BYRNELOOBY
AN ayesa COMPANY

H5, Centrepoint Business Park
Oak Road, Dublin 12, D12 VW27
Ireland

Tel: +353 (0)1 456 4370
dublin@byrnelooby.com
www.byrnelooby.com
www.ayesa.com

PLANNING COUNTER
- 8 JUN 2022
RECEIVED

ADDITIONAL INFORMATION

SD21A/0281

Wednesday 8 June 2022

South Dublin County Council
County Hall Tallaght
Dublin 24
D24 A3XC

Ref: W3499-W-LT02-RFI Response SDCC-Rev00

RECEIVED
- 8 JUN 2022
PLANNING COUNTER

Re: Diageo Baileys Global Supply – W3499
Request for Additional Information

To:

In reference to planning application SD21A/0281 and the associated Chief Executive's Order PR/1582/21, seeking Additional Information (dated 9th December 2021), we hereby provide the requested information. The application is seeking permission for a slightly larger industrial storage building (32.4m x 14.3m, 8.8m high) than that previously permitted under SD20A/0120 (24.1m x 10.1m, 7m) in the same location on-site at Diageo Baileys Global Supply, Nangor Road, Dublin.

Item 1: Movement of building

Location of the proposed building on-site: as noted in the submitted proposals would have resulted in removal of approximately 14 No. trees, a greater number that the previously permitted development (SD20A/0120). To mitigate the potential for negative ecological impact on-site, we present a revised positioning of the building that avoids tree removal. The building can only be moved slightly from that originally applied for due to the following constraints:

- Health and safety: the building needs to be located in this position in order to be as close to point of use as possible, to minimise forklift movements around the site and the consequent reduction in risk of collisions;
- The exiting site footprint is fully utilised in terms of current operations and truck parking/manoeuvring;
- Environmental – longer forklift journeys will increase the risk for potential spillage of materials being transported.

The proposed re-positioning of the building brings the proposed development into line with the County Development Plan Green Infrastructure Network Policy and its objectives all of which seek to reduce fragmentation of green areas and increase the biodiversity and ecological function of green infrastructure, in this case the tree corridor on Diageo's site between the Canal and the Camac River.

These amendments will prevent potential impact on Policy G2 – Green Infrastructure Network as no trees will be removed that could potentially fragment the ecological corridors through the site.

Item 2: Accurate and up-to-date information

In response to SDCC's request for accurate and up-to-date information, the following reports and surveys have been revised to take into account the re-positioning of the building, as follows:

- Appropriate Assessment Screening - Ecologist, Dr. Niamh Roche, has reviewed the original AA Screening Report and amended it to include for the proposed new position. The conclusion of the AA Screening remains the same, namely that impacts on the nearest Natura 2000 sites are considered highly unlikely, therefore a Stage 2 full Appropriate Assessment and Natura Impact Statement are not required;

- Ecological Assessment – Ecologist, Dr. Niamh Roche, has re-surveyed the site and reviewed and amended the report to take account of the proposed slightly larger, re-positioned building. The revised report has the same conclusion, namely that the site proposed for development is of no ecological significance since it consists mainly of tarmac, with a very small area of amenity grassland and that there are no ecological impacts arising from the proposal. In respect of the Bat Survey, it has been determined that the original 11-night survey carried out from 28th August 2020 to 8th September 2020 is still perfectly valid. The survey detected little bat activity and no evidence of roosting. In addition, the design for the proposed building has taken all recommended mitigation measures into account (e.g. lighting).

In addition to the above, to ensure accuracy and clarity, the Flood Risk Assessment has also been updated to account for the re-positioning.

Item 3: Drainage

The proposed building will partially lie over an existing hardstanding area, whilst the remainder will result in the removal of an insignificant quantity of amenity grassland that currently provides little in the way of stormwater attenuation (less than 575m2). Note, this insignificant quantity is even less that previously proposed as the building has been pushed slightly further into the existing hard-standing area. Therefore, the calculated net additional run-off arising from the proposed building is very small at a maximum of just 0.48 l/s. The provision of above-ground attenuation that mimics nature at this location is extremely difficult, as there is no available space here: the only available grassed area to the south of the building has a significant quantity of services and utilities. As already outlined in Item 1 above, the building cannot be relocated anywhere else on-site for operational and safety reasons.

As requested, we include the following information to demonstrate compliance with the requirements of SDCC's Water Services Department:

- Revised drainage drawing illustrating provision of 36m3 of stormwater attenuation capacity, just above the 15% requested additional storage to the 30.8m3 volume originally proposed, by means of the previously proposed below-ground attenuation capacity;

- The revised drainage drawing also shows provision of a flow control device, consisting of a curved stainless steel orifice plate to limit discharge rate to green-field run-off rate, namely 1.6 l/s;
- Flood defences were installed following 2011 flood event to give a 1:100-year flood protection (as described in the Flood Risk Assessment). Therefore, installing a finished floor level that is 500 mm above the flood level experienced in 2011 is no longer necessary – blockages in the river or culverts upstream of the site exacerbated the 2011 flood event, according the OPW. Installing a finished floor 500mm above the historical flood height now would result in the floor being between 0.8 and 1.1m above current ground levels resulting in the building not being able to be accessed safely by forklifts.

Item 4: Landscaping

Despite the removal of the need to fell any trees for the development, a full landscape plan has been developed and is included with this response. The proposals include for additional, new planting along the northern boundary of the site with the Grand Canal, in an effort to strengthen the exiting biodiversity corridor using native and pollinator-friendly species. This is in line with many of the objectives outlined in Policy G3 and G6 of the County Development Plan.

We trust that you will find this information appropriate in aiding your decision on the proposed development.

Yours sincerely
For ByrneLooby,

John Bourke
Associate Director

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Appendix A – Appropriate Assessments Screening

DIAGEO: Bulk Storage Shed

APPROPRIATE ASSESSMENT SCREENING

Competent Authority: South Dublin City Council
Author of AAS: Dr Niamh Roche MCIEEM

1. Introduction and Legislative Background

1.1 Background

This Appropriate Assessment Screening has been prepared by Dr Niamh Roche MCIEEM on behalf of the applicant, Diageo Baileys Global Supply. The Assessment addresses a proposed development of one bulk storage shed at Diageo Baileys Global Supply, Nangor House, New Nangor Road, Dublin. The initial purpose is to determine the effects of the proposed development, if any, on European conservation designated site(s) (i.e. Natura 2000 sites) and if necessary to proceed with further steps in the AA process. The report also aims to determine the appropriateness, or otherwise of the proposed development in the context of the conservation status of such sites.

A statutory Environmental Impact Statement is not necessary because the size and nature of the proposed development does not exceed the threshold whereby one would be required. However, as part of Further Information Requests from the local authority an ecological survey (August 2020, revised May 2022), a bat survey (August/Sept 2020) and this Appropriate Assessment have been carried out (first version September 2020, revised May 2022).

1.2 Regulatory Context

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna, also known as The Habitats Directive, provides the framework for legal protection of habitats and species of European importance. Articles 3 to 9 of the Directive provide the legislative means to protect habitats and species of Community Interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000. These are: Special Areas of Conservation (SACs) designated under the Habitats Directive; and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (79/409/EEC) (also known as the Birds Directive).

Article 6(3) and 6(4) of the Habitats Directive set out the decision making tests for plans and projects likely to affect Natura 2000 sites (Annex 1.1). Article 6(3) establishes the requirement for Appropriate Assessment:

> *"Any plan or project not directly connected with, or necessary to, the management of the (Natura 2000) site but likely to have a significant effect thereon, either individually or in combination with other plans and projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implication for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public."*

1.3 Stages of Appropriate Assessment (AA)

The procedure has been undertaken in accordance with the European Commission Methodological Guidance on the provision of Article 6(3) and 6(4) of the Habitats Directive (EC2001), the European Commission Guidance 'Managing Natura 2000 Sites' (EC 2002) and the Guidance Document for Appropriate Assessment of Plans and Projects in Ireland by the DOEHLG (Anon, 2009, revised 2010).

There are up to four successive stages involved in the Appropriate Assessment process (European Commission 2002). The outcome at each stage determines whether the next stage in the process is required. The following describes each of the four stages:

Stage 1 – Screening

This is the first stage in the process and is carried out to determine the necessity for a more detailed Stage 2 Appropriate Assessment where potential impacts on European sites are deemed to be of significance. The following steps are involved in the Stage 1 Screening:

- Description of the project and site characteristics (existing environment)
- Identification and description of Natura sites that could potentially be affected
- Identification and description of potential impacts
- Assessment of potential impacts
- Exclusion of sites where no significant effects are foreseen

Stage 2 – Appropriate Assessment

This stage involves the consideration of the impact on the integrity of the European site of the project, either alone or in combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts. If adequate mitigation is proposed to ensure no significant adverse impacts on European sites, then the process may end at this stage. However, if the likelihood of significant impacts remains, then the process must proceed to Stage 3.

Stage 3 – Assessment of Alternatives

The process which examines alternative ways of achieving the objectives of the plan or project that may avoid adverse impacts on the integrity of the European site.

Stage 4 – Assessment where no Alternative Solutions Exist and where Adverse Impacts Remain

The Habitats Directive promotes a hierarchy of avoidance, mitigation and compensatory measures. First, the project should aim to avoid any negative impacts on Natura 2000 sites by identifying possible impacts early in the planning stage, and designing the project in order to avoid such impacts. Secondly, mitigation measures should be applied, if necessary, during the AA process to the point where no adverse impacts on the site(s) remain. If the project is still likely to result in adverse effects, and no further practicable mitigation is possible, then it is rejected. If no alternative solutions are identified and the project is required for imperative reasons of overriding public interest (IROPI test) under Article 6(4) of the Habitats Directive, then compensation measures are required for any remaining adverse effect.

2.0 Appropriate Assessment Matrix

Screening determines whether appropriate assessment is necessary by examining:

1. Whether a plan or project can be excluded from AA requirements because it is directly connected with or necessary to the management of a Natura 2000 site.
2. Whether the project will have a potentially significant effect on a Natura 2000 site, either alone or in combination with other projects or plans, in view of the site's conservation objectives.

Screening involves the following:

- Description of plan or project
- Identification of relevant Natura 2000 sites, and compilation of information on their qualifying interests and conservation objectives
- Assessment of likely effects – direct, indirect and cumulative – undertaken on the basis of available information as a desk study or field survey or primary research as necessary
- Screening Statement with conclusions

A full Appropriate Assessment (Stage 2 in the AA process) goes further than an AA Screening. The same guidelines as above are followed, but in addition, the following are taken into account:

- Proposed mitigation measures that will be taken to prevent any negative effects
- A review of the proposed mitigation measures to determine whether the project must progress to Stage 3, Assessment of Alternatives.
- Appropriate Assessment with conclusions.

This report is an Appropriate Assessment Screening in line with the requirements of Article 6(3) of the EU Habitats Directive (Directive 92/43/EEC) of the proposed development of one storage shed unit at Nangor House, New Nangor Road, Dublin.

2.1 Description of the project

The site is situated within the Diageo industrial complex at Nangor House. There is a small area of amenity grassland on the site but it is mainly composed of hard core tarmac. The locations where the building is proposed for development is bounded by young deciduous trees and industrial buildings. The Grand Canal pNHA bounds the overall Diageo site's northern boundary.

- The proposal development is for a warehouse-style shed for the purpose of storage.
- The site is in Gallanstown and falls under the South Dublin City Council Development Plan 2016-2022.
- The site of proposed development covers <1ha and is situated within a 12.28ha industrial facility.
- The land is not within any Natura 2000 designation.
- The site is located approximately 7.5km north of the nearest Natura conservation designation Glenasmole Valley SAC.
- Other Natura sites such as Rye Valley Water SAC, South Dublin Bay SAC and North Dublin Bull Island SAC are all located within 9-13km.
- The development will be preceded by removal of hard surfaces and a small area of amenity grassland, followed by construction of a single warehouse building for bulk storage.

2.1.1 Description of Existing Proposed Development Site

The site at Nangor Road is situated within the 12.28ha Diageo industrial complex. It consists of one location beside an existing building. It is bounded on its western side by an embankment with cover of immature broadleaved trees. Industrial buildings are situated to the east of the proposed shed. The Grand Canal is very close to the site but there is a screen of immature broadleaved woodland in between. The Camac River flows to the south of the site.

The entire locality at Gallanstown and Nangor Road is highly modified and industrialised, with high traffic levels, noise and artificial light at night. The area is zoned 'to facilitate enterprise' (Anon 2020).

The habitat types on the site are either artificial or highly managed. The predominant habitat type is 'buildings and artificial surfaces'. Figure 1 shows the site location and footprint. While tarmac and concrete support little in the way of vegetation, occasional ruderal species such as groundsel (*Senecio vulgaris*) or dandelion (*Taraxacum officinale agg.*) can grow in crevices and unused areas where dust or soil accumulates. Grassland subject to regular mowing bounds part of the site. A small area of amenity grassland is included within the site footprint. The species here include mouse ear chickweed (*Cerastium fontanum*), white clover (*Trifolium repens*), creeping cinquefoil (*Potentilla reptans*), self heal (*Prunella vulgaris*) and various grasses such as fescue (*Festuca rubra* agg.) and rye grass (*Lolium perenne*). Please refer to the Ecology Assessment (Roche, 2022) for a list of plant species on the site.

Apart from occasional bats (common and soprano pipistrelles) that were observed in flight along the tree canopy adjacent to the site proposed for development, there was no evidence for the presence of protected species in August or September 2020, or during a site visit in January 2022.

There was no evidence in August or September 2020 of bats roosting in the buildings on site.

