

Draft Beach Management Plan (Mornington, Bettystown and Laytown)

Natura Impact Statement

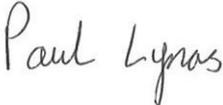
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1. Introduction

AECOM Ireland Limited (hereafter referred to as AECOM) was commissioned by their client Meath County Council (MCC) to produce this Natura Impact Statement (NIS) of the Draft Beach Management Plan for the coastline of Mornington, Bettystown, and Laytown (hereafter 'the **Draft Plan**').

1.1 Legal and Planning Context

The European Communities Habitats Directive 92/43/EEC ("the Habitats Directive") provides, in Article 6 (3), the legal basis for Appropriate Assessment (AA) at European level. Where Irish land-use plans do not fall under the remit of the Irish planning legislation, the Habitats Directive is transposed by the European Communities (Bird and Natural Habitats) Regulations 2011 S.I 477 of 2011, as amended (hereafter 'the Regulations').

1.1.1 Screening for AA

Part 42(1) of the Regulations transposes the requirement to screen for AA:

42. (1) A screening for Appropriate Assessment of a plan or project for which an application for consent is received, or which a public authority wishes to undertake or adopt, and which is not directly connected with or necessary to the management of the site as a European Site, shall be carried out by the public authority [in this case MCC] to assess, in view of best scientific knowledge and in view of the conservation objectives of the site, if that plan or project, individually or in combination with other plans or projects is likely to have a significant effect on the European site.

In September 2017, MCC screened the Draft Plan for AA and determined that an AA was required because (in the formal wording of the 'Waddenzee' ruling¹) it could not be excluded that the Draft Plan, individually or in combination with other plans or projects was likely to have a significant effect on European sites.

Following NPWS technical advice² that AA Screening should 'screen-in' a project or plan, and not 'screen-in' particular European sites, this Draft NIS considers potential effect pathways to all European sites.

1.1.2 Appropriate Assessment

Parts 42(9) and 42(11) of the Regulations transpose the primary obligations for AA of plans or projects which a public authority wishes to undertake

42 (9): Where a public authority is required to conduct an Appropriate Assessment...in relation to a plan or project that it proposes to undertake or adopt, it shall—

(a) prepare a Natura Impact Statement,

(b) compile any other evidence including, but not limited to, scientific evidence that is required for the purposes of the Appropriate Assessment, and

(c) submit a Natura Impact Statement together with evidence compiled under subparagraph (b) to the Minister not later than six weeks before it proposes to adopt or undertake the plan or project to which the Natura Impact Statement and evidence relates.

42 (11) An Appropriate Assessment...shall include a determination by the public authority...pursuant to Article 6(3) of the Habitats Directive as to whether or not a plan or project would adversely affect the integrity of a European site and the assessment shall be carried out by the public authority before a decision is taken to approve, undertake or adopt a plan or project, as the case may be.

MCC has asked AECOM to produce an NIS, to inform their AA³.

¹ The 'Waddenzee' ruling (C-127/02) is an influential judgement of the European Court of Justice (ECJ) which has clarified what "likely to have a significant effect" means; specifically that, "if it cannot be excluded on the basis of objective information, that it will have a significant effect on the site" and that unless a significant effect can be objectively ruled-out with certainty, then it is 'likely'.

² For instance, the NPWS Head of Ecological Assessment, in a talk delivered at the Advanced Appropriate Assessment Workshop; 17 April 2015, Dublin Port.

³ Where the plan in question is provided for under the Planning Acts as amended, the report is termed a 'Natura Impact Report'.

1.1.3 Consultation and Publication Requirements

1.1.3.1 Public Access to Environmental Information

The European Communities (Access to Information on the Environment) Regulations 2007 to 2014 (AEI Regulations) transpose Directive 2003/4/EC on public access to environmental information, which was adopted to give effect to the 'Access to Information' pillar of the Aarhus Convention.

The AEI Regulations give the public the right to access environmental information. The Regulations also oblige public authorities to be proactive in disseminating environmental information to the public and to make reasonable efforts to maintain environmental information and have it in a form that is accessible and can be reproduced.

1.1.3.2 Screening for Appropriate Assessment

MCC concluded that an Appropriate Assessment of the Draft Plan was required as the potential for likely significant effects on European sites to arise from the Draft Plan (either alone or in combination with other plans/projects) could not be excluded on the basis of objective scientific information, including ecological analyses provided by AECOM Ireland Ltd.

1.1.3.3 Natura Impact Statement

MCC are making available for inspection by members of the public their AA determination, the reasons for that determination, and this Draft NIS. MCC are also making these documents available to members of the public, during office hours at the offices of the authority and shall also make the determination or notice available in electronic form by placing the documents on the MCC website.

