: golden plover, grey plover, greenshank, knot, pintail and teal.

After common tern, the next most abundant tern species was Sandwich tern, which was recorded between March and September across all survey years. It was recorded on the water more frequently than the common tern, with 114 records between March and October in all survey years (refer to Table A10.46 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). The highest numbers were recorded in September (peak count of 40 – refer to Table A10.8 in Appendix A10.1 in Volume 3A Part B of the EIAR Addendum). Sandwich terns were evenly distributed throughout the viewing arcs of both VPs, though like common tern, the highest number of birds occurred in distance band 4 of both VPs.

Additional bird species recorded during the marine VP surveys can be grouped into two broad categories of temporal distribution:

- Species that were recorded in the wintering period only in the marine environment, in low or very low numbers, or predominantly in flight: hooded crow, linnet, meadow pipit, purple sandpiper, black-throated diver, wren, eider, little grebe and buzzard; and
- Species that were recorded in the breeding period only in the marine environment, in low or very low numbers, or predominantly in flight: blackcap, greenfinch, sand martin, Canada goose, whimbrel and lapwing.

### 10.3.6 Ecological Value of Estuarine and Marine Birds

Table 10.5 summarises the value of estuarine and marine bird features recorded along the Proposed Project, and at a geographic scale, as presented in the EIAR in the 2018 planning application, and as evaluated now in the EIAR Addendum, as informed by survey work. The value of features previously assigned remains the same, as set out in Table 10.9 in the EIAR in the 2018 planning application.

**Table 10.5: Ecological Value of Birds Recorded During Estuarine and Marine Ornithological Survey**

Feature	Value (2018 EIAR)	Value (2023 EIAR Addendum)
Bar-tailed godwit	Very high	Very high
Black guillemot	Very high	Very high
Black-tailed godwit	Very high	Very high
Brent goose	Very high	Very high
Common guillemot	Very high	Very high
Cormorant	Very high	Very high
Curlew	Very high	Very high
Dunlin	Very high	Very high
Golden plover	Very high	Very high
Great-crested grebe	Very high	Very high
Greenshank	Very high	Very high
Grey plover	Very high	Very high
Great black-backed gull	Very high	Very high
Herring gull	Very high	Very high
Kittiwake	Very high	Very high
Knot	Very high	Very high
Lapwing	Very high	Very high
Mallard	Very high	Very high
Oystercatcher	Very high	Very high
Peregrine	Very high	Very high
Pintail	Very high	Very high
Puffin	Very high	Very high
Razorbill	Very high	Very high
Red-breasted merganser	Very high	Very high
Redshank	Very high	Very high
Ringed plover	Very high	Very high
Turnstone	Very high	Very high
Sanderling	Very high	Very high
Shag	Very high	Very high
Shelduck	Very high	Very high
Teal	Very high	Very high
Fulmar	Very high	Very high
Gannet	Very high	Very high
Arctic tern	High	High
Black tern	High	Not present
Black-headed gull	High	High
Common gull	High	High
Common scoter	High	High
Great northern diver	High	High
Grey heron	High	High
Red-throated diver	High	High
Roseate tern	High	High

Feature	Value (2018 EIAR)	Value (2023 EIAR Addendum)
Ruff	High	High
Sandwich tern	High	High
Great skua	High	Not present
Mediterranean gull	Not present	High
Pochard	Not present	Medium
Lesser black-backed gull	Medium	Medium
Little egret	Medium	Medium
Wigeon	Medium	Medium
Manx shearwater	Medium	Medium
Mute swan	Low	Low
Whimbrel	Low	Low

## 10.4 Parameters for Assessment

### 10.4.1 Overview of the Proposed Project Works and Magnitude of Potential Impacts

Following consideration of the new proposed project elements outlined in Table 10.1, there are no changes to the construction methodologies or proposed construction durations, as previously outlined in the EIAR in the 2018 planning application. As such, there are no changes to the information presented in this Section of the EIAR in the 2018 planning application.