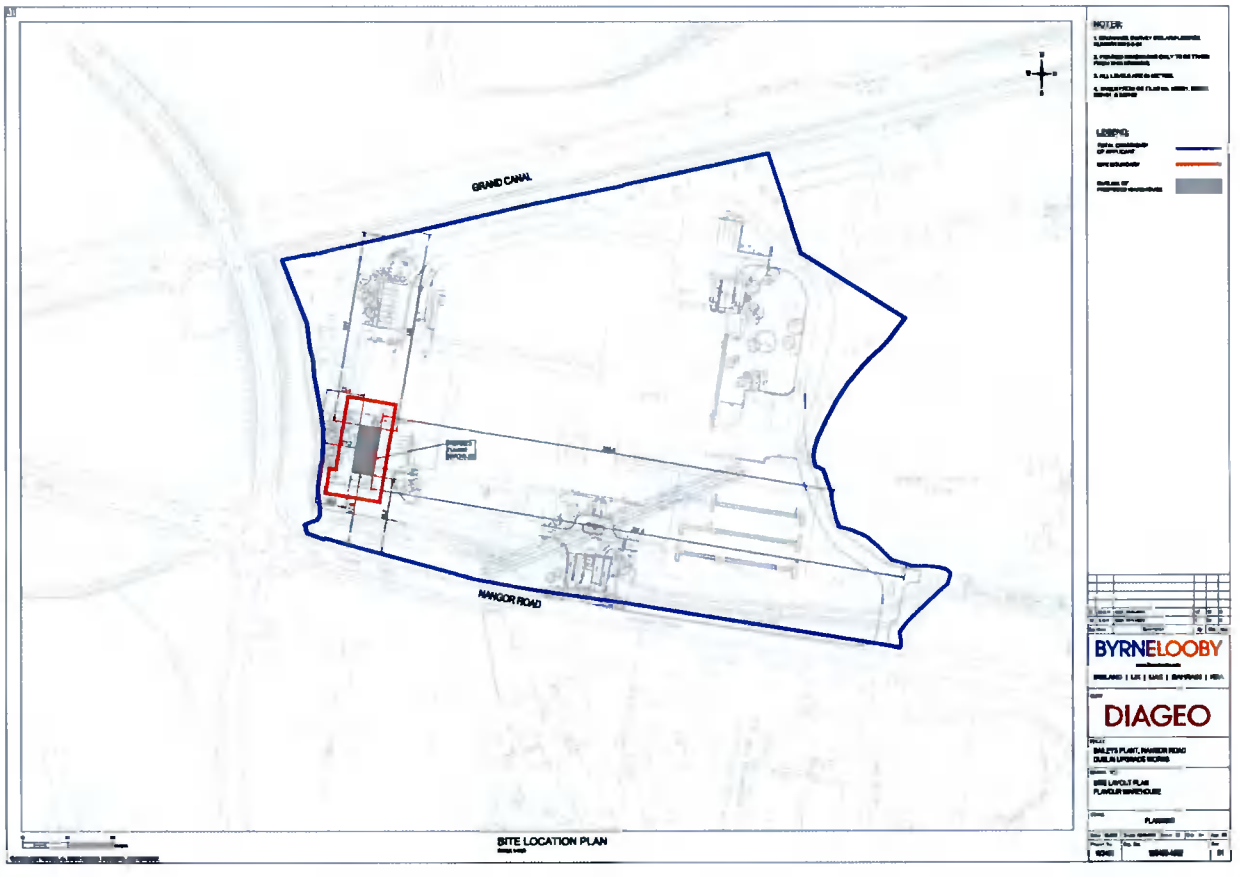

Figure 1: Red line boundary of the proposed bulk storage shed site, along with the site footprint shown in grey.

Figure 2: Site of proposed Bulk Store. Existing habitats are BL3 (Buildings and artificial surfaces) and GA2 (Amenity Grassland). Immature trees are adjacent to the site and are not included in the site footprint.

2.2 Identification of Natura 2000 sites

In accordance with the European Commission Methodological Guidance (EC2001), consideration is given to European sites that could potentially be affected by the proposed project. For completeness, the possibility of impacts on Natura sites that are located up to a 15km radius of the site are investigated.

These Natura sites are considered for potential impacts because they are most proximate. However, it should be noted that in no case is there a clear direct or indirect linkage between the Nangor Road site and the Natura sites, e.g. potential aquatic pathways, between source and receptor.

2.2.1 Glenasmole Valley SAC (Site Code 1209)

Glenasmole Valley in south Co. Dublin lies on the edge of the Wicklow uplands, approximately 8km from the site at Nangor Road. The River Dodder flows through the valley and has been impounded there to form two reservoirs which supply water to south Dublin. There is cover of scrub and woodland, and on less precipitous slopes of the valley, herb-rich grassland including a number of rare and threatened orchid species. There is much seepage through the deposits, which brings to the surface water rich in bases, which induces local patches of calcareous fen and, in places, petrifying springs.
The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):
[6210] Orchid-rich Calcareous Grassland*
[6410] Molinia Meadows
[7220] Petrifying Springs*

2.2.1.1 Conservation Objectives of Glenasmole Valley SAC

To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected (see list above).

2.2.2 Wicklow Mountains SAC (Site Code 2122)

Wicklow Mountains SAC is very large SAC including a complex of upland areas in Counties Wicklow and Dublin, flanked by the Blessington reservoir to the west and Vartry reservoir in the east, Cruagh Mountain in the north and Lybagh Mountain in the south. Most of the site is over 300 m, with much ground over 600 m. This site's most northern boundary is located approximately 8.5km from the Nangor Road site.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[3110] Oligotrophic Waters containing very few minerals
[3160] Dystrophic Lakes
[4010] Wet Heath
[4030] Dry Heath
[4060] Alpine and Subalpine Heaths
[6130] Calaminarian Grassland
[6230] Species-rich Nardus Grassland*
[7130] Blanket Bogs (Active)*
[8110] Siliceous Scree
[8210] Calcareous Rocky Slopes
[8220] Siliceous Rocky Slopes
[91A0] Old Oak Woodlands
[1355] Otter (Lutra lutra)

The vegetation over most of Wicklow Mountains SAC is a mosaic of heath, blanket bog and upland grassland (mostly on peaty soil, though some on mineral soil), stands of dense Bracken (Pteridium aquilinum), and small woodlands mainly along the rivers.

2.2.2.1 Conservation Objectives of Wicklow Mountains SAC

In summary, the objectives are to maintain or where necessary restore the favourable conservation condition of the habitats and species listed as Special Conservation Interests for this SAC.

2.2.3 Rye Water Valley/Carton SAC (Site Code 1398)

Rye Water Valley/Carton SAC is located between Leixlip and Maynooth, in Counties Meath and Kildare, and extends along the Rye Water, a tributary of the River Liffey. This SAC is situated approximately 9km to the north west of the Nangor Road site. It is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[7220] Petrifying Springs*
[1014] Narrow-mouthed Whorl Snail (Vertigo angustior)
[1016] Desmoulin's Whorl Snail (Vertigo moulinsiana)

The Rye Water in Carton Estate is dammed at intervals, creating a series of lakes. Reed Sweet-grass (Glyceria maxima) is frequent around the lakes, along with Yellow Iris (Iris pseudacorus), Reed Canary-grass (Phalaris arundinacea), Bulrush (Typha latifolia), Water Forget-me-not (Myosotis scorpioides), Marsh-marigold (Caltha palustris) and starworts (Callitriche spp.)

2.2.3.1 Conservation Objectives of Rye Water Valley/Carton SAC

The objective is to maintain or restore the favourable conservation condition of the habitats and species for which this SAC was selected.

2.2.4 South Dublin Bay SAC (Site Code 210)

This site lies south of the River Liffey in Co. Dublin, and extends from the South Wall to the west pier at Dun Laoghaire. It is an intertidal site with extensive areas of sand and mudflats. Its western boundary is situated approximately 10.5km from the Nangor Road site.

The sediments are predominantly sands but grade to sandy muds near the shore at Merrion Gates. The main channel which drains the area is Cockle Lake. The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[1140] Tidal Mudflats and Sandflats
[1210] Annual vegetation of drift lines
[1310] Salicornia and other annuals colonising mud and sand
[2110] Embryonic shifting dunes

2.2.4.1 Conservation Objectives of South Dublin Bay SAC

The objective is to maintain the favourable conservation condition of the habitats and species for which this SAC was selected

2.2.5 South Dublin Bay and River Tolka SPA (Site Code 4024)

The South Dublin Bay and River Tolka Estuary SPA comprises a substantial part of Dublin Bay. It includes the intertidal area between the River Liffey and Dun Laoghaire, and the estuary of the River Tolka to the north of the River Liffey, as well as Booterstown Marsh. A portion of the shallow marine waters of the bay is also included. In the south bay, the intertidal flats extend for almost 3 km at their widest. The sediments are predominantly well-aerated sands. Several permanent channels exist, the largest being Cockle Lake. A small sandy beach occurs at Merrion Gates, while some bedrock shore occurs near Dun Laoghaire. The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Light-bellied Brent Goose, Oystercatcher, Ringed Plover, Grey Plover, Knot, Sanderling, Dunlin, Bar-tailed Godwit, Redshank, Black-headed Gull, Roseate Tern, Common Tern and Arctic Tern. The E.U. Birds Directive pays particular attention to wetlands, and as these form part of the SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds. The site is an important site for wintering waterfowl, being an integral part of the internationally important Dublin Bay complex. Although birds regularly commute between the south bay and the north bay, recent studies have shown that certain populations which occur in the south bay spend most of their time there. An internationally important population of Light-bellied Brent Goose (368) occurs regularly.

2.2.5.1 Conservation Objectives of South Dublin Bay and River Tolka SPA (Site Code 4024)

The overall objective is to maintain the favourable conservation condition of the species for which this SPA was selected. Specific targets and attributes are assigned to each species.

2.2.6 North Dublin Bay SAC (Site Code 206)

This site covers the inner part of north Dublin Bay, the seaward boundary extending from the Bull Wall lighthouse across to the Martello Tower at Howth Head. This Natura designation is situated approximately 11km from the Nangor Road site.

North Bull Island is the focal point of the Natura designation. The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[1140] Tidal Mudflats and Sandflats
[1210] Annual Vegetation of Drift Lines
[1310] Salicornia Mud

[1330] Atlantic Salt Meadows
[1410] Mediterranean Salt Meadows
[2110] Embryonic Shifting Dunes
[2120] Marram Dunes (White Dunes)
[2130] Fixed Dunes (Grey Dunes)*
[2190] Humid Dune Slacks
[1395] Petalwort (Petalophyllum ralfsii)

North Bull Island is a sandy spit which formed after the building of the South Wall and Bull Wall in the 18th and 19th centuries. It now extends for about 5 km in length and is up to 1 km wide in places. A well-developed and dynamic dune system stretches along the seaward side of the island. Various types of dunes occur, from fixed dune grassland to pioneer communities on foredunes. The scarce Bee Orchid (Ophrys apifera) occurs. About 1 km from the tip of the island, a large dune slack with a rich flora occurs, usually referred to as the 'Alder Marsh' because of the presence of Alder trees (Alnus glutinosa).

2.2.6.1 Conservation Objectives of North Dublin SAC (Site Code 206)
The overall objective is to maintain the favourable conservation condition of the species and habitats for which this SAC was selected.

2.2.7 North Bull Island SPA (Site Code 4006)
This site covers all of the inner part of north Dublin Bay, with the seaward boundary extending from the Bull Wall lighthouse across to Drumleck Point at Howth Head. The North Bull Island sand spit is a relatively recent depositional feature, formed as a result of improvements to Dublin Port during the 18th and 19th centuries. It is almost 5 km long and 1 km wide and runs parallel to the coast between Clontarf and Sutton. Part of the interior of the island has been converted to golf courses. Saltmarsh extends along the length of the landward side of the island and provides the main roost site for wintering birds in Dublin Bay. The island shelters two intertidal lagoons which are divided by a solid causeway. These lagoons provide the main feeding grounds for the wintering waterfowl. The sediments of the lagoons are mainly sands with a small and varying mixture of silt and clay. Green algal mats (Ulva spp.) are a feature of the flats during summer.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Light-bellied Brent Goose, Shelduck, Teal, Pintail, Shoveler, Oystercatcher, Golden Plover, Grey Plover, Knot, Sanderling, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Curlew, Redshank, Turnstone and Black-headed Gull.

The site is also of special conservation interest for holding an assemblage of over 20,000 wintering waterbirds. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds. The North Bull Island SPA is of international importance for waterfowl on the basis that it regularly supports in excess of 20,000 waterfowl.

2.2.7.1 Conservation Objectives of North Bull Island SPA (Site Code 4006)
The overall objective is to maintain the favourable conservation condition of the species for which this SPA was selected.

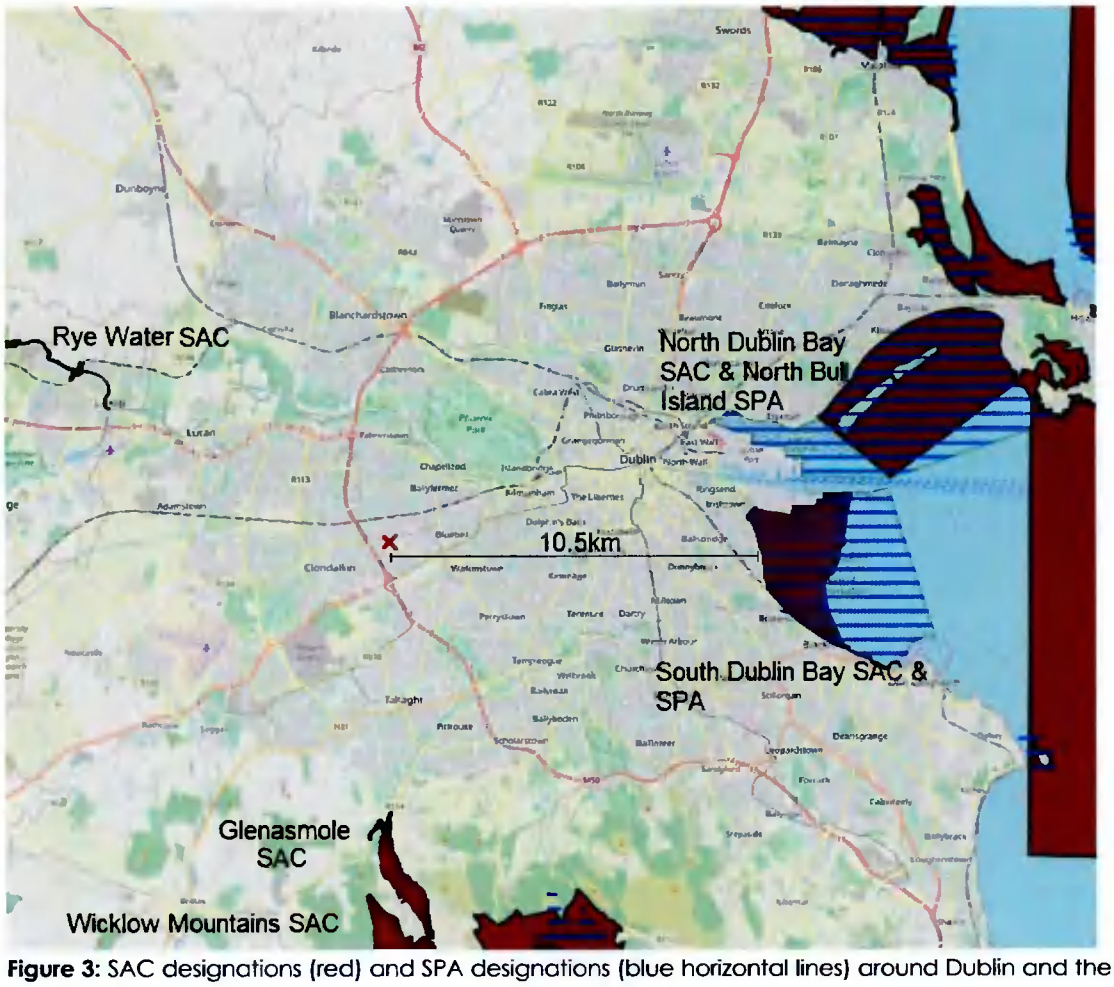

Figure 3: SAC designations (red) and SPA designations (blue horizontal lines) around Dublin and the Nangor Road site (red x).