MCC will have regard if appropriate, for any written submissions or observations made to the public authority in relation to the Draft Plan.

MCC will submit the Draft NIS to the Minister for Culture, Heritage and the Gaeltacht not later than six weeks before it proposes to adopt or undertake the Draft Plan.

1.2 European Sites

In the Republic of Ireland, European sites⁴ comprise:

- Special Areas of Conservation (SAC) designated for habitats, plants, and non-bird species;
- Special Protection Areas (SPA) designated for bird species and their habitats; and,
- 'Candidate' sites including 'cSAC'.

The process of designating cSAC as SAC is ongoing in Ireland. The term SAC is used throughout this report for both SAC and cSAC, given they are subject to equal protection.

2. Description of the Draft Plan

Originally, information on the Draft Plan to inform the Draft NIS was collated from discussions with the design team, in conjunction with Information from:

- The pre-consultation version of the 'Bettystown /Laytown Beach Management Plan' dated May 2017 (AECOM ; 2017a) and;
- The pre-consultation version of the 'Bettystown/Laytown Beach Recommendations Report' dated May 2017 (AECOM, 2017b).

Significant revisions to the Draft Plan were subsequently made between May 2017 and May 2018, in response to:

- Regular meetings between the Draft NIS and Draft Plan authors with MCC in 2017 and 2018;
- Consultation with relevant stakeholders including local councillors in June and July 2017;

⁴ "European site" replaced the term "Natura 2000 site" under the EU (Environmental Impact Assessment and Habitats) Regulations 2011 S.I. No. 473 of 2011.

- Review of submissions to the public consultation in summer 2017, including those relating to AA from An Taisce;
- Iterative amendments to Draft Plan Recommendations to avoid adverse effects to European sites, agreed at regular meetings between MCC, and the authors of the Draft NIS and Draft Plan (i.e. ‘mitigation by design’), taking account of relevant stakeholder submissions.

The latest Draft NIS reviewed the Draft Plan dating to May 2018 entitled the ‘Laytown, Bettystown and Mornington Beach Management Plan’ (AECOM, 2018).

2.1 Spatial Extents

The Draft Plan applies to the c.5 km of sandy Meath coastline stretching between the village of Mornington on the Boyne Estuary to the north and the Nanny Estuary to the south; Bettystown village is in the central portion of the Draft Plan area. The area of the Draft Plan is shown in Figure 1.