### 10.4.2 Parameters Included in Assessment (Construction Phase)

Following consideration of the new proposed project elements outlined in Table 10.1, there are no changes to the construction methodologies and parameters presented in this Section of the EIAR in the 2018 planning application. As such, there are no changes required to this Section of the EIAR in the 2018 planning application.

### 10.4.3 Parameters Excluded from Assessment (Construction Phase)

Following consideration of the new proposed project elements outlined in Table 10.1, there are no changes to the construction methodologies and parameters presented in this Section of the EIAR in the 2018 planning application. As such, there are no changes required to this Section of the EIAR in the 2018 planning application.

### 10.4.4 Parameters Included in Assessment (Operational Phase)

As per this Section of the EIAR in the 2018 planning application, it is considered that there are no parameters associated with the operation of the Proposed Project that need to be included in the assessment.

### 10.4.5 Parameters Excluded from Assessment (Operational Phase)

From review of the updates outlined in Chapter 4A (Description of the Proposed Project) in Volume 2A Part A and Chapter 8A (Marine Water Quality) in Volume 3A Part A of the EIAR Addendum, there are no changes in relation to the information outlined in this Section of the EIAR in the 2018 planning application.

## 10.5 Potential Impacts on Ornithological Receptors

### 10.5.1 Disturbance and/or Displacement

There are no changes to the information presented in this Section of the EIAR in the 2018 planning application.

### 10.5.2 Indirect Impacts

There are no changes to the information presented in this Section of the EIAR in the 2018 planning application.



## **10.6 Assessment of Significance**

### **10.6.1 Construction Phase**

The updated Proposed Project elements, as outlined in Section 10.1, and the changes to the baseline environment outlined in Section 10.3, have been considered against the previous assessment of potential Construction Phase impacts in Chapter 10 (Biodiversity (Marine Ornithology)) in Volume 3 Part A of the EIAR in the 2018 planning application.

Due to the passage of time since the submission of the 2018 planning application, the proposed construction programme was reviewed and revised. An updated timeline including individual activities is provided in Chapter 4A (Description of the Proposed Project) in Volume 2A Part A of the EIAR Addendum. The total Construction Phase will remain as approximately 48 months, including 12 months of commissioning.

While there are two updates to the elements for the Proposed Project, they are both within the existing planning application boundary and there are no changes to the construction methodologies previously outlined in the 2018 planning application.

The Construction Phase impacts of the Proposed Project on marine ornithology biodiversity features remain the same as reported in Chapter 10 (Biodiversity (Marine Ornithology)) in Volume 3 Part A of the EIAR in the 2018 planning application.

#### [Disturbance/Displacement due to Direct Land-Take of Proposed Microtunnelling Compounds](#)

The species and number of birds recorded within the land take area of the proposed microtunnelling compounds (proposed temporary construction compounds no. 9 and no. 10) remain consistent with those data recorded in the EIAR in the 2018 planning application, including records for SCI species of Ireland's Eye SPA and Baldoyle Bay SPA and named non-SCI species of Baldoyle Bay SPA.

Magnitudes of effect remain the same as presented in this Section of the EIAR in the 2018 planning application. There are, therefore, no further changes to the information presented in this Section.

#### [Disturbance/Displacement due to Visual Impacts at Proposed Microtunnelling Compounds](#)

There are no significant changes to the information presented in this Section of the EIAR in the 2018 planning application, with the exception of small differences in the numbers and distribution of species recorded during the update surveys.

There are no other changes to species' sensitivities as previously assessed. Magnitudes of effect remain the same as presented in this Section of the EIAR in the 2018 planning application. There are, therefore, no further changes to the information presented in this Section of the EIAR in the 2018 planning application.

#### [Disturbance/Displacement due to Construction Noise \(Piling\) at Proposed Microtunnelling Compounds](#)

The EIAR in the 2018 planning application identified bird species that will be affected by piling noise within the specified distance of the piling source (i.e. within 90m of the proposed temporary construction compounds no. 9 and no. 10). The surveys undertaken as part of the updated assessment recorded similar numbers and distribution of species, including those listed as SCIs of Baldoyle Bay SPA and Ireland's Eye SPA.

