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WHITEGATE-ADGHADA SEWERAGE SCHEME, CO. CORK (FS007027)

Risk Assessment for Annex IV Species

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Client:
Foreshore Unit
Department of Housing, Local Government and Heritage
Newtown Road
Wexford
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Foreshore Licence Application for FS007027 Whitegate-Aghada Sewerage Scheme, Co. Cork

Risk Assessment for Annex IV Species

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1.0 INTRODUCTION

1.1 Project Overview

Irish Water ("the Applicant") have submitted a Foreshore Licence Application, relating to the proposed Whitegate-Aghada Sewerage Scheme, Co. Cork ("the proposed development"). The proposed development is one of the agglomerations identified by Irish Water's Untreated Agglomeration Study (Irish Water, 2018), which have been identified as areas where untreated sewerage is discharged directly to receiving waters.

The area consists of four settlements: Whitegate, Upper Aghada, Lower Aghada and Rostellan, which are located along the east coast of Cork Harbour. The nearest town is Midleton, approximately 14 km northeast from the village of Whitegate.

The proposed development comprises of the following:

- A new wastewater treatment plant (WwTP), located south-west of Whitegate village in Ballytigeen townland, including a marine outfall and gravity sewer-Outfall.
- Three proposed new wastewater pumping stations with interconnecting pipework and the upgrading of part of the existing sewer network:
  - Rostellan Wastewater Pumping Station and Rising Main
  - Lower Aghada Wastewater Pumping Station and Rising Main
  - Whitegate Wastewater Pumping Station and Rising Main
- The removal of several untreated wastewater discharges.
- Ardnabourkey Gravity Sewer.

The purpose of this report is to identify and assess any negative impacts from the proposed development on species which are afforded strict protection under Article 12 of the Habitats Directive and corresponding national legislation and, on the basis of that assessment, to make recommendations regarding any mitigation measures or further licencing which may be required.

1.2 Application Documents

The Applicant submitted the following documents as part of the Application:

- Foreshore Licence Application Form (dated 23rd November 2020)
- Natura Impact Statement Report (dated 22nd October 2020)
  - Appendix A: AA Screening Report (dated September 2020)
  - Appendix B: Site Synopsis for the Cork Harbour SPA
  - Appendix C: Winter Bird Survey Report (dated 26th October 2020)
  - Appendix D: Invasive Species Report (dated 28th October 2020)
  - Appendix E: Site Location Drawings
  - Appendix F: Far Field Modelling Report (dated 13th August 2020)
  - Appendix G: Construction Environmental Management Plan (CEMP) (dated 27th October 2020)
- Updated Natura Impact Statement (dated 14th October 2022)
- Site Investigation Monitoring Report (dated May 2019)

- Foreshore Licence Area Overall Plan Map and Site Location Maps (dated 11th November 2019)
- Admiralty Charts (dated 11th November 2019)
- Aquaculture Site Location Map (dated 11th November 2019)
- Rostellan Shellfish Areas Location Map (dated 11th November 2019)
- Archaeological Impact Assessment Report (dated 21st March 2018)
- Archaeological Testing Report (dated May 2019)
- Underwater Archaeological Impact Assessment Report (dated September 2019)
- An Bord Pleanála Inspector's Report for Compulsory Purchase Order (CPO) (dated 2nd July 2019)
- CPO drawings (dated 29th November 2018 and 22nd January 2019)
- Copies of Newspaper notices (dated 1st April 2021 and 3rd April 2021)
- The submissions received from prescribed bodies and members of the public as part of the first public consultation which was undertaken between 7th April 2021 and 6th May 2021.
- The responses from the Applicant to the submissions received as part of the first public consultation which was undertaken between 7th April 2021 and 6th May 2021.
- The submissions received from prescribed bodies as part of the second public consultation which was undertaken in accordance with Regulation 42 of SI 477/2011 between 17th November and 16th December 2022.
- The responses from the Applicant to the submissions received as part of the public consultation which was undertaken in accordance with Regulation 42 of SI 477/2011 between 17th November and 16th December 2022.