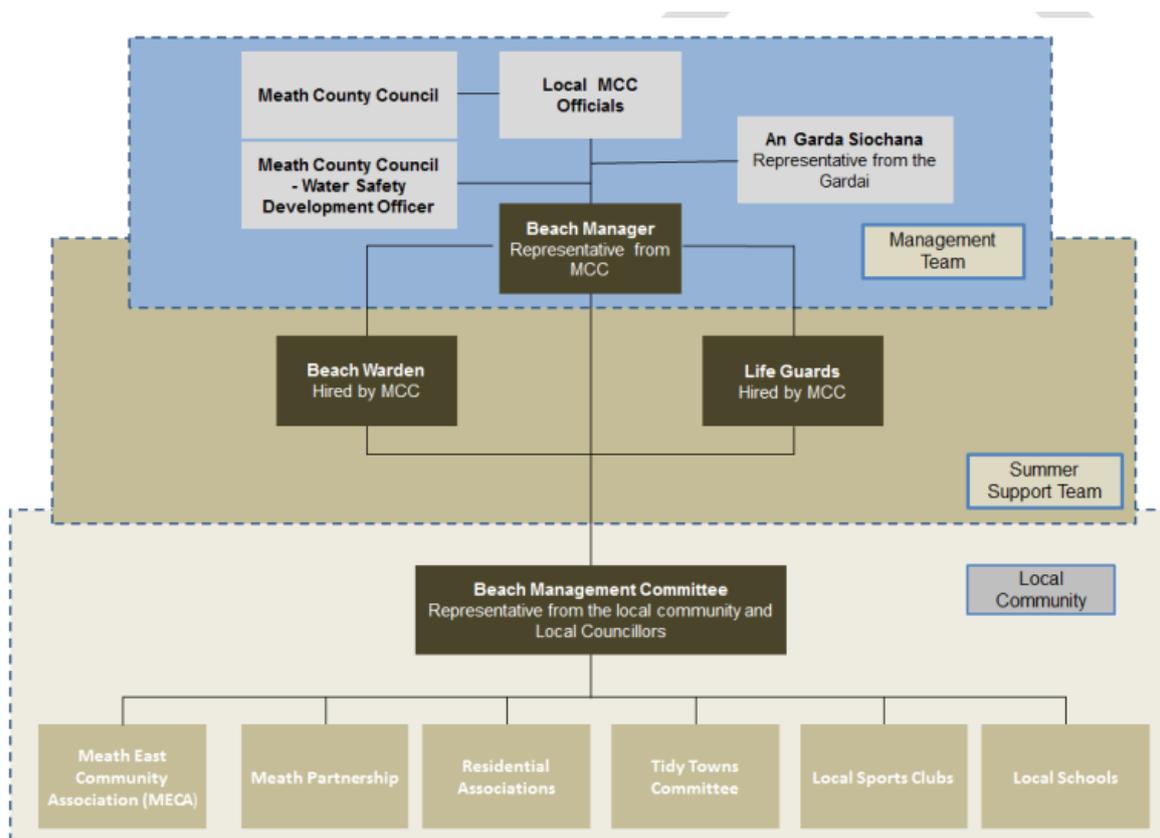
2.2 Purpose of the Draft Plan

The Draft Plan will act as the main reference document for the day to day management of the beach and will be proactively and reactively updated as and when required. The primary issues at the beach which are addressed by the Draft Plan are the management structure, beach wardens, access, parking and traffic, beach safety, community, sports and recreation, bye-laws, and protection of European sites.

2.3 Management Structure

The beach manager is key to the management structure and is a representative from MCC who will manage the resources which are made available from MCC for the operation of the beach. The beach manager will be the first point of contact from MCC regarding any issues that may arise from the beach wardens, life guards, local groups or communities, or from the general public. The Beach Manager will be the key contact for the beach, to ensure effective communication is maintained between key stakeholders. The proposed management structure for the Draft Plan is shown in Image 1, and is relevant to AA, for instance in the context of enforcing any restrictions on recreation of relevance to bird disturbance.

Image 1 Proposed Management Structure Organogram



The Beach Manager's role implementing the plan includes:

- Coordination with Beach Wardens;
- Coordination with Life Guards;
- Liaison with the local community;
- Attending meetings with local councillors and/or the Beach Management Committee;
- Licensing of public events; and,
- Coordinating with the Gardaí regarding any anti-social behaviour reported on the beach.

2.4 Access, Traffic Management, and Parking

2.4.1 Existing Activities and Regulation

2.4.1.1 Bye-Laws and Rights of Way

Public Rights of Way which gives access to seashore, riverbank or other place of natural beauty or recreational utility, have been identified to date by MCC in accordance with Section 10(2)(o) Planning and Development Acts 2000-2011. There are twelve Public Rights of Way to the Seashore in the area of the Draft Plan, as set out in Section A14 of the Meath County Development Plan 2013-2019 (MCC, 2013).

MCC's 2010 'Foreshore Bye-Laws Governing Beaches, Foreshore, Estuaries and Harbours in the County of Meath'⁵ ('the Bye-Laws') control/govern the traffic access to the beach and parking on the beach. The Bye-Laws cover the control of animals (dogs and horses) and parking allowed on the foreshore. Also controlled are the littering and the use of watercraft including jet skis and power boats.

2.4.1.2 Recreational Areas

The 'Laytown / Bettystown' bathing area is the only designated bathing water in the Bathing Water Regulations 2008 along this stretch of beach. The bathing area overlaps the River Nanny Estuary and Shore SPA in its southern part, and extends northwards to meet the boundary of the Boyne Coast and Estuary SAC. Much of the designated bathing waters actually overlap with the permitted car parking area. A small area north of the car parking zone is designated (and signed as) a 'Lifeguard area' during the summer months.

A timber boardwalk was installed by MCC through the designated dune system of the Boyne Coast and Estuary SAC in 2014; to minimise damage from use of the dunes by walkers. It has been highlighted during the consultation process that horse riders also make use of the boardwalk.

2.4.1.3 Car Access to the Beach

The Bye-Laws allow parking within a designated area on the beach; all year round. Seaview Terrace (Bettystown) is the primary vehicular access point onto the beach. The access is dominated by vehicular traffic as footpaths for pedestrian access are narrow. It is generally accepted that the access needs to be improved and upgraded for pedestrian safety and improved streetscape.

At present the Bye-Laws permit vehicles to access and park on the beach in the area designated between Laytown (southern part of the Draft Plan area) to a point 150m north of the Seaview Terrace in Bettystown (mid-point of the Draft Plan area). The southern part of this area overlaps the River Nanny Estuary and Shore SPA, but does not overlap any SACs. The majority of motorists currently park within a 150m long area at Bettystown to the north of Seaview Terrace entrance; in an area which does not overlap with any European sites.