Consistent with the assessment in the EIAR in the 2018 planning application, the low numbers and frequency of observations suggest that these habitats are not critical for any bird species present in the local area and suitable alternative habitat is present nearby for displaced species.

Therefore, the magnitude and significance of effect remains the same as presented in this Section of the EIAR in the 2018 planning application. There are, therefore, no further changes to the information presented in this Section of the EIAR in the 2018 planning application.

### [Disturbance/Displacement due to Vessel Traffic in Proposed Outfall Pipeline Route \(Marine Section\)](#)

As discussed in this Section of the EIAR in the 2018 planning application, it is possible that vessels operating along the route of the proposed outfall pipeline route (marine section) have the potential to cause disturbance to SCI species, including those of the North-West Irish Sea cSPA within the site (in addition to those associated with Ireland's Eye SPA). For two SCIs of both Ireland's Eye SPA and the North-West Irish Sea cSPA (guillemot and razorbill) specifically during the post-fledging period when rafts of flightless auks can occur, it is considered that the conservation objectives of the Ireland's Eye SPA and the North-West Irish Sea cSPA could potentially be compromised for these species in the time period of mid-July to the end of August.

Vessel disturbance impacts could occur in the North-West Irish Sea cSPA from the microtunnelling / subsea interface, located approximately 600m offshore from Velvet Strand Beach, and terminating at the proposed marine diffuser. Two groups of vessels will be present between April and October moving along the proposed outfall pipeline route corridor, with any disturbance impacts being restricted to a localised area around each group of vessels. The exact distance at which birds may be disturbed is dependent on a range of factors, with different species possessing varying sensitivity.

Given that the area that may be affected (1km<sup>2</sup>) within the North-West Irish Sea cSPA comprises only 0.04% of the marine area of the SPA, and that the primary use of the marine area in the SPA is by SCI birds either in the air, on the surface of the sea or plunge diving into the top few metres of the marine water column, and that their prey species are predominantly highly mobile and the birds follow their prey throughout wide areas as they forage and feed, and given that the habitat disturbance of the seabed is highly localised, temporary and reversible, the habitat loss impact pathway could result in a temporary redistribution of a small number of birds of the North-West Irish Sea cSPA to elsewhere within the site.

These highly localised, temporary and reversible effects that are not of sufficient magnitude or duration to affect the maintenance of the SCI populations, the natural range of the populations or the amount of habitat available to the populations, will not compromise the range of marine habitats utilised by the qualifying species of the North-West Irish Sea cSPA.

Following the implementation of mitigation to reduce the impact of visual disturbance (including the Revised Vessel Management Plan included in Appendix A10.2 in Volume 3A Part B of this EIAR Addendum, and temporal restriction of works to between April and October), the magnitudes and significance of effect remain the same as presented in this Section of the EIAR in the 2018 planning application. With the exception of small differences in the numbers and distribution of species recorded during the VP surveys, there are no further changes to the information presented in this Section of the EIAR in the 2018 planning application.

### [Disturbance/Displacement due to Vessel Traffic and Construction Noise at Proposed Marine Diffuser](#)

As discussed in this Section of the EIAR in the 2018 planning application, it is possible that vessels operating at or near the proposed marine diffuser have the potential to cause disturbance to the SCI species, including those of the North-West Irish Sea cSPA within the site (in addition to those associated with Ireland's Eye SPA). For two SCIs of both Ireland's Eye SPA and the North-West Irish Sea cSPA (guillemot and razorbill) specifically during the post-fledging period when rafts of flightless auks can occur, it is considered that the conservation objectives of the Ireland's Eye SPA and the North-West Irish Sea cSPA could potentially be compromised for these species in the time period of mid-July to the end of August.

Given that the area that may be affected (1km<sup>2</sup>) within the North-West Irish Sea cSPA comprises only 0.04% of the marine area of the SPA, and that the primary use of the marine area in the SPA is by SCI birds either in the air, on the surface of the sea or plunge diving into the top few metres of the marine water column, and that their prey species are predominantly highly mobile and the birds follow their prey throughout wide areas as they forage and feed, and given that the habitat disturbance of the seabed is highly localised, temporary and reversible, the habitat loss impact pathway could result in a temporary redistribution of a small number of birds of the North-West Irish Sea cSPA to elsewhere within the site.