The contents of these documents as well as the *'Response to observations by IFI on a proposed wastewater treatment marine outfall at Aghada – Whitegate, Cork Harbour (August 2021)'* document, prepared by DixonBrosnan and Aquafact were considered in this technical review.

Additionally, the *'Annex IV Species Risk Assessment of the Proposed Sewage Works at Whitegate, Co. Cork'* document, prepared by the Irish Whale and Dolphin Group (IWDG) on behalf of DixonBrosnan for this Foreshore Licence Application was also considered during the preparation of this report.

1.3 Legislative Context

The Habitats Directive (92/43EEC) is the principal instrument of EU legislation for the protection of natural habitats and wild species. Article 12 of the Directive requires all Member States to "*establish a system of strict protection for the animal species listed in Annex IV (a) in their natural range*". This requirement is transposed into Irish law by Section 51 of the European Communities (Birds and Natural Habitats) Regulations, 2011 (S.I. No. 477/2011, as amended) ("the Habitats Regulations").

The Annex IV fauna which are relevant in an Irish context include the following:

- 'Microchiroptera – All species' (all bat species present in Ireland),
- '*Lutra lutra*' (European Otter),
- 'Cetacea – All species' (all whales, dolphins, and porpoises),

- A number of sea turtles, including the regularly occurring '*Dermochelys coriacea*' (Leatherback Turtle) and the less frequent '*Caretta caretta*' (Loggerhead Turtle),
- *'Bufo calamita'* (Natterjack Toad), and
- *'Geomalacus maculosus'* (Kerry Slug).

Section 51 of the Habitats Regulations protects wild Annex IV fauna from deliberate capture, killing, disturbance (particularly during sensitive periods), taking or destruction of eggs, damage or destruction of breeding and resting places, and trade or trafficking by making all such activities an offence (save where done in accordance with a licence granted under Section 54 of the Regulations). This applies to all of the life stages of the species concerned.

In addition, the relevant Minister is required to monitor the incidental capture and killing of Annex IV fauna and ensure that any incidental capture and killing does not have a significant negative impact on the species concerned, i.e. an interruption of the maintenance or restoration of the favourable conservation status of the species.

1.4 Methodology

This assessment has been carried out with regard to the relevant legislation and guidance, as well as the documentation submitted with the Application and other information which is publicly available. The documents and sources of information which informed this assessment are as follows:

- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (the Habitats Directive). Official Journal of the European Communities, *L206/7*.
- EC (2021) *Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC*. European Commission, Brussels.
- NPWS (2007) Circular Letter NPWS 2/07. Guidance on Compliance with Regulation 23 of the Habitats Regulations 1997 – strict protection of certain species/ applications for derogation licences. National Parks & Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin
- European Communities (Birds and Natural Habitats) Regulations, 2011. *SI No. 477/2011* (as amended).
- DAHG (2014) *Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters.* Department of Arts, Heritage and the Gaeltacht, Dublin.
- The documents which were submitted as part of the Applications, as listed in Section 1.2 above.
- Marine Institute (2022) *Ireland's Marine Atlas* <https://atlas.marine.ie/> [accessed 02/02/2022]. Marine Institute, Oranmore.
- NBDC (2023) *Biodiversity Maps* <https://maps.biodiversityireland.ie/Map> [accessed 09/02/2023]. National Biodiversity Data Centre, Waterford.

1.5 Statement of Authority

This technical review has been undertaken by Patrick O'Shea and Robert Hynes. Patrick has a degree in Botany from Trinity College Dublin and an MSc in Ecological Management and Conservation Biology from Queen's University Belfast. He is a Full Member of the Chartered Institute of Ecology and Environmental Management and

has ten years' experience in the ecological assessment including impact assessment and Appropriate Assessment. Robert holds a bachelor's degree (with honours) in Zoology from Trinity College Dublin, and a Master's in Wildlife Management and Conservation from University College Dublin. He has one year's experience in ecological assessment.

2.0 ANNEX IV RISK ASSESSMENT

2.1 Zone of Influence

The 'zone of influence' for a project is the area over which ecological features may be affected by biophysical changes as a result of the proposed project and associated activities. In the marine environment, zones of influence can be extensive e.g. pollution and materials can easily be transported elsewhere, currents and waves can be altered causing effects well beyond the site and effects on mobile species may be manifest elsewhere (CIEEM, 2018).