Data from MCC staff indicates that during most of the year the number of vehicles parking on the beach is low. On a typical, dry, warm, summers day there may be up to several hundred vehicles parked on the beach. During periods of exceptionally warm weather however, there may be a demand of over a thousand vehicles on the beach. The primary issue associated with these times of exceptionally high parking demand is the safety of beach users; and children in particular, interacting with vehicles on the beach. Traffic congestion in the town is currently a significant issue when the beach is busy. The Beach Wardens manage the traffic on the beach while they are on duty, using cones to direct traffic. There is not a set area for parking, and it is generally up to the

⁵ Available online at <http://www.meath.ie/CountyCouncil/Publications/ByeLaws/> Accessed November 2017.

vehicle owner to park where they think is suitable. During busy periods, Beach Wardens are stationed at the entrance to beach to keep traffic moving. This is to ensure that the entrance to the beach is kept clear.

2.4.1.4 Access of horses to the Beach

Horse riders' access to the beach is restricted to between 5am and 11am under the Bye-Laws. Additionally, the Laytown Strand Races take place annually in September/October. Temporary posts are installed on the beach to delineate the course. The race committee has a lease of a three acre field in Laytown known locally as "the race field" which provides an elevated viewpoint above the beach and beside the finish line to racegoers. There are no permanent structures on the beach associated with the races.

2.4.1.5 Car Parks Providing Beach Access in Wider Area

Aside from the beach itself there is no public car park in Bettystown, owned or operated by MCC, which provides car parking for beach users. MCC are therefore under pressure to accommodate all car parking on the beach. Other large car parks in the town within walking distance of the Draft Plan area include the Funtasia lands, Anchorage and Tesco car parks (all within 10 minute walk). These are all privately owned and have various restrictions and parking management measures in place which may deter beach users from using them. An area for car parking is provided close to the existing Mornington Beach pedestrian access. A temporary car park of approximately one hundred spaces is provided in Laytown every year in close proximity to the existing train station car park and next to the children's playground.

During the Laytown Races (which occurs on a single day in autumn annually), all cars are removed from the beach. This is currently the only day of the year when parking is entirely removed from the beach.

2.4.1.6 Surface Water

There are currently a number of unsewered surface water drains which drain the built-up areas of the adjacent coastline and outfall onto the beach within the Draft Plan area.

2.4.2 Proposed Changes to Activities and Regulation under Draft Plan

Changes are proposed under the Draft Plan to improve beach access and parking, tackle dog fouling, manage litter, implement animal control and signage, increase beach tourism and activities, and achieve blue flag status, all while avoiding adverse effects to the integrity of the European sites, through interaction with the Draft NIS authors.

2.4.2.1 Recommendations

The Recommendations of the Draft Plan from May 2017 (AECOM, 2017b) were significantly revised prior to their incorporation into the May 2018 revision (AECOM, 2018) to incorporate input from Draft NIS authors, in addition to the comments of local councilors, members of the public, and other stakeholders from the consultation process. These Recommendations are listed in Table 1.

Table 1 Summary Recommendations in Draft Plan (i.e. revised version dating to May 2018; AECOM, 2018).

| Recommendation. | Recommendation | Action |
|-----------------|---------------------------------|---|
| 1 | Improve Beach access | Purchase houses on Seaview Terrace and provide a range of amenities within a custom built building. Develop community facilities at Seaview Terrace. |
| 2 | | Examine creation of a one way system for beach traffic during busy periods. |
| 3 | | Examine Access Controls to the beach. |
| 4 | Beach parking management | Complete, but phased removal of parking from the Mornington/Bettystown/Laytown beach, subject to the availability of appropriate alternative parking. |
| 5 | | Restrict and co-ordinate parking in parking zones, using cones and temporary bollards, preferably south of Seaview Terrace. |
| 6 | | The existing Lifeguard Zone is to be relocated south to an area north of Seaview Terrace. |
| 7 | | Agree and implement overspill beach parking during the summer months in the school car parks if required. |
| 8 | | Consider overspill beach parking during the summer months in the existing greenfield site in Laytown. |
| 9 | | Provide a shuttle bus to connect school carparks and Laytown parking (greenfield site) to Bettystown Beach during the summer months, if required. |
| 10 | | Introduce car free days at the beach during beach events. |
| 11 | | The Beach Warden responsibilities should include managing and coordinating when the overspill parking is required. |
| 12 | Tackle dog fouling | Increase the fine for dog fouling to the maximum that is permissible under the either the Section 22 of the Litter Pollution Act or MCC Foreshore Bye-Laws. |
| 13 | | Increase enforcement of byelaws, litter and waster legislation by MCC officials and beach wardens during the summer months. |
| 14 | | New signage campaign regarding Dog Fouling |
| 15 | Litter management | Provide for larger capacity bins during the summer season. |
| 16 | | Adopt 'Leave-no-trace' policy for the beach or for a section of the beach. |
| 17 | | Provide for recycling facilities, either nearby or on the beach. |
| 18 | | Encourage greater community involvement and run awareness campaigns regarding waste, litter, dog fouling etc. |
| 19 | Implement | Prohibit dogs in the lifeguard patrol area between 11a.m. - 6p.m. during the summer months. |