2.3 Assessment of Likely Effects of Development

Potential impacts, if any, by the proposed project on European protected areas in the vicinity of the site are discussed below. Impacts are considered in the context of the Source-Pathway-Receptor (S-P-R) conceptual model for environmental management risk assessment. This method allows a determination and evaluation of the nature, effect and extent of exposure a vulnerable receptor may experience in relation to a particular hazard. An environmental hazard is an event, or continuing process, which has the potential to degrade, directly or indirectly, the quality of the environment (Royal Society, 1992). A pathway is a route by which a particle of water, substance or contaminant moves through the environment and comes into contact with, or otherwise, affects a receptor (Environment Agency, 2001).

2.3.1 Basis for Assessment

- Review of available information on site designations, e.g. Site Synopses, Mapping information from NPWS, other available biodiversity records e.g. National Biodiversity Data Centre, Bat Conservation Ireland.
- Results of site visits, ecology and bat surveys (August and September 2020, January 2022)
- Documented consultation with statutory agency with responsibility for Nature Conservation (NPWS) where available.

2.3.2 Individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 sites:

- The proposed development is located at a distance of 8km from the nearest SAC/SPA designation (Glenasmole), the remaining designations are between 9km and 13km.
- The closest Natura site (Glenasmole) is located at a higher altitude (120m) compared with the Nangor Rd site (40-50m).
- The proposed development has an indirect hydrological link to SACs and SPAs in Dublin Bay since it is located close to the Camac River which is a tributary of the Liffey. The Camac already has poor water (QV3) quality upstream and downstream of the proposed development (www.epa.ie).
- The proposed development is relatively small, the site is situated at a considerable distance from the Natura sites, and there are no direct links between the proposed development site and Natura sites. Therefore, any elements of clearance, construction and commissioning are likely to be of extremely low risk as to cause any impacts on the SACs or SPAs.
- The proposed development is to construct buildings for storage only.

2.3.3 Any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the Natura 2000 sites by virtue of:

- size and scale;

(a) Direct impacts (in no particular order)

- Accidental deposition of spoil or rubbish
  There is no potential during site preparation and construction, for accidental deposition of spoil or rubbish within any SAC.
- Dust
  During construction there is very limited potential for dust arising and causing damage or increased sediment load in Natura sites situated at >5km distance. There is very limited potential for dust arising from the development, depositing in the Camac and from there into SACs downstream.
- Invasive Species
  No invasive species were found on the site
- Outdoor Light at Night
  Artificial light at night has a myriad of effects on natural habitats from disrupting circadian rhythms of wild species to preventing dispersal of larval stages of aquatic insects. The extent of effects depends on wavelength and luminance (how bright the light is). Shorter wavelengths, particularly those in blue and UV range are particularly harmful to wildlife as are brighter lights. However, the existing environment on Nangor Road is brightly lit at night and there are already a number of street lights on the site. Changes to the lighting regime at Nangor House are unlikely to impact Natura designations at a distance of >5km. Some recommendations for lighting are made in the accompanying ecology assessment report in view of the presence of bats and the Grand Canal pNHA adjacent to the site.
- Pollution
  There is extremely limited potential for pollution instances arising or impacting Natura sites since they are located at distances of >5km. The Camac River is already rated "poor" for water quality as it stands and is a relatively small tributary of the Liffey.
- Increased Silt and/or Sediment Load
  Site clearance and construction will not impact sediment load on any waterways in the area, such as the Camac, or SACs or SPAs

(b) Indirect impacts

- Dust
  Potential for dust arising from construction at Nangor House to cause significant impact on other Natura Sites at a 5km+ distance is highly negligible.

- Removal of vegetation
  A small area of amenity grassland will be removed to facilitate the development. There is no potential for any significant impacts on Natura 2000 sites.
- Pollution
  There is very limited potential for pollution instances arising should accidental spills occur during site construction. Even if this should happen, there is no direct linkage to any Natura sites and the Camac is a very small tributary of the much larger Liffey.
- Accidental deposition
  Potential for negative impacts the SACs/SPAs are not considered to be significant.

(c) Secondary

- Invasive Exotic Species
  The risk of invasive exotics being introduced to Natura estuarine or coastal sites as a result of this development is non-existent.

- ***land-take;***
  None
- ***distance from the Natura 2000 site or key features of the site;***
  The site is located 8km from and approximately 70m below the Glenasmole Valley SAC boundary. It is situated 9km from the Rye Valley Water SAC, 10.5km from the South Dublin Bay SAC and 11km from North Dublin Bay SAC. There is no proposal to disturb or egress any Natura site at any point.
- ***resource requirements (water abstraction etc.);***
  Water will be sourced from the municipal water supply and will not be abstracted from the Grand Canal.
- ***emissions following construction (disposal to land, water or air);***
  Foul water will be discharged to the municipal sewerage system and will not, therefore, impact any Natura site.
  A SuDS drainage system will be utilized for surface water on the site.
- ***excavation requirements;***
  No excavations in any SAC.
- ***transportation requirements;***
  None
- ***duration of construction, operation, decommissioning, etc.;***
  Construction approximately 1-3 months, operation timespan indefinite.
- ***other***
  None

Likely changes to the site arising as a result of:

- ***reduction of habitat area***
  None.
- ***disturbance to key species***
  None
  Common pipistrelle bats were recorded foraging along tree cover adjacent to the site but were not observed to have emerged from any buildings or roosts on site. Appropriate artificial light at night will result in minimum disturbance to these species. Mitigation details are fully specified in the Ecology Assessment (Roche 2022).

  While a number of Wildlife Act protected species such as Daubenton's bat and pine marten have been recorded within the 1km grid square where the site is situated but there is no evidence for their presence at Nangor House location and there is no evidence that their habitats on-site (woodland/waterway) would be modified. No mitigation necessary.

No protected vascular plant species or plant species of conservation importance were found on the site. No mitigation necessary.

No Annex II (Birds Directive) bird species were found on the site. Some song birds were found in the woodland cover adjacent to the site, but the woodland will not be impacted as part of this proposed development.

- ***habitat or species fragmentation;***
  None. Bats occur in the area. Proposals for artificial light at night must comply with recommendations above.

- ***reduction in species density;***
  None

- ***changes in key indicators of conservation value (water quality etc.);***
  None.

- ***climate change.***
  None

2.4 Conclusion

Impacts on nearest Natura 2000 sites are considered to be highly unlikely. Therefore, due to the fact that there are no predicted negative impacts on Natura sites, the present report will not progress to Stage 2, full Appropriate Assessment.

2.5 List of agencies consulted:
The Development Applications Unit, Department of Culture, Heritage and the Gaeltacht: Response to Planning Application, letter dated 14th September 2020.

2.6 Data collected to carry out the assessment
Who carried out the assessment?
Dr Niamh Roche MCIEEM

Sources of data
Field studies and existing records from National Parks and Wildlife Service, National Biodiversity Data Centre, Bat Conservation Ireland.

Level of assessment completed
Site visit in August 2020 to assess flora, vegetation, bird activity and general site ecology, passive bat survey over the course of 11 nights in August/September 2020. Active dusk bat survey carried out in September 2020 by Dr Tina Aughney. Site visit and assessment January 2022. Desktop study including literature search and data searches.

Where can the full results of the assessment be accessed and viewed
Ecology Assessment Report by Dr Niamh Roche MCIEEM.

3.0 REFERENCES & SOURCES OF INFORMATION

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www.biodiversityireland.ie
www.batconservationireland.org
www.npws.ie
www.epa.ie

Appendix B – Ecology Report

Ecology Report

Industrial Storage Building, Diageo Global Supply, Nangor House Dublin

Ecology Assessment

Field work and report writing for this assessment was carried out by
Dr Niamh Roche MCIEEM
Grangegeeeth,
Collon,
Drogheda,
Co. Meath
niamh.roche@demersal.net

Additional bat survey work was carried out by Dr Tina Aughney (Bat EcoServices)

May 2022

Contents

1.0 Introduction

This report examines ecology of the site proposed for development of a bulk storage warehouse at Diageo, Nangor Road, in August and September 2020, and January 2022, prior to site clearance and development.

1.1 Assessment Methodology

The objective of the survey was to assess the significance of its flora and fauna, in particular bats, and to pinpoint any species or habitats of conservation or wildlife value within the red line boundary of the development (see Figure 1 for red line boundary and site footprint). Various legal instruments such as The Wildlife Acts (1976 and 2000) and the Flora Protection Order (2015) provide protection for species of National conservation importance. Proposed Natural Heritage Areas (pNHA) are conservation designated areas that protect species and habitats of regional and national importance. The EU Habitats Directive (1992) and the EU Birds Directive (1979) oblige member states to protect species and habitats that are of importance on a Europe-wide scale. Annex I and II of the Habitats Directive and Annex I of the Birds Directive list species and habitats that are of greatest conservation importance on an EU-wide scale and for which conservation areas must be designated. These designations are: Special Protection Areas (SPA) for Birds listed in Annex I of the Birds Directive; and Special Areas of Conservation (SAC) for habitats listed in Annex I of the Habitats Directive and species listed in Annex II. Some of these habitats or species are prioritised for conservation measures (* Priority Species or Habitats). A number of other Annexes in both Directives list species that require strict protection but not necessarily conservation designated areas. Ireland is also signatory to a number of conservation-related agreements and conventions such as the Bern and Bonn Conventions.

The site was initially visited in August 2020 by N. Roche while noting plant species and habitat types. All vascular plants observed during the survey were identified to species level. Nomenclature of vascular plants follows Parnell and Curtis (2012)[1]. Habitat types were assigned to categories (and given codes) according to the Heritage Council classification system (Fossitt 2000)[2]. Habitat types were mapped to Level 3.

The grounds were walked systematically while searching for signs of mammal activity. Signs of mammal activity include tracks and footprints, discarded prey items, scats and burrows or other resting places. Bird species were noted whenever encountered. Various reports and published sources of information on wildlife in Dublin were checked for records from the area.

[1] Parnell J. and Curtis T. (2012). Webb's An Irish Flora. Cork University Press.
[2] Fossitt J. (2000). A Guide to the Habitats in Ireland. The Heritage Council.

A static, full spectrum SM2 bat detector was placed on the trunk of a tree beside the site boundary and left recording for 11 nights in total from 28th August 2020. The SM2 detector began recording 10 minutes before sunset and stopped 10 minutes after sunset each night. Bat calls were stored on SD card and subsequently downloaded and analysed using Kaleidoscope Pro.

A further visit was made in September 2020 for an evening bat survey (by T. Aughney). The active bat survey of the site was carried out in daylight hours (using torchlight to scan surfaces for droppings and other signs of bats) and at dusk using two bat detectors in early September 2020 (see Appendix 1 for details of active bat survey methodology).

A subsequent field visit was made to the site in January 2022 to determine whether any material changes had taken place to impact on the biodiversity of the site. At that point, one of the originally proposed buildings had already been developed (the bottle store, the northern-most warehouse) and the present report addresses a revised proposal for the second, bulk storage warehouse development, to the south (see Figures 1 & 2).

Information on sites of conservation importance (National Parks and Wildlife Service, www.npws.ie) for County Dublin, as well as the species datasets from the National Biodiversity Data Centre (www.biodiversityireland.org) for the 1km grid square (O0832) and Bat Conservation Ireland (www.batconservationireland.org) were consulted for further biodiversity information from the area, and various texts were consulted such as the Irish Red Data List for vascular plants (Wyse Jackson et al. 2017)[3], Preston *et al.* (2002)[4].

1.2 Survey Timing

The daytime flora and fauna survey was carried out in mild, dry weather on August 28th 2020. The static bat detector was left onsite from August 28th recording for 11 nights and an additional active bat survey was carried out at dusk on September 8th 2020. A subsequent field visit was carried out on January 31st 2022.

August/September is considered a suitable time of year for flora and fauna survey work. It was not possible, within the timeframe of the assessment, to determine all possible species present during all possible conditions of the site.

[3] Wyse Jackson, M., FitzPatrick, Ú., Cole, E., Jebb, M., McFerran, D., Sheehy Skeffington, M. & Wright, M. (2016) *Ireland Red List No. 10: Vascular Plants*. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs, Dublin, Ireland.

[4] Preston C.D., Pearman D.A. & Dines T.D. (eds) (2002). New Atlas of the the British and Irish Flora. Oxford University Press.

For example, early or mid-season flowering annual plants may be missed during late a season survey such as this. While it is not possible to add species to a flora and fauna assessment with a January survey, it is possible to determine whether changes to habitats have taken place, which would potentially increase or reduce biodiversity on the site.