These highly localised, temporary and reversible effects that are not of sufficient magnitude or duration to affect the maintenance of the SCI populations, the natural range of the populations or the amount of habitat available to the populations, will not compromise the range of marine habitats utilised by the qualifying species of the North-West Irish Sea cSPA.

Following the implementation of mitigation to reduce the impact of visual disturbance (including the Revised Vessel Management Plan included in Appendix A10.2 in Volume 3A Part B of this EIAR Addendum), the magnitudes and significance of effect remain the same as presented in this Section of the EIAR in the 2018 planning application. With the exception of small differences in the numbers and distribution of species recorded during the VP surveys, there are no further changes to the information presented in this Section of the EIAR in the 2018 planning application.

### [Impacts on Prey of Birds by Suspended Sediments Caused by Dredging of the Proposed Outfall Pipeline Route \(Marine Section\)](#)

There are no changes to the information presented in this Section of the EIAR in the 2018 planning application (refer to Chapter 9A (Biodiversity (Marine)) in Volume 3A Part A of the EIAR Addendum).

#### **10.6.2 Operational Phase**

The updated Proposed Project elements, as outlined in Section 10.1, and the changes to the baseline environment outlined in Section 10.3, have been considered and there are no changes to the nature of the operation of the Proposed Project which does not require routine presence of significant surface activities. Therefore, there are no changes to the information presented in this Section of the EIAR in the 2018 planning application.

#### **10.7 'Do Nothing' Impact**

The 'Do Nothing' scenario, in the absence of the Proposed Project, remains the same as outlined in this Section of the EIAR in the 2018 planning application.

#### **10.8 Cumulative Impacts**

The list of other projects considered in Chapter 23A (Cumulative Impacts and Environmental Interactions) in Volume 3A Part A of this EIAR Addendum has been reviewed, and it is concluded that none of the other projects will result in cumulative impacts on estuarine or marine ornithological interests in combination with the Proposed Project.

#### **10.9 Mitigation Measures**

##### **10.9.1 Construction Phase – Estuarine Ornithology**

Based on the comparative assessment of impacts on estuarine ornithology identified in Chapter 10 (Biodiversity (Marine Ornithology)) in Volume 3 Part A of the EIAR in the 2018 planning application and the present day, the previously proposed mitigation measures for the Construction Phase still remain valid and applicable.

##### **10.9.2 Construction Phase – Marine Ornithology**

A Vessel Management Plan was prepared and included as Appendix A10.2 in Volume 3 Part B of the EIAR in the 2018 planning application, due to the potential for adverse impacts on site integrity during the time period that auks are leaving the Ireland's Eye breeding colony. The previous Vessel Management Plan has been revised, following the Addendum assessment and the Revised Vessel Management Plan is included in Appendix A10.2 in Volume 3A Part B of this EIAR Addendum.

The Revised Vessel Management Plan has two key functions. The first is to ensure that the Ireland's Eye SPA boundary is not unnecessarily approached or crossed by construction vessels working on the proposed marine diffuser and subsea section of the proposed outfall pipeline route (marine section) at any time during the Construction Phase. The second is to ensure the protection of rafting auks (guillemot and razorbill) which are both SCI species of both Ireland's Eye SPA and the North-West Irish Sea cSPA, when they are leaving the Ireland's Eye colony in July to mid-August at the end of the breeding season. Although not required on the basis of the assessments completed on potential effects, as a matter of good practice, the bird observer appointed by the contractor as part of adherence to the Revised Vessel Management Plan, will notify the Marine Coordinator if there are any additional agglomerations of SCI species during their watching brief in place over the period 8 July to 31 August during the construction period.

Based on the comparative assessment of impacts on marine ornithology identified in Chapter 10 (Biodiversity (Marine Ornithology)) in Volume 3 Part A of the EIAR in the 2018 planning application and the present day, there are no other changes to the previously proposed mitigation measures for the Construction Phase, which remain valid and applicable.