| Recommendation. | Recommendation | Action |
|-----------------|--|---|
| 20 | animal control | Control of dogs within the River Nanny Estuary and Shore SPA i.e. dogs to be leashed from September to March inclusive. |
| 21 | | Restriction of horses from the dunes at Mornington within the Boyne Coast and Estuary SAC. |
| 22 | | Restriction of horses from the shoreline within the Nanny Estuary and Shoreline SPA from September to March inclusive (except for the Laytown Strand Races). |
| 23 | Improve signage | Review existing signage and, where necessary, develop new signage incorporating 'softer', playful and/or eye-catching graphics/text phrasing, to promote a sense of stewardship and self-policing amongst beach users. |
| 24 | | Provide for a co-ordinated and consistent suite of signage to promote a sense of pride in the local area. |
| 25 | | Review the indicative locations for signage and ensure signage pertaining to the Nanny River Estuary and Shore SPA is located at the point of entry into, and within the site. |
| 26 | Increase beach tourism and activities spring and summer only (April to August inclusive), outside the wintering bird season | <p>Organise beach events, including:</p> <ul style="list-style-type: none"> • Car Free Days • Canoeing with jetties on the River Nanny • Beach Football • Creating designated area for sports. • Swimming lessons / Life-saving programs for all. • Attraction of Maidens Tower of Mornington • East Coast Cycle Route • Tara Brooch • Greenway Mornington to Drogheda • Fishing • Triathlons • Eco-tourism • Kiting – festivals • Volleyball • Sailing • Sand yachting • Sandcastles • Bird watching with the erection of bird watching huts/stands. • Provision of space for clubs to meet/change etc. |
| 27 | Achieve blue flag | Maintain high quality water with An Taisce. |

| Recommendation. | Recommendation | Action |
|-----------------|----------------|---|
| 28 | status | Implement the car parking proposals as outlined in this Recommendations appendix. These proposals will reduce and manage the parking on the beach, with the future aim of removing all parking on the beach in the future. |
| 29 | | Limit the access to the dunes in Mornington by closing off the vehicular access to the parking area to better control and manage vehicle movements in the area. Consider providing a limited number of car parking spaces on the adjacent road. |

2.4.2.2 Further Detail on Beach Access (Recommendations 1-11)

Prior to completing public consultation, and prior to undertaking the Draft NIS, the Draft Plan considered (following discussions with MCC officials, local engineers and the general public) that the existing parking situation on the beach was not a sustainable long term solution. However, it was also considered that removing car parking from the beach entirely was not an achievable target in the short or medium term. With this in mind it is currently the position in the Draft Plan that complete removal of car parking from the beach needs to be viewed as a long term objective, subject to the provision of alternative and convenient car parking facilities being in place. In the shorter term, parking volumes will need to be reduced and better managed with a view to continually reducing parking capacity over time as alternative parking sites arise and behaviors change.

Bollards have been proposed in the Draft Plan to restrict car access (Recommendation 5). A composite bollard with a wooden finish is a potential option as the plastic finish would be less susceptible to corrosion. Bollards could be manufactured to look aesthetically pleasing, for instance by incorporating artist-designed features.

2.4.2.3 Car Parking on the Beach

The alternative parking locations proposed in the Draft Plan (Recommendations 4, 5, 7, 8; Figure 3) aim to minimise haphazard and illegal parking, particularly when the volume of parking on the beach is reduced. The following key objectives have been identified for these alternative car parking sites:

- Good access to carpark(s) from the local road network;
- Adequate number of car parking spaces;
- MCC control over the carpark(s) (or appropriate agreement(s) in place between MCC and the owner / operator);
- Carpark(s) within walking distance of the Draft Plan area or a convenient method of accessing beach can be provided; and,
- Sustainability of parking in the long term.

2.4.3 Scoping of the Draft NIS

Irish Departmental guidance (DoEHLG, 2010) specifically identifies 'scoping', as a distinct part of the AA of plans. According to DoEHLG guidance, scoping:

- Follows a Screening decision that AA is required;
- Extends the Screening process to identify more precisely what AA must cover, including the data, information and level of detail required in the Draft NIS;
- Should be revisited throughout the AA to address any new emerging issues; and
- Should take account of any Recommendations from statutory bodies

The Draft Plan (MCC, 2018) was reviewed to determine which Recommendations should be scoped into the Draft NIS:

3. Methodology

3.1 Overview

AA is the process provided for under Article 6(3) of the Habitats Directive to determine whether a project or plan could 'adversely affect the integrity' of any European sites, either alone or in-combination with other plans or projects, in the light of the conservation objectives of the European sites in question.