Having regard to the above key variables, the zone of influence for the purposes of this Annex IV risk assessment was defined as:

- The proposed development plus a 15 km buffer for species other than cetaceans and Sea Turtles.
- For Cetaceans and Sea Turtles, the entire coast of Ireland was considered, with reference to the Marine Mammal Management Units (IAMMWG, 2015)[1] for cetacean that overlap with Irish Waters.

This area extends to the maximum distance at which likely significant effects, such as underwater noise and vibration could travel through the marine environment and impact Annex IV species. Beyond this limit, underwater noise, vibration and visual disturbance to Annex IV species is unlikely to occur. It also takes into account the highly mobile nature of certain Annex IV species.

2.2 Annex IV Fauna

Based on a review of the National Biodiversity Data Centre's *Biodiversity Maps* (NBDC, 2021), *Ireland's Marine Atlas* (Marine Institute, 2021), *Management Units for cetaceans in UK waters* (IAMMWG, 2015)[1] and the IWDG Sightings dataset (IWDG, 2022), the following Annex IV fauna were considered likely to occur within the zone of influence of the proposed development:

- Brown Long-eared Bat (*Plecotus auritus*)
- Daubenton's Bat (*Myotis daubentonii*)
- Lesser Noctule (*Nyctalus leisleri*)
- Natterer's Bat (*Myotis nattereri*)
- Common Pipistrelle (*Pipistrellus pipistrellus*)
- Soprano Pipistrelle (*Pipistrellus pygmaeus*)
- Whiskered Bat (*Myotis mystacinus*)
- Otter (*Lutra lutra)*
- Common Porpoise (*Phocoena phocoena*)
- Bottlenose Dolphin (*Tursiops truncatus*)
- Common Dolphin (*Delphinus delphis*)

[1] Inter-Agency Marine Mammal Working Group (IAMMWG), (2015), Management Units for cetaceans in UK waters (January 2015), JNCC Report No. 547, JNCC, Peterborough, ISSN 0963-8091.

- Risso's Dolphin (*Grampus griseus*)
- Fin Whale (*Balaenoptera physalus*)
- Minke Whale (*Balaenoptera acutorostrata)*
- Humpback Whale (*Megaptera novaeangliae*)
- Leatherback Turtle (*Dermochelys coriacea*)

Other Annex IV fauna, such as those listed above in section 1.3, were deemed to either not occur within the zone of influence or to occur only very infrequently or in exceptional cases. The assessment in the following subsections focusses on the species listed above in this section.

2.3 Assessment of Impacts

This section provides an assessment of the potential impacts arising from the proposed works on the Annex IV fauna listed in Section 2.2 above.

2.3.1 Bat Species

Seven bat species were recorded in the zone of influence: Brown Long-eared Bat, Daubenton's Bat, Lesser Noctule, Natterer's Bat, Common Pipistrelle, Soprano Pipistrelle and Whiskered Bat (NBDC, 2022).

In Section 7 of the NIS, it states that "No roosting habitat, high value commuting or feeding habitat for bats will be affected by the proposed development and therefore no specialised bat surveys were considered necessary."

As per the IWDG Annex IV Species Risk Assessment submitted by the Applicant to accompany the Foreshore Licence Application for the proposed development, the area has low suitability for roosting, foraging or commuting bats due to the absence of preferred habitats (e.g., woodlands, hedgerows, rivers and lakes) and so the site is considered to be of negligible value for bats.

Considering the above, there will be no offence relating to bats under Section 51 of the Habitats Regulations, as a result of the proposed development.