1.2.1 Flora

Summer is considered an optimal time to carry out a vegetation survey since many species are flowering at this time. During a late summer/early autumn survey it is possible to identify many of the flowering species present, based on the presence of young growth, early or late flowers, seed heads and leaf material (young and old). It is also possible to assess the habitat type and determine whether further survey work mid-way in the growing season might be necessary.

1.2.2 Fauna

Aerial invertebrate fauna may be active during warm weather in late summer/early autumn. Tracks and scats of large mammals are likely to be present. The warm dry weather conditions during which the bat survey was carried out in early September was ideal, although maternity roosts, which are occupied by female bats in summer, may have been abandoned by that time of year.

1.3 Site Selection & Existing Environment

The application site is situated within a large industrial facility with an overall area of ca. 12.28 ha, located off the Nangor Road. There are ca. 23,000 sq m of buildings existing on the site. The proposed development involves 1 no. industrial storage building, to the west of the main complex: building no. 1 - (32.4m x 14.3m, 8.8m high).

The habitat types on the application site are either artificial or highly managed. The predominant habitat type is 'buildings and artificial surfaces'. Figure 1 shows the site boundary and footprint. Figure 2 illustrates the habitats within the bounds of the site proposed for development in August 2020/January 2022. The habitats of the site are listed below and are assigned to categories (and given codes) according to the Heritage Council classification system (Fossitt 2000).

Figure 4 is a photograph of the site taken in August 2020. Table 1 - Plant species found in and close to the red line boundary - lists the vascular plant species found at the site. Figure 5 shows the same area (closer to the trees, truck bodies were parked on the hard standing) in January 2022.

1.3.1 Buildings and Artificial surfaces (BL3)

While hard core and concrete support little in the way of vegetation, occasional ruderal species such as groundsel (*Senecio vulgaris*) or dandelion (*Taraxacum officinale agg.*) can grow in crevices and unused areas where dust or soil accumulates.

1.3.2 Amenity grassland (GA1)

Grassland subject to regular mowing bounds part of the site. A small area will be included in the site footprint of the bulk storage shed. The species here include mouse ear chickweed (*Cerastium fontanum*), white clover (*Trifolium repens*), creeping cinquefoil (*Potentilla reptans*), self heal (*Prunella vulgaris*) and various grasses such as fescue (*Festuca rubra* agg.) and rye grass (*Lolium perenne*).

1.3.3 Broadleaved tree line (WL2)

Adjacent to the site there is a copse of trees, which also bounds the Grand Canal. These trees are outside the footprint of the proposed development boundary. The canopy consists mainly of immature, non-native, broadleaved trees such as sycamore (*Acer pseudoplatanus*), horse chestnut (*Aesculus hippocastanum*), hornbeam (*Carpinus betulus*), Italian alder (*Alnus cordata*) and beech (*Fagus sylvatica*) along with tall shrubs of elder (*Sambucus nigra*). Herbaceous species include ivy (*Hedera helix*) and honeysuckle (*Lonicera periclymenum*).

1.3.4 Published records of flora

No specific records were available for rare species or species of conservation importance in the site or its immediate surroundings from the National Biodiversity Data Centre datasets. No records for rarities or species of conservation importance were available from the National Parks and Wildlife website (www.npws.ie).

1.3.5 Mammals

Very few signs of terrestrial mammal activity were found. Rats (*Rattus norvegicus*) and mice (*Mus (musculus) domesticus*) are common in urban situations and are likely to be present on the site. Foxes (*Vulpes vulpes*) are also relatively common in urban situations (Lysaght and Marnell, 2016[5]) and may be occasionally present. Foxes are of little conservation significance and are not protected under the Wildlife Acts.

A pine marten (*Martes martes*), a species protected under the Wildlife Acts (1976 and 2000) and Annex V of the Habitats Directive, was recorded from the

[5] Lysaght L. and Marnell F. (eds) (2016). Atlas of Mammals in Ireland 2010-2015. National Biodiversity Data Centre, Waterford.

1km grid square (O0832) in October 2020 but the exact location is unknown and no pine marten scats were noted on the site.

All Irish bat species are protected under the Wildlife Acts (1976 and 2000). A project carried out in 2000 on bats in Dublin's city centre parks and waterways included a survey of locations along the Grand Canal. Soprano pipistrelle (*Pipistrellus pygmaeus*), common pipistrelle (*P. pipistrellus*) and Leisler's bats (*Nyctalus leisleri*) were recorded there (Roche, 2000[6]).

A bat survey was carried out of the site in August and September 2020. Very few bats were observed. There was no evidence of any roosts on the site. Just two species were identified – common pipistrelle (*Pipistrellus pipistrellus*) and soprano pipistrelle (*Pipistrellus pygmaeus*) and both in very low numbers. These bats were observed in flight around the trees. See Appendix 1 for bat survey results in detail. There was no evidence for the presence of a bat roost on the site or in its vicinity.

Daubenton's bat, which favours foraging over open water, has been recorded along the Grand Canal in the vicinity of the site but there is no open water on the site proposed for development. Daubenton's bats were not recorded from the Camac River during the bat survey in September 2020.

1.3.6 Birds

Very few bird species were noted on the site. Those observed are common in park and garden habitats:

- Magpie *Pica pica*
- Blackbird *Turdus merula*
- Herring gull *Larus argentatus*

A mixed flock of long tailed tits (*Aegithalus caudatus*) and great tits (*Parus major*) was observed in the copse of trees beside the bottle store (north of the present proposed site).

Other species which were not recorded on the day of the survey but which are likely to be present, at least on occasion, include, but are not limited to:

- Rook *Corvus frugilegus*
- Wren *Troglodytes troglodytes*
- House sparrow *Passer domesticus*
- Pied wagtail *Motacilla alna yarrellii*
- Jackdaw *Corvus monedula*
- Starling *Sturnus vulgaris*
- Robin *Erithacus rubecula*

[6] Roche N. (2000). Bats in Dublin's City Centre Parks and Waterways. Unpublished Report to the Heritage Council.

The black headed gull (*Larus ridibundus*) has been recorded from the 1km grid square in which the site is situated. The black headed gull is protected under the Wildlife Act and on the Red List of threatened species. This species is highly unlikely to nest on the Diageo site.

1.4 Ecological Value of the Site & Protection of Ecological Features

The site proposed for development is of no ecological significance since it consists mainly of tarmac, with a very small area of amenity grassland. The Grand Canal pNHA, which is situated close by, is of significance for biodiversity as both a habitat for wildlife and a wildlife corridor. However, a screen of immature trees and scrub, as well as some amenity grassland, separates the site from the Grand Canal pNHA. The Camac River which flows through the Nangor industrial complex is of limited value for biodiversity and achieves low water quality status (QV3) both upstream and downstream of the Diageo site (www.epa.ie).

Table 1 lists the vascular plant species identified within or close to the red-line boundary of the site.

Irish bat species are protected under the Wildlife Act and listed in Annex IV of the Habitats Directive as requiring strict protection. Common pipistrelles are the most common bat species in Ireland with an Irish population that is estimated to well exceed 1 million individuals and which is currently increasing (Roche et al, 2014[7]), soprano pipistrelles are similarly common and are also considered to be increasing. These species were found foraging and commuting on the site in very low numbers and in the vicinity of tree cover. There is no evidence for the presence of a bat roost on the site.

1.5 Non-native Invasive Species

No priority invasive species were found on site.

1.6 Designations

Site Synopses of conservation designation areas are shown in Appendix 2 to the present report.

The nearest designated conservation area is the Grand Canal, situated approximately 100m to the north, which is a proposed Natural Heritage Area (administered by NPWS), Site Code 002104, see Figure 3. It is a linear conservation designation with a variety of habitats such as calcareous grassland, reed fringe, scrub and hedgerow, along with some rare aquatic plant

[7] Roche N., Aughney T., Marnell F. and Lundy M. (2014). Irish Bats in the 21st Century. Bat Conservation Ireland.

species such as opposite leaved pondweed *Groenlandia densa* which is protected under the Flora Protection Order 2015. Otters (*Lutra lutra*), Annex I protected species, are found along much of its length. The canal is particularly important as a linking feature allowing dispersal of wildlife through agricultural and urban areas.

The proposed development will not impinge on the tree lines that separate the Diageo site from the Grand Canal and it will not impact the Grand Canal itself.

The closest Natura conservation designation is Glenasmole Valley SAC (Site Code 1209) which is located approximately 8km to the south of Nangor House. This site is designated due to the presence of orchid rich grassland and petrifying springs, among others. Beyond that SAC is the Wicklow Mountains SAC (Site Code 2122) which is a very large designation encompassing many upland habitats, woodlands and rivers. Approximately 9km to the north-west is the Rye Water Valley/Carton SAC which includes petrifying springs and rare *Vertigo* snails.

To the east of the proposed development site at Nangor House there are two conservation designation sites South Dublin Bay/Tolka Estuary SPA (site code 4024 see its site synopsis in *Appendix* 2) and South Dublin Bay SAC (site code 210 see its site synopsis in *Appendix* 2). The boundaries of these two designated sites overlap considerably. The SPA has been designated for the Annex I protected species; Common tern, Arctic Tern, Roseate Tern, Bar-tailed Godwit and Mediterranean Gull. The SAC has been designated for the Annex I protected habitat 'Mudflats and sandflats not covered by seawater at low tide'. The South Dublin Bay protected sites occur a little over 10km to the east of the present proposed development.

To the north east of the site there are two additional conservation designation sites. These are North Bull Island SPA (site code 4006 see its site synopsis in *Appendix* 2), the western boundary of which is situated approximately 11km north east of the Diageo site. This SPA has been designated for a number of Annex I protected bird species including Golden Plover, Bar-tailed Godwit, Ruff and Short-eared Owl. Other bird species that occur there include Light-bellied Brent Goose, Shelduck, Teal, Pintail, Shoveler, Oystercatcher, Ringed Plover, and Grey Plover, Turnstone and Black-headed Gull, to name but a few. The site is also of special conservation interest for holding an assemblage of over 20,000 wintering waterbirds.

An additional protected site, North Dublin Bay SAC (site code 206 see its site synopsis in *Appendix* 2) is located over 13km north east from the Bull Wall. It includes Bull Island and is designated for the presence of Annex I habitats under

the Habitats Directive, such as fixed coastal dunes with herbaceous vegetation (grey dunes), humid dunes and various mud flat habitats, and the Annex II plant, a rare liverwort, *Petalophyllum ralfsii*. Boundaries of the SAC and SPA overlap considerably but those of the SPA are closest to the proposed development site.

2.0 Predicted Impacts

The proposed development will result in construction of a single warehouse unit, a bulk container store.

Buildings and Artificial Surfaces & Amenity Grassland
The land of the site is considered of very low ecological value since all habitats present, including artificial surfaces as well as a small area of amenity grassland habitat, are highly modified. These habitats will be removed during construction and replaced with buildings and other artificial surfaces.

Potential nesting and foraging habitat for song and other bird species will not be reduced by the development.

Potential foraging and commuting habitat for bats will not be reduced by the development.

Conservation Designations
Conservation designated areas such as the Grand Canal, Glenasmole Valley, Rye Valley and the South and North Dublin Bay SACs will not be impacted by the present development. While the Camac River, as a tributary of the Liffey, links hydrologically to Dublin Bay, good housekeeping practices during construction will ensure there is no pollution or sediment arising from the development.

Operational Phase
Artificial light at night may change in output within the footprint of the site due to replacement of standard lamps with wall mounted security lighting. The security lighting will be infra-red based and, therefore, more wildlife-friendly than existing lighting.

2.1 Ecological Mitigation

Discharges/Pollution/Surface Waters
The building is to be constructed on area of existing hardstanding with limited excavation to remove a small landscaped area of amenity grassland. The works will have very limited potential for any silt laden material to make its way to nearby watercourses such as the Camac or Grand Canal. Precautions must be taken to ensure there is no entry of solids, during the connection of pipe-work, to the existing surface water system. Good housekeeping measures during construction are integral to prevention of excessive turbid run-off to surface water systems.

The short-term storage and removal / disposal of excavated material must be considered and planned such that risk of pollution from these activities is minimised.

Herbicides will not be used within 20m of the Grand Canal.

Artificial Light at Night

As a result of the site's industrial location it is already impacted by light pollution from both direct and diffuse artificial night light sources. This is likely to (negatively) impact biodiversity in the locality as well as the activity of bats. Lighting profoundly impacts natural ecosystems, by drawing invertebrates into the lighting cones, preventing completion of invertebrate lifecycles and causing an overall reduction in insect diversity. Most Irish bat species, with the exception of Leisler's bat, avoid lit areas, preferring to fly and forage in dark places wherever possible.
Following construction, external artificial night lighting will be designed to prevent overspill into green spaces or areas where it is not required and to ensure minimal impact on any bats foraging in the area or on the ecosystem functioning of the Grand Canal.

External light fixtures for the new development should take the form of warm white LEDs with wavelengths >540nm and with a CCT <2700k[8]. Security cameras to the rear of the shed will be infra-red illuminated and therefore cause minimum disturbance to wildlife or bats within the biodiversity corridor.

Landscape Management

The contractors responsible for management of green space on the Diageo Nangor Road site have agreed to reduce the mowing regime of the embankment close to the Grand Canal. This will mean that the grass here is allowed to grow, set seed and then mowed in late summer. Clippings will then be removed. A sign should be erected to inform staff on site that the reduced mowing regime is being implemented to benefit pollinators.

The landscaping contractors have also agreed to reduce herbicide applications on the site. From 2022 onwards, application of herbicides within green spaces on the site will require clear justification (other than reducing the

[8] Voigt, C.C, C. Azam, J. Dekker, J. Ferguson, M. Fritze, S. Gazaryan, F. Hölker, G. Jones, N. Leader, D. Lewanzik, H.J.G.A. Limpens, F. Mathews, J. Rydell, H. Schofield, K. Spoelstra, M. Zagmajster (2018): Guidelines for consideration of bats in lighting projects. EUROBATS Publication Series No. 8. UNEP/EUROBATS Secretariat, Bonn, Germany, 62 pp.

need for cutting/weeding). Such a justification may include the removal of non-native invasive plant species.

Additional planting along the green corridor lining the Grand Canal will also take place in the form of native tree and shrub species. Native alder, birch, oak and willow species are recommended and a list has been provided to the site landscapers by the ecologist.