In the event where a plan or project would—following implementation of appropriate mitigation— result in adverse effects to site integrity (or there was reasonable scientific doubt regarding the finding), the assessment moves from AA to an assessment of whether Imperative Reasons of Over-Riding Public Interest (IROPI) may apply. IROPI, which is provided for under Article 6(4) of the Habitats Directive, is rarely pursued and there is the potential for significant cost, delay, and/or uncertainty in the outcome of the process, which may require consultation with the European Commission. In lieu of pursuing IROPI, it is preferable that the design of a project or plan is amended in the course of the AA, and/or additional mitigation is implemented, such that the AA concludes that no adverse effects to European integrity are predicted.

The methodology used to produce this Draft NIS broadly follows that for AA in European Commission guidance (EC, 2001) and guidance published by the Irish Department of Environment, Heritage and Local Government (DoEHLG, 2010).

The following steps for AA broadly follow those adopted by the EC and DoEHLG and are used as the basis for this NIS:

- Step 1 – Information Required;
- Step 2 – Conservation Objectives;
- Step 3 – Prediction of Effects (including Article 10 considerations);
- Step 4 – Mitigation Measures and;
- Conclusion.

3.2 Sources of Guidance

There have been significant changes to AA practice since both the EC (2001) and DoEHLG guidance (2010) arising from rulings in European, UK and Irish courts. In particular, the 'Reference for a Preliminary Ruling' issued by the European Court of Justice (ECJ) to the Irish Supreme Court in 2011⁶, clarified that – at least for priority habitats – “[any] lasting and irreparable loss” of Qualifying Interests (QI) would constitute an adverse effect to European site integrity. Another significant case post-dating both EC and DoEHLG guidance is that pertaining to a Dutch motorway, in relation to which the ECJ ruled⁷ that compensatory habitat could not be permitted as a form of mitigation within the AA process, to avoid progressing to Article 6(4) and IROPI.

The methodology informing this Draft NIS also draws on, and has evolved from guidance and Recommendations from international AA practitioners (Levett-Therivel, 2009; Chvojková et al., 2013). For instance, following Levett-Therivel (2009): “the precautionary principle should be used with reasonableness, and should be commensurate with the level of risk and the level of uncertainty concerned. Time-consuming and costly ecological research should be required only in rare circumstances”.

3.3 Field and Desktop Study Methods

The Draft NIS was informed by a field survey on the 13 September 2017 to assess the distribution of bird habitats in relation to the Draft Plan, and potential sources of existing human disturbance. A wetland bird survey was also conducted during both high and low tide on this date to observe changes in bird patterns between tides.

Key sources for the desktop study included:

- Information from the Draft Plan and the Draft Recommendations Report;

⁶ Case C-258/11, REQUEST for a preliminary ruling under Article 267 TFEU from the Supreme Court (Ireland), made by decision of 13 May 2011,

⁷ Case C-43/10 Nomarchiaki Aftodioikisi Aitolokarnanias and Others.

- Wintering bird counts from the Irish Wetland Bird Survey (IWeBS) managed by Birdwatch Ireland, some of which (i.e. summary counts for entire European sites) is available online⁸, and some of which is available via direct request (i.e. ‘sub-site’ counts for the Bettystown/Laytown beach area only);
- Wintering bird counts, distribution maps for QI habitats, and threat assessments to habitats and species, from the relevant supporting documentation accompanying European sites published by the NPWS and available online⁹; individual documents are referenced throughout;
- Information on ranges of QI fauna species in digital shapefiles obtained from the NPWS Research branch (Data from NPWS, 2013a);
- Information on national conservation status and nationwide threats, for both habitats and species in Volume 1 (NPWS, 2013a) and Volume (2013b) of NPWS’ *Status of EU Protected Habitats and Species in Ireland*;
- Records for QI species held online by the National Biodiversity data Centre¹⁰;
- Data including surface and ground water quality status, available from the online database of the Environmental Protection Agency (EPA)¹¹, and
- Information on existing pressures to European sites from human and natural beach processes, from the Draft Plan.

3.4 Consultation

3.4.1 Public Consultation

In addition to extensive consultation with MCC engineers and local councilors, consultation has been held throughout the ongoing development of the Draft Plan, with local residents and other members of the public. This included a public consultation day held at the Neptune Hotel in Bettystown on 22 July 2017. Numerous responses from a variety of locals and stakeholders were received, which were either of direct or indirect relevance to the Draft NIS. The submissions have been grouped by topic heading below.