2.3.2 Otter

In the Whitegate-Aghada Sewerage Scheme- UTAS Cork Bundle Construction Environmental Management Plan (CEMP) (Irish Water, 2020), the following mitigation measures for otter are stated:

> *"A pre-construction otter survey will be carried out prior to the commencement of site works. Any holts found to be present will be subject to monitoring and mitigation as set out in the NRA Guidelines for the Treatment of Otter prior to the Construction of National Road Schemes (2006b). If found to be inactive, exclusion of holts may be carried out during any season. No wheeled or tracked vehicles (of any kind) will be used within 20m of active, but non-breeding, otter holts. Light work, such as digging by hand or scrub clearance will also not take place within 15m of such holts, except under license. The prohibited working area associated with otter holts will be fenced and appropriate signage erected. Where breeding females and cubs are present no evacuation procedures of any kind will be undertaken until after the otters have left the holt, as determined by a specialist ecologist. Breeding may take place at any season, so activity at a holt must be adjudged on a case-by-case basis. The exclusion process, if required, involves*

the installation of one-way gates on the entrances to the holt and a monitoring period of 21 days to ensure the otters have left the holt prior to removal."

Given the implementation of these measures, there will be no offence relating to Otter under Section 51 of the Habitats Regulations as a result of the proposed development.

2.3.3 Cetaceans

Eight cetacean species, namely Harbour Porpoise, Common Porpoise, Bottlenose Dolphin, Common Dolphin, Risso's Dolphin, Fin Whale, Minke Whale, and Humpback Whale, are considered likely to occur in proximity to the proposed development on a regular or occasional basis.

Cetaceans are particularly sensitive to underwater noise or hydroacoustic impacts associated with construction activities such as vessel engines, dredging, piling, trenching, backfilling and drilling. Underwater noise has the potential to cause disturbance and injury to cetaceans, which are particularly sensitive to such impacts given their reliance on sound as their primary sense.

The element of the proposed works which will result in the most underwater noise emissions is the construction of the proposed Marine Outfall, located at White Bay beach. The likely method used for the construction of the outfall pipe is the float and flood method. The float and flood method would require the use of open trenches and placement of suitable material to provide support and protection for the sea outfall once it's in position. Prior to the installation of the pipeline, a trench is to be excavated along the route of the sea outfall. In order to achieve the required depth and slope of the trench, removal of some seabed material is required. Trenching would be undertaken from a barge anchored to the sea bed or on a jack-up barge using steel piles. It is anticipated that backhoe dredgers or grab samplers will be used, although the chosen equipment will depend on the successful contractor. It is also anticipated that the excavated material will be laid on the side of the trench, with some material re-used as backfill material in the trench when the pipe has been laid. The remaining material will naturally disperse locally within the water column. Once the seabed material has been removed and the trench has been dug, bedding stone will be placed along the bottom of the trench, which will form the bedding layer. The bedding layer materials will be imported from local quarries via the sea or trucks. Bedding layer is to be laid via barges, although the precise methodology will be confirmed by the contractor.

The IWDG report outlines the anticipated noise levels associated with dredging, which also applies to the float and flood method for the construction of the marine outfall. Backhoe dredging operations should produce a source level of 179 dB re 1 mPa at 1 meter (bandwidth ¼ 3 Hz – 20 kHz) to avoid hydroacoustic impacts to marine mammals (Todd et al., 2015). These hydroacoustic outputs are primarily low-frequency, below the peak frequency for echolocation and would abate quickly.

The intensity and frequency of noise which will be produced by the proposed development, including the operation of vessels and the float and flood method for the installation of the marine outfall, noise levels are unlikely to exceed the existing noise levels in the vicinity of the proposed development. There will be no deliberate capture or killing, deliberate disturbance or deterioration of, or destruction of breeding sites or resting places to any cetacean species. Therefore, no offence under Section 51 of the Habitats Regulations will be committed as a result of the proposed development.

2.3.4 Turtle Species

Similar to the larger cetaceans, i.e. whale species, Loggerhead Turtle are recorded predominantly in the deeper waters off the coast. Leatherback turtles have frequently been recorded off Cork Harbour in the vicinity of the proposed development, although they are generally only recorded as sightings of single individuals and the records from on NBDC (2023) are almost all from between 1979 and 2000. Although there was one recorded Leatherback Turtle in Ballybrannigan Strand, Co. Cork in 2015, the general occurrence of turtles in the area in recent years is uncertain. Loggerhead turtles have also been recorded off Cork Harbour, but rarely or in exceptional circumstances (King and Berrow, 2009).