No external lighting will be placed within 20m of the Grand Canal.

3.0 Conclusion

The site is situated within an industrialised landscape and is small in size and scale. The existing habitats of the site are artificial and/or highly managed and construction of buildings there will have no significant impact on habitats or species of conservation importance. Bat-friendly lighting recommendations have been made for the development although the site is already impacted by high levels of light at night and relatively few bats use the site for foraging or commuting. The Grand Canal pNHA which is located close to the site will not be impacted by the development. The development will have no impact on any Natura SAC or SPA site or the Natura site network.

Changes will be made to management of green spaces, in particular along the northern boundary of the Diageo site with the the Grand Canal to improve the site for pollinators. The mowing regime of the embankment lining the Grand Canal boundary will be reduced and input of herbicides on the site will also be reduced. Signage will be erected to inform staff and visitors that the reduced mowing and herbicide regime has been implemented to support biodiversity and pollinators.

Table 1. Vascular plant species found within the site of proposed storage unit development, Nangor House.

Latin name	**Common name**
Agrostis stolonifera	Creeping bent
Anagallis arvensis	Scarlet pimpernel
Capsella bursa-pastoris	Shepherd's purse
Cerastium fontanum	Mouse ear chickweed
Cirsium arvense	Creeping thistle
Epilobium ciliatum	American willowherb
Festuca rubra	Red fescue
Galium aparine	Robin-run-the-hedge
Geranium robertianum	Herb Robert
Geum urbanum	Herb bennett
Lolium perenne	Rye grass
Myosotis arvensis	Forget-me-not
Plantago major	Broad plantain
Poa annua	Annual meadow grass
Potentilla reptans	Creeping cinquefoil
Ranunculus repens	Creeping buttercup
Senecio jacobaea	Ragwort
Senecio vulgaris	Groundsel
Sherardia arvensis	Field madder
Sonchus asper	Prickly sow thistle
Stellaria media	Common chickweed
Taraxacum offinicales agg.	Dandelion
Trifolium repens	White clover
Urtica dioica	Nettle
Veronica agrestis	Field speedwell

Table 2. Vascular plant species found adjacent to the site of proposed storage unit development, Nangor House

Latin name	**Common name**
Acer platanoides	Norway maple
Acer pseudoplatanus	Sycamore
Aesculus hippocastaneum	Horse chestnut

Carpinus betulus	Hornbeam
Epilobium hirsutum	Great willowherb
Hedera helix	Ivy
Iris pseudacorus	Flag iris
Juncus effuses	Soft rush
Malus sylvestris	Crab apple
Populus nigra	Poplar
Salix babylonica	Weeping willow
Salix cinerea	Grey willow
Sambucus nigra	Elder
Sorbus aucuparia	Rowan
Taxus baccata	Yew

Table 3. Results of bat activity recordings from the SM2 songmeter placed on a tree trunk adjacent to the site proposed for storage unit development, Nangor House. August 28th to September 7th 2020.

Date		Common pipistrelle Number of Bat Passes	Soprano pipistrelle Number of Bat Passes
28/08/2020	Night 1	0	0
29/08/2020	Night 2	0	0
30/08/2020	Night 3	6	0
31/08/2020	Night 4	0	3
01/09/2020	Night 5	5	0
02/09/2020	Night 6	0	0
03/09/2020	Night 7	4	1
04/09/2020	Night 8	2	1
05/09/2020	Night 9	9	2
06/09/2020	Night 10	5	0
07/09/2020	Night 11	2	0

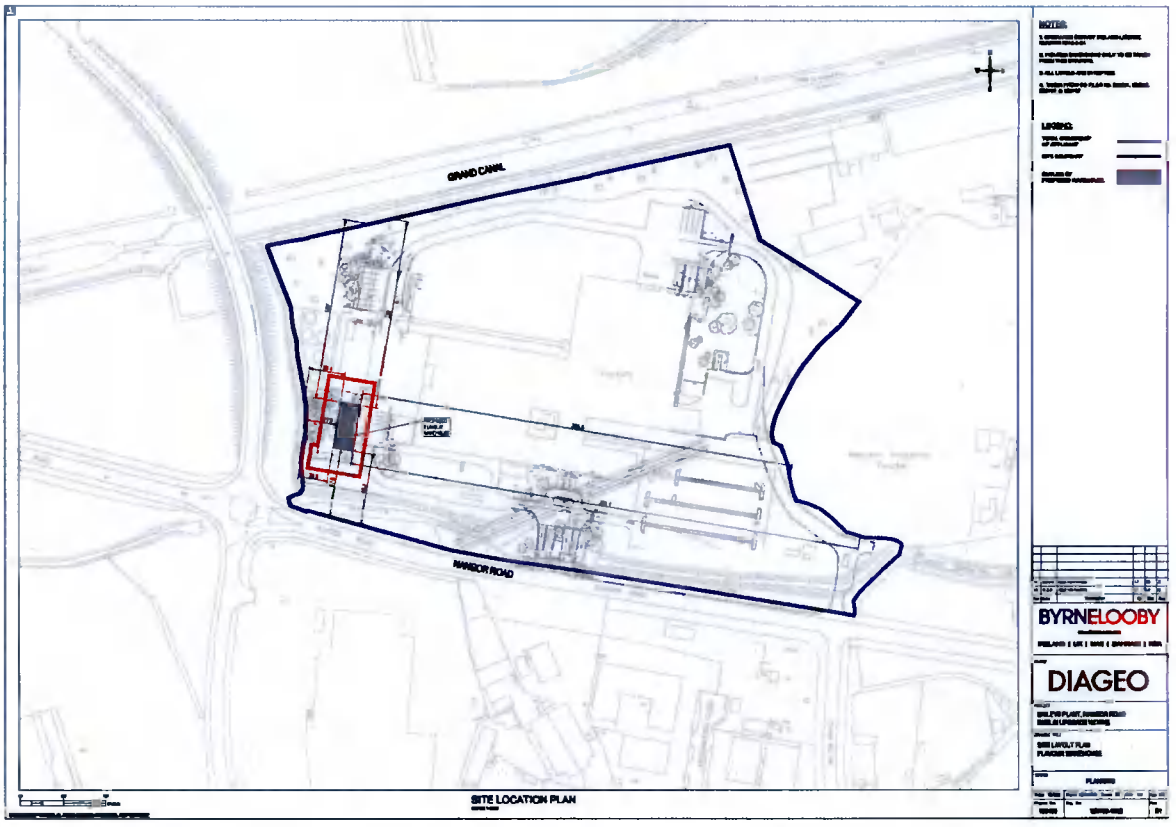

Figure 1: Site boundary (red line) and footprint (grey). Blue line indicates the extent of the Diageo complex.

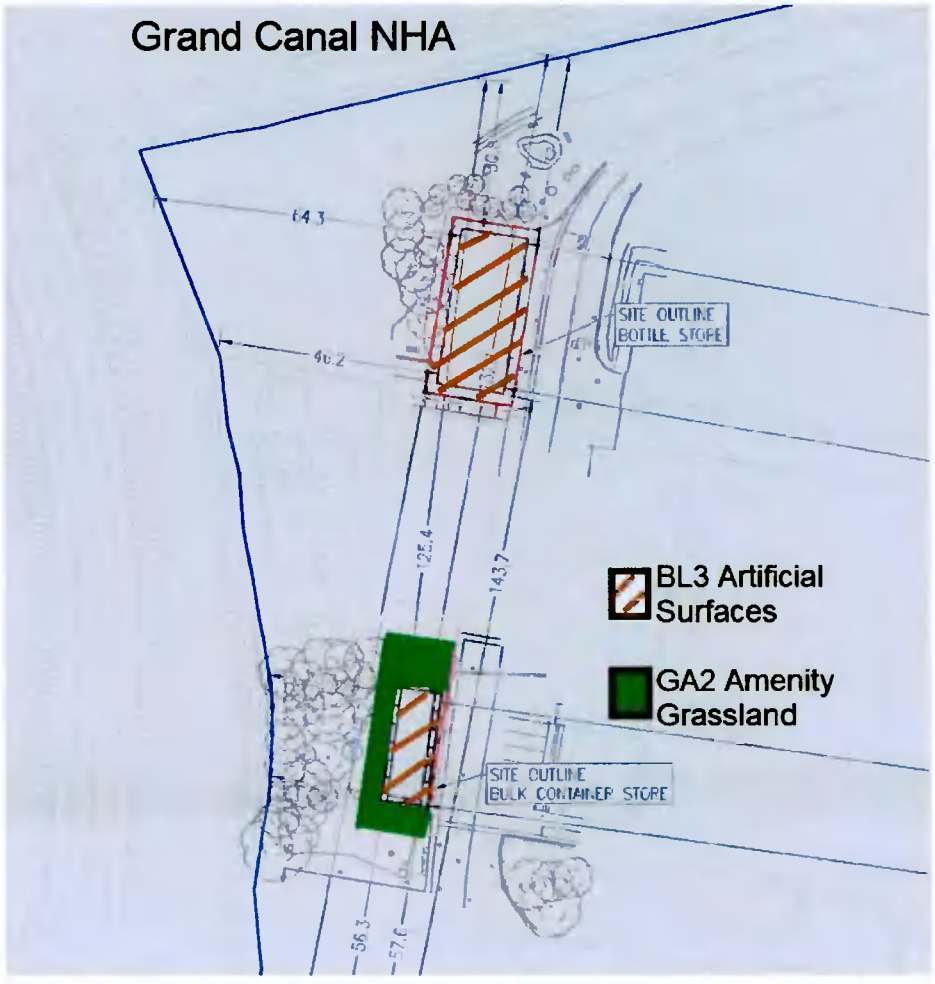

Figure 2: Habitat map of the site at Nangor House – most of the area is categorized as BL3, Buildings and artificial surfaces (note the bottle store to the north has already been developed). The Grand Canal NHA is located to the north of the site.

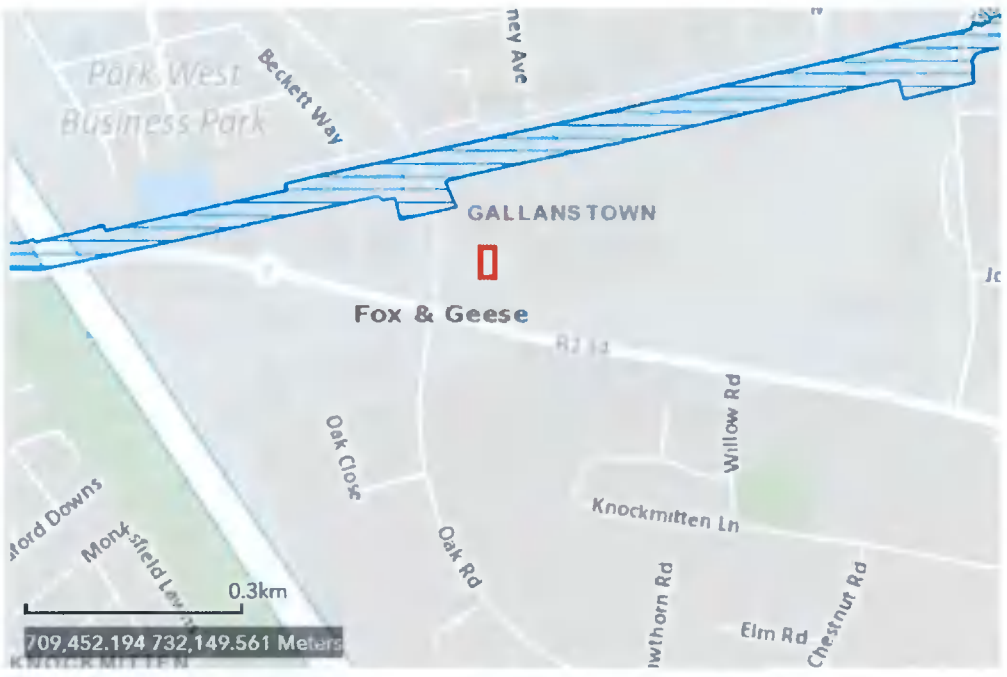

Figure 3: Grand Canal pNHA represented by blue hatching. Site location represented as a single rectangle (note this ***approximates*** the location of the site).

Figure 4: Site of proposed Bulk Store. Existing habitats are BL3 (Buildings and artificial surfaces) and GA2 (Amenity Grassland). Immature trees are adjacent to the site. Photo taken August 2020.

Figure 5: Site of proposed Bulk Store in January 2022. Existing habitats are the same as in 2020, BL3 (Buildings and artificial surfaces) and GA2 (Amenity Grassland). Immature trees shown here are adjacent to the site and will not be removed as part of the development.

Appendix 1: Bat Survey Report

Bat Eco Services, Ulex House, Drumheel, Lisduff, Virginia, Co. Cavan. A82 XW62.
Licenced Bat Specialist: Dr Tina Aughney (tina@batecoservices.com, 086 4049468)
NPWS licence C13/2020 (Licence to handle bats, expires 31st December 2022)
NPWS licence 08/2020 (Licence to photograph/film bats, expires 31st December 2022)
NPWS licence DER/BAT 2019-138 on expiry (Survey licence, expires 29th March 2022).

Executive Summary

Project Name & Location: Diageo, Nangor House, New Nangor Rd, Gallanstown, Co. Dublin D12F726.

Proposed work: Development of two car parks.

Bat Survey Results - Summary

Bat Species	Roosts	Foraging	Commuting
Common pipistrelle *Pipistrellus pipistrellus*		√	
Soprano pipistrelle *Pipistrellus pygmaeus*			√
Nathusius' pipistrelle *Pipistrellus nathusii*			
Leisler's bat *Nyctalus leisleri*			
Brown long-eared bat *Plecotus auritus*			
Daubenton's bat *Myotis daubentonii*			
Natterer's bat *Myotis nattereri*			
Whiskered bat *Myotis mystacinus*			
Lesser horseshoe bat *Rhinolophus hipposideros*			

Bat Survey Duties Completed (Indicated by red shading)

Tree PBR Survey	○	Daytime Building Inspection	○
Static Detector Survey	○	Daytime Bridge Inspection	○
Dusk Bat Survey	●	Dawn Bat Survey	○
Walking Transect	○	Driving Transect	○
Trapping / Mist Netting	○	IR Camcorder filming	○
Endoscope Inspection	○	Other	○

Contents

Bat Survey Methodology

Night-time Bat Detector Surveys

Dusk Bat Surveys

Dusk survey was completed from 20 minutes before sunset to 120 minutes post sunset (19.40 hrs to 22:00 hrs). The two car parks are divided by large building. Therefore, surveying was spilt between the two areas and the following procedure was followed:
10-15 minute stationary survey in car park 1, followed by a walking transect around car park 1 before walking to the next car park (car park 2), where 10-15 minute stationary survey was completed followed by a walk of the general vicinity this car park and adjacent habitat. This was repeated for the duration of the dusk survey.