3.4.1.1 Need for AA

A number of submissions, including that by An Taisce, highlighted concerns with the lack of controls over activities within European sites and/or stated that an AA should be completed (i.e. that the Draft Plan should be ‘screened’ for AA),

3.4.1.2 Protection of Dune Habitats

Boardwalks featured in a number of submissions, and were often considered a good option to promote dune protection. One submission highlighted the damage from ongoing parking in and on the Mornington dunes which could be stopped by placing boulders along the current dunes (boulders being advantageous as they are vandal-proof and maintenance free). The potential for bollards here and elsewhere to interfere with the Laytown races was also highlighted

3.4.1.3 Beach Erosion

A number of submissions flagged that ongoing activities are related to significant negative erosive effects on designated dune and beach habitats. In summary, submissions identified/commented:

- Action is required to address the ongoing erosion of the beach where coastal erosion is occurring due to the natural long-shore drift (south to north) with sand ending up at the training wall¹² at the entrance to the River Boyne;
- Interference with normal sediment transport has occurred due to the construction of the Boyne ‘training walls’ and the recent extraction of finite sediment from the bay system by the Drogheda Port Company; which dredges the entrance and river shipping channel. Large deposits of good quality sand have found its

⁸ Online at: <http://www.birdwatchireland.ie/OurWork/ResearchSurveys/IrishWetlandBirdSurvey/tabid/111/Default.aspx>. Accessed November 2017.

⁹ Available online at <https://www.npws.ie/maps-and-data>. Accessed November 2017

¹⁰ Available online at <http://www.biodiversityireland.ie/> Accessed July and August 2017.

¹¹ Available online at <http://www.epa.ie/monitoringassessment/assessment/spatial/webmapping/> : Accessed November 2017.

¹² A training wall is a coastal structure built to constrain a river discharging across a littoral coast so that it discharges only where desired)

way by wind and longshore drift to the training wall; but this sand is naturally replenished to the south potentially due to dredging activities in the bay.

- Apparent inaccuracies in the descriptions of the Draft Plan were highlighted by some, for instance:
 - “While on the incoming tide there may be a predominant South to North drift this does not occur during all phases of the tide”;
 - “The extent of erosion recorded in the Draft Plan is incorrect and involves a greater area northward”; and,
 - “The suggestion in the Draft Plan that deposition is occurring at the southern end of Laytown and Bettystown golf club is incorrect”.
- The Draft Plan should review the report submitted by the Combined Mornington Resident’s Association to MCC in the mid 1990’s on the dynamics of the coastal system of Laytown, Bettystown and Mornington;
- Stone gabions have collapsed near Laytown as a direct result of these activities which is evidence that this gabion has not successfully protected the coastline as intended;
- Appropriate beach replenishment measures have not been carried out; there is little need for further studies, replenishment actions are urgently needed to avoid complete loss of Laytown beach through erosion;
- Coastal erosion, and specifically the dangerous condition of the gabion rocks at Laytown, should be urgently addressed in the County Development Plan and through ministerial submission to secure funding.

3.4.1.4 Control of Dogs

There was strong opinion on the potential for restrictions on dog access on the beach to be successfully enforced, with many considering it could not be successfully implemented due to local opposition (as similarly stated for signage). One submission identified the risk to nesting birds in the dunes, albeit this is not of direct relevance to the Draft NIS because little tern (i.e. the only nesting QI bird of sites within the ZOI) does not nest within the Draft Plan area.

3.4.1.5 Pollution

One submission recommended including emergency contact details for the Local Authority and the EPA on signage to inform locals who to contact in the event of a pollution incident (and to advise if this service was available 24 hours a day).

Another indicated that water pollution has been a problem for Bettystown due to the unregulated discharge of raw sewage into the sea near the training wall by the Drogheda sewage treatment plant.

3.4.1.6 Policing/Enforcement

A Recommendation was made that the Beach Warden role is full time (at least for a period of years until monitoring determines its effectiveness), and that the Warden begins work at 9am (earlier than 11am which is the current start time).

An interesting suggestion was made, to increase compliance with the Bye-Laws, involving distribution of car window stickers by the Beach Warden with a simple list of ‘Do’s and Don’ts’.

The Joint Policing Committee of MCC made the following comments:

- Enforcement of the Byelaws is an issue;
- Laytown/Bettystown needs extra policing during the summer season;
- Cars and motorbikes exceed the 10kph speed limit and completing handbrake and so-called “doughnut” turns at various locations on the beach;
- Abandoning of cars on the beach is posing an environmental issue.

3.4.1.7 Other Topics

The presence of significant flora and fauna in the dune systems was highlighted including the Mediterranean sand snail *Theba pisana* which occurs at a handful of eastern and southern coastal sites in Ireland; this species is not discussed further as whilst rare and restricted to a small number of Irish sites, it is not relevant in the context of AA.

A number of submissions recommended installing a number of large 'Big Belly Bins' (both domestic and recycling) to reduce the littering issue in the dunes.