### **10.9.3 Operational Phase – Estuarine Ornithology**

Based on the comparative assessment of impacts on estuarine ornithology identified in Chapter 10 (Biodiversity (Marine Ornithology)) in Volume 3 Part A of the EIAR in the 2018 planning application and the present day, the previously proposed mitigation measures for the Operational Phase still remain valid and applicable.

### **10.9.4 Operational Phase – Marine Ornithology**

Based on the comparative assessment of impacts on marine ornithology identified in Chapter 10 (Biodiversity (Marine Ornithology)) in Volume 3 Part A of the EIAR in the 2018 planning application and the present day, the previously proposed mitigation measures for the Operational Phase still remain valid and applicable.

## **10.10 Residual Impacts**

### **10.10.1 Estuarine Ornithology**

There are no changes to the information presented in this Section of the EIAR in the 2018 planning application, as there are no other material changes to the previously assessed impacts of the Proposed Project on marine ornithology in Chapter 10 (Biodiversity (Marine Ornithology)) in Volume 3 Part A of the EIAR of the 2018 planning application.

The remaining residual impacts of the Proposed Project are considered to be the same as presented in this Section of the EIAR in the 2018 planning application.

### **10.10.2 Marine Ornithology**

There are no changes to the information presented in this Section of the EIAR in the 2018 planning application, as there are no other material changes to the previously assessed impacts of the Proposed Project on marine ornithology in Chapter 10 (Biodiversity (Marine Ornithology)) in Volume 3 Part A of the EIAR of the 2018 planning application.

The remaining residual impacts of the Proposed Project are considered to be the same as presented in this Section of the EIAR in the 2018 planning application.

## **10.11 Oral Hearing**

During the 2019 Oral Hearing, clarifications in relation to the submissions and observations raised were provided in relation to Biodiversity (Marine Ornithology).

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In relation to Biodiversity (Marine Ornithology) features, a summary of the assessment of effects and mitigation measures proposed in relation to those features was provided in a precis of evidence. Further written clarification was provided in two additional statements, as follows:

- GDD Response to Ornithology Questions 27 March 2019; and
- GDD Response to Inspectors Questions Ornithology.

These additional statements provided the raw marine bird data collected for the Proposed Project at the Oral Hearing and clarified the following points raised by various parties at the Oral Hearing:

- In relation to the integrity of the Baldoyle Bay SPA and to eliminate the compromise of conservation objectives on light-bellied brent goose, shelduck and golden plover, a 2.4m high hoarding will be used for the duration of the construction works at both microtunnelling compounds (proposed temporary construction compound no. 9 and no. 10);
- That the impacts where it is proposed to pump treated wastewater into the sea 1km north-east of Ireland's Eye will not result in adverse effects on the integrity of any seabird SPAs; and
- In relation to disturbance works arising from works at construction compound no. 9, the Local Area Plan (LAP) 'quiet zone' is considered to be of low ecological value because of the very low numbers of birds recorded between 2014 and 2018. The impact on the LAP zoned land as a result of piling will be low due to the small spatial (90m from source) and temporal (two weeks) extent of piling activities, resulting in a Negligible impact significance. This was concluded in Section 10.6.1 of Chapter 10 (Biodiversity (Marine Ornithology)) in Volume 3 Part A of the EIA in the 2018 planning application and reflected in Figure 10.2 in Volume 3 Part B of the EIA in the 2018 planning application.

The precis of evidence and further written clarifications are included as Appendix A10.3 in Volume 3A Part B of this EIA Addendum.

There are no further updates to the information presented and the conclusion remains the same as presented at the 2019 Oral Hearing.

### **10.12 Conclusion**

This Addendum Chapter has considered all updates to elements of the Proposed Project, the current baseline environment and whether there have been any updates to guidance and reference material since the 2018 planning application submission. Following consideration, there are no material changes to the assessment of marine ornithology as a result of any of the updates discussed in this Addendum Chapter.

### 10.13 References

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#### Directives and Legislation

Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment.

### NPWS – SPA Conservation Objectives

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NPWS (2013c). Conservation Objectives: Malahide Estuary SPA [00402]5. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

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