Map 1: Survey area (Car Parks 1 & 2) (Source: Google Maps).

The following equipment was used:
Anabat Walkabout Full Spectrum Bat Detector and Petersson D200 Heterodyne Bat Detector.

Survey Constraints

The following assessment has been completed in relation to Survey Constraints:
Table 1: Survey Constraint Assessment Results.

Category	Discussion
Timing of surveys	Within the summer bat activity season.
Weather conditions	Dusk Survey (8th September 2020): Full cloud cover, 17oC, calm to light breeze later in the survey period, dry).
Survey effort	Static Survey: Dates Dusk Survey: 8th September 2020
Equipment	In good working order

Bat Survey Results

Night-time Bat Detector Surveys

Dusk Bat Survey

A low level bat activity was recorded for two bat species: common pipistrelle and soprano pipistrelle.

20:37 hrs soprano pipistrelle individual was briefly record along the New Nangor Road boundary of the car park 1. This individual commuted along the boundary treeline.

21:54 hrs soprano pipistrelle individual was briefly record along the New Nangor Road boundary of the car park 1. This individual commuted along the boundary treeline.

21:44 hrs common pipistrelle was briefly recorded foraging along the boundary hedge adjacent to the canal adjacent to car park 2.

21:50 hrs common pipistrelle was briefly recorded foraging along the boundary hedge adjacent to the canal adjacent to car park 2.

Map 1: Survey results: Orange = common pipistrelle, Blue = soprano pipistrelle (Car Parks 1 & 2) (Source: Google Maps).

Lighting Survey

Street lights (Low Pressure Sodium) and Security lights on adjacent buildings (White Halogen) were present within and adjacent to the survey area.

Appendix 2: Site Synopses of Protected Sites

SITE SYNOPSIS

SITE NAME: GRAND CANAL pNHA

SITE CODE: 002104

The Grand Canal is a man-made waterway linking the River Liffey at Dublin with the Shannon at Shannon Harbour and the Barrow at Athy. The Grand Canal proposed Natural Heritage Area (pNHA) comprises the canal channel and the banks on either side of it. The canal system is made up of a number of branches - the Main Line from Dublin to the Shannon, the Barrow Line from Lowtown to Athy, the Edenderry Branch, the Naas and Corbally Branch and the Milltown Feeder. The Kilbeggan Branch is dry at present, but it is hoped to restore it in the near future. Water is fed into the summit level of the canal at Lowtown from Pollardstown Fen, itself a pNHA.

A number of different habitats are found within the canal boundaries - hedgerow, tall herbs, calcareous grassland, reed fringe, open water, scrub and woodland. The hedgerow, although diverse, is dominated by Hawthorn (*Crataegus monogyna*). On the limestone soils of the midlands Spindle (*Euonymus europaeus*) and Guelder rose (*Viburnum opulus*) are present.

The vegetation of the towpath is usually dominated by grass species. Where the canal was built through a bog, soil (usually calcareous) was brought in to make the banks. The contrast between the calcicolous species of the towpath and the calcifuge species of the bog is very striking.

The diversity of the water channel is particularly high in the eastern section of the Main Line - between the Summit level at Lowtown and Inchicore. Arrowhead (*Sagittaria sagittifolia*) and Water-cress (*Rorippa nasturtium-aquaticum*) are more common in this stretch than on the rest of the system. All sites for Hemlock Waterdropwort (*Oenanthe crocata*) on the Grand Canal system are within this stretch.

The aquatic flora of the Corbally Extension of the Naas Branch of the canal is also very diverse, with a similar range of species to the eastern Main Line. Otter spraints are found along the towpath, particularly where the canal passes over a river or stream.

The Smooth Newt (*Lissotriton vulgaris*) breeds in the ponds on the bank at Gollierstown in Co. Dublin.

The rare and legally protected Opposite-leaved Pondweed (*Groenlandia densa*) (Flora Protection Order 1987) is present at a number of sites in the eastern section of the Main Line, between Lowtown and Ringsend Basin in Dublin.

The ecological value of the canal lies more in the diversity of species it supports along its linear habitats than in the presence of rare species. It crosses through agricultural land and therefore provides a refuge for species threatened by modern farming methods.

9.12.2009

SITE SYNOPSIS

Site Name: Rye Water Valley/Carton SAC
Site Code: 001398

Rye Water Valley/Carton SAC is located between Leixlip and Maynooth, in Counties Meath and Kildare, and extends along the Rye Water, a tributary of the River Liffey. The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):
[7220] Petrifying Springs*
[1014] Narrow-mouthed Whorl Snail (Vertigo angustior)
[1016] Desmoulin's Whorl Snail (Vertigo moulinsiana)

The Rye Water in Carton Estate is dammed at intervals, creating a series of lakes. Reed Sweet-grass (Glyceria maxima) is frequent around the lakes, along with Yellow Iris (Iris pseudacorus), Reed Canary-grass (Phalaris arundinacea), Bulrush (Typha latifolia), Water Forget-me-not (Myosotis scorpioides), Marsh-marigold (Caltha palustris) and starworts (Callitriche spp.). Along the remainder of the site the river has been dredged and much of the reed fringe removed. To the north-west of Carton Bridge a small clump of willows (Salix spp.), with dogwood (Cornus sp.), Alder (Alnus glutinosa), Ash (Fraxinus excelsior) and Elder (Sambucus nigra) occurs. The ground flora found here includes Golden Saxifrage (Chrysosplenium oppostifolium), Meadowsweet (Filipendula ulmaria), Common Valerian (Valeriana officinalis), Wavy Bitter-cress (Cardamine flexuosa) and Bittersweet (Solanum dulcamara). The woods on Carton Estate are mostly old demesne woods with both deciduous and coniferous species. Conifers, including some Yew (Taxus baccata) – a native species, are dominant, with Beech (Fagus sylvatica), oak (Quercus sp.), Sycamore (Acer pseudoplatanus), Ash and Hazel (Corylus avellana) also occurring. The ground flora is dominated by Ivy (Hedera helix), with such species as Hedge Woundwort (Stachys sylvatica), Wood Speedwell (Veronica montana), Woodruff (Galium odoratum), Wood Avens (Geum urbanum), Common Dog-violet (Viola riviniana), Wild Angelica (Angelica sylvestris), Ramsons (Allium ursinum), Ground-ivy (Glechoma hederacea) and Ivy Broomrape (Orobanche hederae) also found. Hairy St. John's-wort (Hypericum hirsutum), a species legally protected under the Flora (Protection) Order, 1999, occurs in Carton Estate and there is an old record from the estate for the similarly protected Hairy Violet (Viola hirta). However, this latter species has not been recorded from the site in recent years. Another species listed in the Red Data Book, Green Figwort (Scrophularia umbrosa), occurs on the site in several locations by the Rye Water. The woods at Carton Demesne are the site of a rare Myxomycete fungus, Diderma deplanatum. The marsh, mineral spring and seepage area found at Louisa Bridge supports a good diversity of plant species, including stoneworts, Marsh Arrowgrass (Triglochin palustris), Purple Moor-grass (Molinea caerulea), sedges (Carex spp.), Common Butterwort (Pinguicula vulgaris), Marsh Lousewort (Pedicularis palustris), Grass-ofparnassus (Parnassia palustris) and Cuckooflower (Cardamine pratensis). The mineral spring found at the site is of a type considered to be rare in Europe and is a habitat listed on Annex I of the E.U. Habitats Directive. The Red Data Book species Blue Fleabane (Erigeron acer) is found growing on

a wall at Louisa Bridge. Within the woods, Blackcap, Woodcock and Long-eared Owl have been recorded. Little Grebe, Coot, Moorhen, Tufted Duck, Teal and Kingfisher, the latter a species listed on Annex I of the E.U. Birds Directive, occur on and about the lake. The Rye Water is also a spawning ground for Trout and Salmon, and the rare, Whiteclawed Crayfish (Austropotamobius pallipes) has been recorded at Leixlip. The latter two species are listed on Annex II of the E.U. Habitats Directive. The rare Narrowmouthed Whorl Snail and Desmoulin's Whorl Snail occur in marsh vegetation near Louisa Bridge. Both are rare in Ireland and in Europe, and are listed on Annex II of the E.U. Habitats Directive. The scarce dragonfly, Orthetrum coerulescens, has also been recorded at Louisa Bridge. The conservation importance of the site lies in the presence of several rare and threatened plant and animal species, and the presence of petrifying springs, a habitat type listed on Annex I of the E.U. Habitats Directive. The woods found on Carton Estate and their birdlife are of additional interest.

Version date: 11.10.2013 2 of 2 001398_Rev13.Doc

SITE SYNOPSIS

Site Name: Glenasmole Valley SAC
Site Code: 001209

Glenasmole Valley in south Co. Dublin lies on the edge of the Wicklow uplands, approximately 5 km from Tallaght. The River Dodder flows through the valley and has been impounded here to form two reservoirs which supply water to south Dublin. The non-calcareous bedrock of the Glenasmole Valley has been overlain by deep drift deposits which now line the valley sides. They are partly covered by scrub and woodland, and on the less precipitous parts, by a herb-rich grassland. There is much seepage through the deposits, which brings to the surface water rich in bases, which induces local patches of calcareous fen and, in places, petrifying springs. The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):
[6210] Orchid-rich Calcareous Grassland*
[6410] Molinia Meadows
[7220] Petrifying Springs*

At this site, examples of calcareous fen and flush occur between the two reservoirs, where sedges (including Carex flacca and C. panicea) are joined by such species as Grass-of-parnassus (Parnassia palustris), Few-flowered Spike-rush (Eleocharis quinqueflora), Zig-zag clover (Trifolium medium) and the scarce Fen Bedstraw (Galium uliginosum). Tufa depositing springs are long-known from the site, along the valley sides, and some have substantial tufa mounds and banks. Tufa formation is also known from small streams within the woodland at the site. Within the hazel woods, and associated with the springs and flushes, a distinctive flora with Marsh Hawk'sbeard (Crepis paludosa) and luxuriant stands of Great Horsetail (Equisetum telmateia) has developed. Orchid-rich grassland occurs in the drier parts of this site and in places grades into Molinia meadow. Orchids recorded in these habitats include Frog Orchid (Coeloglossum viride), Northern Marsh-orchid (Dactylorhiza purpurella), Fragrant Orchid (Gymnadenia conopsea), Marsh Helleborine (Epipactis palustris), Early-purple Orchid (Orchis mascula) and Greater Butterfly Orchid (Platanthera chlorantha). Two further orchid species, both Red Data Book-listed, have also been found here, Greenwinged Orchid (Orchis morio) and Small-white Orchid (Pseudorchis albida). Common grasses in the sward include Sweet Vernal-grass (Anthoxanthum odoratum), Creeping Bent (Agrostis stolonifera) and Crested Dog's-tail (Cynosurus cristatus). Other species which occur are Common Bird's-foot-trefoil (Lotus corniculatus), Kidney Vetch (Anthyllis vulneraria), Common Restharrow (Ononis repens), Yellow-wort (Blackstonia perfoliata) and Autumn Gentian (Gentianella amarella). While much of the calcareous grassland has been improved to some extent for agriculture, a suite of typical species still remain. The areas of Molinia meadows at the site occur associated with the grasslands on the valley sides, and in particular in seepage and flushed areas. Typical and indicative species include Greater Bird's-foot-trefoil (Lotus uliginosus), Tormentil (Potentilla erecta), Purple Moor-grass (Molinia caerulea), Sharp-flowered Rush (Juncus acutiflorus), Adder's-

tongue (Ophioglossum vulgatum), Meadow Thistle (Cirsium dissectum) and Fen Bedstraw. As noted above, orchids are frequent in the grasslands at this site. Woodland occurs in patches around the site. On the east side of the valley, below the northern lake, a Hazel (Corylus avellana) wood has developed on the unstable calcareous slopes and includes other species such as Ash (Fraxinus excelsior), Downy Birch (Betula pubescens), Goat Willow (Salix caprea) and (Irish) Whitebeam (Sorbus hibernica). Spring Wood-rush (Luzula pilosa), Wood Speedwell (Veronica montana) and Bramble (Rubus fruticosus agg.) are present in the ground flora. Wet semi-natural broadleaved woodland is also found around the reservoirs and includes Alder (Alnus glutinosa) and willow (Salix spp.), with Yellow Iris (Iris pseudacorus), horsetails (Equisetum spp.), Bramble and localised patches of Japanese Knotweed (Reynoutria japonica), an introduced and invasive species. The lake shore vegetation is not well developed, which is typical of a reservoir. There are occasional patches of Reed Canary-grass (Phalaris arundinacea) and Purpleloosestrife (Lythrum salicaria), which are more extensive around the western shore of the northern lake, along with Common Marsh-bedstraw (Galium palustre) and Water Mint (Mentha aquatica). Other vegetation includes Shoreweed (Littorella uniflora) and the scarce Water Sedge (Carex aquatilis). As well as the Green-winged Orchid and Small-white Orchid, two other threatened species which are listed in the Irish Red Data Book occur in the site, Yellow Archangel (Lamiastrum galeobdolon) and Yellow Bird's-nest (Monotropa hypopitys). Small-white Orchid is legally protected under the Flora (Protection) Order, 1999. The site provides excellent habitat for bats, with at least four species recorded: Pipistrelle, Leisler's, Daubenton's and Brown Long-eared. Otter occurs along the river and reservoirs. The site supports Kingfisher, an Annex I species under the E.U. Birds Directive. Glenasmole Valley contains a high diversity of habitats and plant communities, including three habitats listed on Annex I of the E.U. Habitats Directive. The presence of four Red Data Book plant species further adds to the value of the site, as does the presence of populations of several mammal and bird species of conservation interest.