In some circumstances, mitigation measures for marine mammals can also be applicable to other marine species such as turtles and some fish species. As per section 2.3.3 of this document, given the low hydroacoustic output anticipated during the float and flood method for the installation of the marine outfall, it is considered that there will be no significant impact on turtle species or any offence under Section 51 of the Habitats Regulations as a result of the proposed development.

3.0 CONCLUSIONS AND RECOMMENDATIONS

This report has assessed the potential for the proposed development to give rise to impacts on Annex IV species afforded strict protection under Article 12 of the Habitats Directive which would constitute offences under Section 51 of the Habitats Regulations. The following conclusions and recommendations have arisen from this assessment. The above sections have provided the assessment and have concluded that there will be no deliberate capture, killing, disturbance (particularly during sensitive periods), taking or destruction of eggs, damage or destruction of breeding and resting places on bat species, Otter, cetaceans or turtle species. Therefore, no offence under Section 51 of the Habitats Regulations will be committed as a result of the proposed development.

3.1 Pre-construction Surveys and Derogation Licences

As per Section 3.8.1.9 of the Construction Environmental Management Plan (CEMP), (Irish Water, 2020), a pre-construction survey will be carried out for Otter. Otter is a highly mobile species which may occupy new breeding and resting places or leave existing ones in a short space of time. Therefore, the pre-construction survey should be undertaken as close as practicable to commencement of activities on site. The need for any derogation licence(s) under Section 54 of the Habitats Regulations in respect of otters shall be established on the basis of the pre-construction survey. Measures required to mitigate any impacts will be included as terms or conditions to any licence granted.

3.2 Recommended Conditions

The mitigation measures proposed by the IWDG in their Annex IV species risk assessment are as follows, and are recommended as conditions to be attached to any foreshore licence granted, in addition to the above:

1. A dedicated, qualified and experienced Marine Mammal Observer (MMO) will conduct a 30-minute watch for marine mammals within 500 m prior to start-up of any noisy construction works in the foreshore. If an Annex IV species (cetacean, marine turtle or otter) or seal is sighted within 500 m of the dredger or barge, start-up must be delayed until the animal(s) is observed to move outside the mitigation zone or the 30 minutes has passed without the animal being sighed within the mitigation zone.
2. Dredging and HDD activities shall only commence in daylight hours where effective visual monitoring, as performed and determined by the MMO, has been achieved. Where effective visual monitoring, as determined by the MMO, is not possible the sound-producing activities shall be postponed until effective visual monitoring is possible.
3. Once normal operations commence, there is no requirement to halt or discontinue the activity at night-time, nor if weather or visibility conditions deteriorate nor if marine mammals occur within a 500 m radial distance of the sound source, i.e., within the Monitored Zone (MZ) as per section 4.3.1 of the NPWS, 2014.

4.0 REFERENCES

DixonBrosnan Environmental Consultants (2022) *Natura Impact Statement (NIS) Whitegate-Aghada Sewerage Scheme (UTAS Cork Bundle).*

Irish Water (2018), *Untreated Agglomerations Study (UTAS) - Cork Project (Whitegate) - Marine SI Report for Screening for Appropriate Assessment.*

Irish Water (2020), *Whitegate-Aghada Sewerage Scheme-UTAS Cork Bundle Construction Environmental Management Plan (CEMP).*

IWDG (2022) *Annex IV Species Risk Assessment of the Proposed Sewage Works at Whitegate, Co. Cork.* IWDG Consulting, Merchants Quay, Kilrush, Co. Clare.

King, G.L., & Berrow, S.D., (2009). *Marine turtles in Irish waters.* Irish Naturalist's Journal, Special Supplement 2009.

NPWS (2014) *Guidance to manage the risk to marine mammals from man-made sound sources in Irish waters – January 2014*. National parks and Wildlife Service, 7 Ely Place, Dublin 2.

Todd, V.L.G., Todd, I.B., Gardiner, J.C., Morrin, E.C.N., MacPherson, N.A., DiMarzio, N.A., and Thomsen, F. (2015) *A review of impacts of marine dredging activities on marine mammals.* ICES Journal of Marine Science 72(2), 328-340.