Version date: 30.09.2013

SITE SYNOPSIS

Site Name: Wicklow Mountains SAC
Site Code: 002122

Wicklow Mountains SAC is a complex of upland areas in Counties Wicklow and Dublin, flanked by the Blessington reservoir to the west and Vartry reservoir in the east, Cruagh Mountain in the north and Lybagh Mountain in the south. Most of the site is over 300 m, with much ground over 600 m. The highest peak is 925 m at Lugnaquilla. The Wicklow uplands comprise a core of granites flanked by Ordovician schists, mudstones and volcanics. The form of the Wicklow Glens is due to glacial erosion. The topography is typical of a mountain chain, showing the effects of more than one cycle of erosion. The massive granite has weathered characteristically into broad domes. Most of the western part of the site consists of an elevated moorland, covered by peat. The surrounding schists have assumed more diverse outlines, forming prominent peaks and rocky foothills with deep glens. The dominant topographical features are the products of glaciation. High corrie lakes, deep valleys and moraines are common features of this area. The substrate over much of the area is peat, usually less than 2 m deep. Poor mineral soil covers the slopes, and rock outcrops are frequent. The Wicklow Mountains are drained by several major rivers including the Dargle, Liffey, Dodder, Slaney and Avonmore. The river water in the mountain areas is often peaty, especially during floods. The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):
[3110] Oligotrophic Waters containing very few minerals
[3160] Dystrophic Lakes
[4010] Wet Heath
[4030] Dry Heath
[4060] Alpine and Subalpine Heaths
[6130] Calaminarian Grassland
[6230] Species-rich Nardus Grassland*
[7130] Blanket Bogs (Active)*
[8110] Siliceous Scree
[8210] Calcareous Rocky Slopes
[8220] Siliceous Rocky Slopes
[91A0] Old Oak Woodlands
[1355] Otter (Lutra lutra)

The vegetation over most of Wicklow Mountains SAC is a mosaic of heath, blanket bog and upland grassland (mostly on peaty soil, though some on mineral soil), stands of dense Bracken (Pteridium aquilinum), and small woodlands mainly along the rivers. Mountain loughs and corrie lakes are scattered throughout the site. The two dominant vegetation communities in the area are heath and blanket bog. Heath vegetation, with both wet and dry heath well represented, occurs in association with blanket bog, upland acid grassland and rocky habitats. The wet heath is characterised by species such as Heather (Calluna vulgaris), Cross-leaved Heath (Erica tetralix), cottongrasses (Eriophorum spp.), Tormentil (Potentilla erecta), Mat-grass (Nardus stricta), bent grasses

(Agrostis spp.) and bog mosses (Sphagnum spp.). In places the wet heath occurs in conjunction with flush communities and streamside vegetation, and here species such as Heath Rush (Juncus squarrosus) and sedges (Carex spp.) are found. Dry heath at this site is confined to shallow peaty soils on steep slopes where drainage is better and particularly in sheltered conditions. It is characterised by species such as Heather, gorse (Ulex spp.), Bell Heather (Erica cinerea), Bilberry (Vaccinium myrtillus), Purple Moor-grass (Molinia caerulea) and lichens (Cladonia spp.). In places the heath grades into upland grassland on mineral soil. Blanket bog is usually dominated by cottongrasses, Heather and bog mosses. On steeper slopes there is some flushing and here Purple Moor-grass, Heath Rush and certain Sphagnum species become more common. The Liffey Head blanket bog is among the best of its kind in eastern Ireland, with deep peat formations and an extensive system of dystrophic pools developed among the hummocks and hollows on the bog surface. The vegetation is largely dominated by Heather and Cross-leaved Heath, with cottongrasses (Eriophorum vaginatum and E. angustifolium), Deergrass (Scirpus cespitosus) and Bog Asphodel (Narthecium ossifragum). In drier areas, Bilberry and Cowberry (Vaccinium vitis-idaea) are common, while the scarce Bog-rosemary (Andromeda polifolia) is also found. Blanket bog occurs over extensive areas of deeper peat on the plateau and also on gentle slopes at high altitudes. Due to the underlying rock strata, the water of the rivers and streams is acid rather than alkaline. The water is generally oligotrophic and free from enrichment. The lakes within the area range from the high altitude lakes of Lough Firrib and Three Lakes, to the lower pater-noster lakes of Glendalough, Lough Tay and Lough Dan. Spectacular corrie lakes, such as Loughs Bray (Upper and Lower), Ouler, Cleevaun, Arts, Kellys and Nahanagan, exhibit fine sequences of moraine stages. The deep lakes are characteristically species-poor, but hold some interesting plants including an unusual form of Quillwort (Isoetes lacustris var. morei), a stonewort (Nitella sp.) and Floating Bur-reed (Sparganium angustifolium). Alpine vegetation occurs on some of the mountain tops, notably in the Lugnaquilla area, and also on exposed cliffs and scree slopes elsewhere in the site. Here alpine heath vegetation is represented with heath species such as Crowberry (Empetrum nigrum) and Cowberry, and others such as Dwarf Willow (Salix herbacea), the greygreen moss Racomitrium lanuginosum, and scarce species such as Mountain Clubmoss (Diphasiastrum alpinum), Firmoss (Huperzia selago), and Starry Saxifrage (Saxifraga stellaris). Some rare arctic-alpine species have been recorded, including Alpine Lady's-mantle (Alchemilla alpina) and Alpine Saw-wort (Saussurea alpina). Old lead mine workings at Glendasan support an estimated 3.6 hectares of Calaminarian Grassland, with a suite of rare metallophyte (metal-loving) bryophytes, including the moss Ditrichum plumbicola and the liverworts Cephaloziella massalongi and C. nicholsonii. Small areas of old oakwood (Blechno-Quercetum petraeae type) occur on the slopes of Glendalough and Glenmalure, near Lough Tay and Lough Dan, with native Sessile Oak (Quercus petraea) trees, many of which are 100-120 years old. On wetter areas, wet broadleaved semi-natural woodlands occur which are dominated by Downy Birch (Betula pubescens). Mixed woodland with non-native tree species also occurs. The site supports a range of rare plant species. Parsley Fern (Cryptogramma crispa), Marsh Clubmoss (Lycopodiella inundata), Lanceolate Spleenwort (Asplenium billotii), Small-white Orchid (Pseudorchis albida) and Bog Orchid (Hammarbya paludosa) are all legally protected under the Flora (Protection) Order, 2015. Greater Broomrape (Orobanche rapum-genistae), Alpine Saw-wort and Alpine Lady's-mantle

are listed in the Irish Red Data Book. The rare Myxomycete fungus Echinostelium colliculosum has been recorded from the Military Road. The Red Data Book fish species Arctic Char has been recorded from Lough Dan, but this population may now have died out. Mammals and birds which occur are typical of the uplands. Deer are abundant, mainly hybrids between Red and Sika Deer. Other mammals include Hare, Badger and Otter, the latter being a species listed on Annex II of the E.U. Habitats Directive. Pine Marten has recently been confirmed as occurring within the site. Among the birds, Meadow Pipit, Skylark, Raven and Red Grouse are resident throughout the site. Wheatear, Whinchat and the scarce Ring Ouzel are summer visitors. Wood Warbler and Redstarts are rare breeding species of the woodlands. Dipper and Grey Wagtail are typical riparian species. Merlin and Peregrine, both Annex I species of the E.U. Birds Directive, breed within the site. Recently, Goosander has become established as a breeding species. Large areas of the site are owned by the National Parks and Wildlife Service (NPWS) and are managed for nature conservation based on traditional land uses of upland areas. The most common land use is traditional sheep grazing, but others include turf cutting, mostly hand-cutting but some machine-cutting also occurs. These activities are largely confined to the Military Road, where there is easy access. Large areas which had been previously hand-cut and are now abandoned are regenerating. In the last 40 years, forestry has become an important land use in the uplands, and has affected both the wildlife and the hydrology of the area. Amenity use is very high, with Dublin city close to the site. Peat erosion is frequent on the peaks. This may be a natural process, but is likely to be accelerated by activities such as grazing. Wicklow Mountains is important as a complex, extensive upland site. It shows great diversity from a geomorphological and a topographical point of view. The vegetation provides examples of the typical upland habitats with heath, blanket bog and upland grassland covering large, relatively undisturbed areas. In all, twelve habitats listed on Annex I of the E.U. Habitats Directive are found within the site. Several rare or protected plant and animal species occur, adding further to its value.

Version date: 31.05.2017

SITE SYNOPSIS
SITE NAME: NORTH DUBLIN BAY SAC
SITE CODE: 000206

This site covers the inner part of north Dublin Bay, the seaward boundary extending from the Bull Wall lighthouse across to the Martello Tower at Howth Head. The North Bull Island is the focal point of this site. The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):
[1140] Tidal Mudflats and Sandflats
[1210] Annual Vegetation of Drift Lines
[1310] Salicornia Mud
[1330] Atlantic Salt Meadows
[1410] Mediterranean Salt Meadows
[2110] Embryonic Shifting Dunes
[2120] Marram Dunes (White Dunes)
[2130] Fixed Dunes (Grey Dunes)*
[2190] Humid Dune Slacks
[1395] Petalwort (Petalophyllum ralfsii)

North Bull Island is a sandy spit which formed after the building of the South Wall and Bull Wall in the 18th and 19th centuries. It now extends for about 5 km in length and is up to 1 km wide in places. A well-developed and dynamic dune system stretches along the seaward side of the island. Various types of dunes occur, from fixed dune grassland to pioneer communities on foredunes. Marram Grass (Ammophila arenaria) is dominant on the outer dune ridges, with Lyme-grass (Leymus arenarius) and Sand Couch (Elymus farctus) on the foredunes. Behind the first dune ridge, plant diversity increases with the appearance of such species as Wild Pansy (Viola tricolor), Kidney Vetch (Anthyllis vulneraria), Common Bird's-foot-trefoil (Lotus corniculatus), Common Restharrow (Ononis repens), Yellow-rattle (Rhinanthus minor) and Pyramidal Orchid (Anacamptis pyramidalis). In these grassy areas and slacks, the scarce Bee Orchid (Ophrys apifera) occurs. About 1 km from the tip of the island, a large dune slack with a rich flora occurs, usually referred to as the 'Alder Marsh' because of the presence of Alder trees (Alnus glutinosa). The water table is very near the surface and is only slightly brackish. Saltmarsh Rush (Juncus maritimus) is the dominant species, with Meadowsweet (Filipendula ulmaria) and Devil's-bit Scabious (Succisa pratensis) being frequent. The orchid flora is notable and includes Marsh Helleborine (Epipactis palustris), Twayblade (Listera ovata), Autumn Lady's-tresses (Spiranthes spiralis) and Marsh Orchids (Dactylorhiza spp.). Saltmarsh extends along the length of the landward side of the island. The edge of the marsh is marked by an eroding edge which varies from 20 cm to 60 cm high. The marsh can be zoned into different levels according to the vegetation types present. On the lower marsh, Glasswort (Salicornia europaea), Common Saltmarsh-grass (Puccinellia maritima), Annual Sea-blite (Suaeda maritima) and Greater Sea-spurrey (Spergularia media) are the main species. Higher up in the middle marsh Sea Plantain (Plantago maritima), Sea Aster (Aster tripolium), Sea Arrowgrass (Triglochin maritima) and Thrift (Armeria maritima) appear. Above the mark of the normal high tide, species such as Common Scurvygrass (Cochlearia officinalis) and Sea Milkwort

(Glaux maritima) are found, while on the extreme upper marsh, the rushes Juncus maritimus and J. gerardi are dominant. Towards the tip of the island, the saltmarsh grades naturally into fixed dune vegetation. The habitat 'annual vegetation of drift lines' is found in places, along the length of Dollymount Strand, with species such as Sea Rocket (Cakile maritima), Oraches (Atriplex spp.) and Prickly Saltwort (Salsola kali). The island shelters two intertidal lagoons which are divided by a solid causeway. The sediments of the lagoons are mainly sands with a small and varying mixture of silt and clay. The north lagoon has an area known as the "Salicornia flat", which is dominated by Salicornia dolichostachya, a pioneer glasswort species, and covers about 25 ha. Beaked Tasselweed (Ruppia maritima) occurs in this area, along with some Narrow-leaved Eelgrass (Zostera angustifolia). Dwarf Eelgrass (Z. noltii) also occurs in Sutton Creek. Common Cordgrass (Spartina anglica) occurs in places but its growth is controlled by management. Green algal mats (Enteromorpha spp., Ulva lactuca) cover large areas of the flats during summer. These sediments have a rich macrofauna, with high densities of Lugworms (Arenicola marina) in parts of the north lagoon. Mussels (Mytilus edulis) occur in places, along with bivalves such as Cerastoderma edule, Macoma balthica and Scrobicularia plana. The small gastropod Hydrobia ulvae occurs in high densities in places, while the crustaceans Corophium volutator and Carcinus maenas are common. The sediments on the seaward side of North Bull Island are mostly sands. The site extends below the low spring tide mark to include an area of the sublittoral zone. Three rare plant species which are legally protected under the Flora (Protection) Order, 1999 have been recorded on the North Bull Island. These are Lesser Centaury (Centaurium pulchellum), Red Hemp-nettle (Galeopsis angustifolia) and Meadow Saxifrage (Saxifraga granulata). Two further species listed as threatened in the Red Data Book, Wild Clary/Sage (Salvia verbenaca) and Spring Vetch (Vicia lathyroides), have also been recorded. A rare liverwort, Petalophyllum ralfsii, was first recorded from the North Bull Island in 1874 and has recently been confirmed as still present. This species is of high conservation value as it is listed on Annex II of the E.U. Habitats Directive. The North Bull is the only known extant site for the species in Ireland away from the western seaboard. North Dublin Bay is of international importance for waterfowl. During the 1994/95 to 1996/97 period the following species occurred in internationally important numbers (figures are average maxima): Brent Goose 2,333; Knot 4,423; Bar-tailed Godwit 1,586. A further 14 species occurred in nationally important concentrations - Shelduck 1505; Wigeon 1,166; Teal 1,512; Pintail 334; Shoveler 239; Oystercatcher 2,190; Ringed Plover 346; Grey Plover 816; Sanderling 357; Dunlin 6,238; Black-tailed Godwit 156; Curlew 1,193; Turnstone 197 and Redshank 1,175. Some of these species frequent South Dublin Bay and the River Tolka Estuary for feeding and/or roosting purposes (mostly Brent Goose, Oystercatcher, Ringed Plover, Sanderling and Dunlin). The tip of the North Bull Island is a traditional nesting site for Little Tern. A high total of 88 pairs nested in 1987. However, nesting attempts have not been successful since the early 1990s. Ringed Plover, Shelduck, Mallard, Skylark, Meadow Pipit and Stonechat also nest. A well-known population of Irish Hare is resident on the island The invertebrates of the North Bull Island have been studied and the island has been shown to contain at least seven species of regional or national importance in Ireland (from the Orders Diptera, Hymenoptera and Hemiptera). The main land uses of this site are amenity activities and nature conservation. The North Bull Island is the main recreational beach in Co. Dublin and is used throughout the year. Much of the land

surface of the island is taken up by two golf courses. Two separate Statutory Nature Reserves cover much of the island east of the Bull Wall and the surrounding intertidal flats. The site is used regularly for educational purposes. North Bull Island has been designated a Special Protection Area under the E.U. Birds Directive and it is also a statutory Wildfowl Sanctuary, a Ramsar Convention site, a Biogenetic Reserve, a Biosphere Reserve and a Special Area Amenity Order site. This site is an excellent example of a coastal site with all the main habitats represented. The site holds good examples of nine habitats that are listed on Annex I of the E.U. Habitats Directive; one of these is listed with priority status. Several of the wintering bird species have populations of international importance, while some of the invertebrates are of national importance. The site contains a numbers of rare and scarce plants including some which are legally protected. Its proximity to the capital city makes North Dublin Bay an excellent site for educational studies and research.

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SITE SYNOPSIS
SITE NAME: SOUTH DUBLIN BAY SAC
SITE CODE: 000210

This site lies south of the River Liffey in Co. Dublin, and extends from the South Wall to the west pier at Dun Laoghaire. It is an intertidal site with extensive areas of sand and mudflats. The sediments are predominantly sands but grade to sandy muds near the shore at Merrion Gates. The main channel which drains the area is Cockle Lake. The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):
[1140] Tidal Mudflats and Sandflats
[1210] Annual vegetation of drift lines
[1310] Salicornia and other annuals colonising mud and sand
[2110] Embryonic shifting dunes

The bed of Dward Eelgrass (Zostera noltii) found below Merrion Gates is the largest stand on the east coast. Green algae (Enteromorpha spp. and Ulva lactuca) are distributed throughout the area at a low density. Fucoid algae occur on the rocky shore in the Maretimo to Dún Laoghaire area. Species include Fucus spiralis, F. vesiculosus, F. serratus, Ascophyllum nodosum and Pelvetia canaliculata. Several small, sandy beaches with incipient dune formation occur in the northern and western sectors of the site, notably at Poolbeg, Irishtown and Merrion/ Booterstown. The formation at Booterstown is very recent. Drift line vegetation occurs in association with the embryonic and incipient fore dunes. Typically drift lines occur in a band approximately 5 m wide, though at Booterstown this zone is wider in places. The habitat occurs just above the High Water Mark and below the area of embryonic dune. Species present are Sea Rocket (Cakile maritima), Frosted Orache (Atriplex laciniata), Spear-leaved Orache (A. prostrata), Prickly Saltwort (Salsola kali) and Fat Hen (Chenopodium album). Also occurring is Sea Sandwort (Honkenya peploides), Sea Beet (Beta vulgaris subsp. maritima) and Annual Sea-blite (Suaeda maritima). A small area of pioneer saltmarsh now occurs in the lee of an embryonic sand dune just north of Booterstown Station. This early stage of saltmarsh development is here characterised by the presence of pioneer stands of glassworts (Salicornia spp.) occurring below an area of drift line vegetation. As this is of very recent origin, it covers a small area but ample areas of substrate and shelter are available for the further development of this habitat. Lugworm (Arenicola marina), Cockles (Cerastoderma edule) and annelids and other bivalves are frequent throughout the site. The small gastropod Hydrobia ulvae occurs on the muddy sands off Merrion Gates. South Dublin Bay is an important site for waterfowl. Although birds regularly commute between the south bay and the north bay, recent studies have shown that certain populations which occur in the south bay spend most of their time there. The principal species are Oystercatcher (1215), Ringed Plover (120), Sanderling (344), Dunlin (2628) and Redshank (356) (average winter peaks 1996/97 and 1997/98). Up to 100 Turnstones are usual in the south bay during winter. Brent Goose regularly occur in numbers of international importance (average peak 299). Bar-tailed Godwit (565), a species listed on Annex I of the E.U. Birds Directive, also occur. Large numbers of gulls roost in South Dublin Bay, e.g. 4,500 Black-headed Gulls in February 1990; 500

Common Gulls in February 1991. It is also an important tern roost in the autumn, regularly holding 2000-3000 terns including Roseate Terns, a species listed on Annex I of the E.U. Birds Directive. South Dublin Bay is largely protected as a Special Protection Area. At low tide the inner parts of the south bay are used for amenity purposes. Baitdigging is a regular activity on the sandy flats. At high tide some areas have windsurfing and jet-skiing. This site is a fine example of a coastal system, with extensive sand and mudflats, and incipient dune formations. South Dublin Bay is also an internationally important bird site.

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SITE SYNOPSIS
SITE NAME: NORTH BULL ISLAND SPA
SITE CODE: 004006

This site covers all of the inner part of north Dublin Bay, with the seaward boundary extending from the Bull Wall lighthouse across to Drumleck Point at Howth Head. The North Bull Island sand spit is a relatively recent depositional feature, formed as a result of improvements to Dublin Port during the 18th and 19th centuries. It is almost 5 km long and 1 km wide and runs parallel to the coast between Clontarf and Sutton. Part of the interior of the island has been converted to golf courses. Saltmarsh extends along the length of the landward side of the island and provides the main roost site for wintering birds in Dublin Bay. The island shelters two intertidal lagoons which are divided by a solid causeway. These lagoons provide the main feeding grounds for the wintering waterfowl. The sediments of the lagoons are mainly sands with a small and varying mixture of silt and clay. Green algal mats (Ulva spp.) are a feature of the flats during summer. These sediments have a rich macro-invertebrate fauna, with high densities of Lugworm (Arenicola marina) and Ragworm (Hediste diversicolor). The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Light-bellied Brent Goose, Shelduck, Teal, Pintail, Shoveler, Oystercatcher, Golden Plover, Grey Plover, Knot, Sanderling, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Curlew, Redshank, Turnstone and Black-headed Gull. The site is also of special conservation interest for holding an assemblage of over 20,000 wintering waterbirds. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds. The North Bull Island SPA is of international importance for waterfowl on the basis that it regularly supports in excess of 20,000 waterfowl. The site supports internationally important populations of three species, Light-bellied Brent Goose (1,548), Black-tailed Godwit (367) and Bar-tailed Godwit (1,529) - all figures are mean peaks for the five winters between 1995/96 and 1999/2000. The site is one of the most important in the country for Light-bellied Brent Goose. A further 14 species have populations of national importance – Shelduck (1,259), Teal (953), Pintail (233), Shoveler (141), Oystercatcher (1,784), Grey Plover (517), Golden Plover (2,033), Knot (2,837), Sanderling (141), Dunlin (4,146), Curlew (937), Redshank (1,431), Turnstone (157) and Black-headed Gull (2,196). The populations of Pintail and Knot are of particular note as they comprise 14% and 10% respectively of the all-Ireland population totals. Other species that occur regularly in winter include Grey Heron, Little Egret, Cormorant, Wigeon, Goldeneye, Red-breasted Merganser, Ringed Plover and Greenshank. Gulls are a feature of the site during winter and, along with the nationally important population of Black-headed Gull (2,196), other species that occur include Common Gull (332) and Herring Gull (331). While some of the birds also frequent South Dublin Bay and the River Tolka Estuary for feeding and/or roosting purposes, the majority remain within the site for much of the winter. The wintering bird populations have been monitored more or less continuously since the late 1960s and the site is now surveyed each winter as part of the larger Dublin Bay complex. The North Bull Island SPA is a regular site for passage waders, especially Ruff, Curlew Sandpiper and Spotted Redshank. These are mostly observed in single figures in autumn but occasionally in spring or winter. The site formerly had an important colony of Little Tern but breeding

has not occurred in recent years. Several pairs of Ringed Plover breed, along with Shelduck in some years. Breeding passerines include Skylark, Meadow Pipit, Stonechat and Reed Bunting. The island is a regular wintering site for Short-eared Owl, with up to 5 present in some winters. The North Bull Island SPA is an excellent example of an estuarine complex and is one of the top sites in Ireland for wintering waterfowl. It is of international importance on account of both the total number of waterfowl and the individual populations of Light-bellied Brent Goose, Black-tailed Godwit and Bar-tailed Godwit that use it. Also of significance is the regular presence of several species that are listed on Annex I of the E.U. Birds Directive, notably Golden Plover and Bar-tailed Godwit, but also Ruff and Short-eared Owl. North Bull Island is a Ramsar Convention site, and part of the North Bull Island SPA is a Statutory Nature Reserve and a Wildfowl Sanctuary.

25.3.2014

SITE SYNOPSIS
SITE NAME: SOUTH DUBLIN BAY AND RIVER TOLKA ESTUARY SPA
SITE CODE: 004024

The South Dublin Bay and River Tolka Estuary SPA comprises a substantial part of Dublin Bay. It includes the intertidal area between the River Liffey and Dun Laoghaire, and the estuary of the River Tolka to the north of the River Liffey, as well as Booterstown Marsh. A portion of the shallow marine waters of the bay is also included. In the south bay, the intertidal flats extend for almost 3 km at their widest. The sediments are predominantly well-aerated sands. Several permanent channels exist, the largest being Cockle Lake. A small sandy beach occurs at Merrion Gates, while some bedrock shore occurs near Dun Laoghaire. The landward boundary is now almost entirely artificially embanked. There is a bed of Dwarf Eelgrass (Zostera noltii) below Merrion Gates which is the largest stand on the east coast. Green algae (Ulva spp.) are distributed throughout the area at a low density. The macroinvertebrate fauna is well-developed, and is characterised by annelids such as Lugworm (Arenicola marina), Nephthys spp. and Sand Mason (Lanice conchilega), and bivalves, especially Cockle (Cerastoderma edule) and Baltic Tellin (Macoma balthica). The small gastropod Spire Shell (Hydrobia ulvae) occurs on the muddy sands off Merrion Gates, along with the crustacean Corophium volutator. Sediments in the Tolka Estuary vary from soft thixotrophic muds with a high organic content in the inner estuary to exposed, well-aerated sands off the Bull Wall. The site includes Booterstown Marsh, an enclosed area of saltmarsh and muds that is cut off from the sea by the Dublin/Wexford railway line, being linked only by a channel to the east, the Nutley stream. Sea water incursions into the marsh occur along this stream at high tide. An area of grassland at Poolbeg, north of Irishtown Nature Park, is also included in the site. The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Light-bellied Brent Goose, Oystercatcher, Ringed Plover, Grey Plover, Knot, Sanderling, Dunlin, Bar-tailed Godwit, Redshank, Black-headed Gull, Roseate Tern, Common Tern and Arctic Tern. The E.U. Birds Directive pays particular attention to wetlands, and as these form part of the SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds. The site is an important site for wintering waterfowl, being an integral part of the internationally important Dublin Bay complex – all counts for wintering waterbirds are five year mean peaks for the period 1995/96 to 1999/2000. Although birds regularly commute between the south bay and the north bay, recent studies have shown that certain populations which occur in the south bay spend most of their time there. An internationally important population of Light-bellied Brent Goose (368) occurs regularly and newly arrived birds in the autumn feed on the Eelgrass bed at Merrion. At the time of designation the site supported nationally important numbers of a further nine species: Oystercatcher (1,145), Ringed Plover (161), Grey Plover (45), Knot (548), Sanderling (321), Dunlin (1,923), Bar-tailed Godwit (766), Redshank (260) and Black-headed Gull (3,040). Other species occurring in smaller numbers include Great Crested Grebe (21), Curlew (127) and Turnstone (52). Little Egret, a species which has recently colonised Ireland, also occurs at this site. South Dublin Bay is a significant site for wintering gulls, with a nationally important population of Black-headed Gull, but also Common Gull (330) and Herring Gull (348). Mediterranean Gull is also recorded from here, occurring through much of the year, but especially in late winter/spring and

again in late summer into winter. Both Common Tern and Arctic Tern breed in Dublin Docks, on a man-made mooring structure known as the E.S.B. dolphin – this is included within the site. Small numbers of Common Tern and Arctic Tern were recorded nesting on this dolphin in the 1980s. A survey in 1995 recorded nationally important numbers of Common Tern nesting here (52 pairs). The breeding population of Common Tern at this site has increased, with 216 pairs recorded in 2000. This increase was largely due to the ongoing management of the site for breeding terns. More recent data highlights this site as one of the most important Common Tern sites in the country with over 400 pairs recorded here in 2007. South Dublin Bay is an important staging/passage site for a number of tern species in the autumn (mostly late July to September). The origin of many of the birds is likely to be the Dublin breeding sites (Rockabill and the Dublin Docks) though numbers suggest that the site is also used by birds from other sites, perhaps outside the state. This site is selected for designation for its autumn tern populations: Roseate Tern (2,000 in 1999), Common Tern (5,000 in 1999) and Arctic Tern (20,000 in 1996). The South Dublin Bay and River Tolka Estuary SPA is of ornithological importance as it supports an internationally important population of Light-bellied Brent Goose and nationally important populations of a further nine wintering species. Furthermore, the site supports a nationally important colony of breeding Common Tern and is an internationally important passage/staging site for three tern species. It is of note that four of the species that regularly occur at this site are listed on Annex I of the E.U. Birds Directive, i.e. Bar-tailed Godwit, Common Tern, Arctic Tern and Roseate Tern. Sandymount Strand/Tolka Estuary is also a Ramsar Convention site.

30.5.2015

Appendix C – Flood Risk Assessment