One submission suggested that horses do significant trampling damage to the dune system, but that they may also damage the existing boardwalk at Mornington.

3.4.1.8 Contacted Statutory Consultees

The local Conservation Ranger of the NPWS was by MCC on the 11th July 2017. The proposed placement of barriers (outside of European sites) to prevent vehicles entering Bettystown beach was not identified as a likely concern to the NPWS. The Conservation Ranger highlighted that she regularly walks the dune system within the Draft Plan Area from Mornington to Bettystown, where the following threats to wildlife were noted:

- Pulling of ragwort *Senecio jacobea* by members of the public along the dunes (ragwort is not a protected species but is an important food source for pollinating insects and seed-eating birds); and,
- Dumping and littering in the dunes.

3.4.2 Ecological Data Requests

Summary wintering bird data for the River Nanny Estuary Shore and Boyne Estuary SPAs was downloaded from the online Irish Wetland Bird Database maintained by Birdwatch Ireland for the most recent ten year period (2005-2015). Data for the individual subsite overlapping the Draft Plan Area was additionally obtained from Birdwatch Ireland.

The MCC Heritage Officer was consulted at a meeting held on the 19th October 2017. The Heritage Officer provided a copy of the Report on the County Meath Wetlands and Coastal Habitat Survey (MCC, 2009). This report identifies two wetlands within the Draft Plan Area. Both of these sites are at Bettystown. The areas comprise reedbed/marsh and wet willow woodland and the report confirms that neither habitat contain potential QI habitats. The MCC Heritage Officer also highlighted her concerns with the potential for any elevated walkway over designated coastal dune habitats within the Draft Plan Area, to act in combination with existing natural and anthropogenic pressures of these habitats

MCC also provided reports relating to the proposed coastal protection works within the Draft Plan area (FERS, 2016a and FERS, 2017), which included wintering bird data from ten wintering bird surveys completed at high and low tide from October 2016 to March 2017.

The local Conservation Ranger of the NPWS, when contacted in October 2017, confirmed the NPWS do not annually record 'bird usage mapping' within the Draft Plan Area¹³, in addition to the 'wintering bird data (2010/2011 season only) recorded by the NPWS as part of the conservation objective mapping for coastal SPAs.

3.5 The Precautionary Principle

The Precautionary Principle, which is referenced in Article 191 of the Treaty on the Functioning of the European Union, has been defined by the United Nations Educational, Scientific and Cultural Organisation (UNESCO, 2005) as:

"When human activities may lead to morally unacceptable harm [to the environment] that is scientifically plausible but uncertain, actions shall be taken to avoid or diminish that harm. The judgement of plausibility should be grounded in scientific analysis".

Reasoned application of the 'Precautionary Principle' is fundamental to AA. In this report, adverse effects to European site integrity would be presumed without evidence to the contrary, in the event where there was evidence of possible effects on a European site(s) from the Draft Plan, but uncertainty remained.

¹³ As the NPWS do for some other SPAs in Ireland.

3.6 Criteria to Identify Relevant European Sites to the Draft NIS

The 'source-pathway-receptor' model was used to identify a list of European sites and their QIs potentially at risk of adverse effects to site integrity. These are termed 'relevant' European sites or QIs throughout this NIS.

'Relevant' European sites/QIs are those within the potential Zone of Influence (Zol) of activities associated with the Draft Plan, and where adverse effects to integrity of European sites could arise from these activities.

3.6.1 The Source-Pathway-Receptor Model

The 'source-pathway-receptor' conceptual model is a standard tool in environmental assessment. In order for an effect to occur, all three elements of this mechanism must be in place. The absence or removal of one of the elements of the mechanism means there is no likelihood for the effect to occur. An example of this model is provided below:

- Source (s); e.g. dog walkers;
- Pathway (s); e.g. noise; and,
- Receptor (s); e.g. roosting birds sensitive to human disturbance.

The model is focused solely on relevant QIs for which European sites are designated. Any conservation objectives referred to in this report are referenced to identify the date of publication and version number.

3.6.2 Zones of Influence of Potential Effect Pathways

Implementation of the Draft Plan has the potential to result in a number of environmental effects. The analysis of these effects, using scientific knowledge and professional judgement, leads to the identification of a 'Zone (s) of Influence' (Zol) for adverse effects (a unit of distance).

The proximity to the Draft Plan area of European sites, and more importantly their QIs, can be of importance in identifying source-pathway-receptor models which could result in adverse effects on European sites. Irish departmental guidance on AA of plans states: "*A distance of 15 km is currently recommended in the case of plans, and derives from UK Guidance*". European sites recorded within 15km of the draft plan area are summarised within Appendix B of this report.

Having regard for the 15 km recommended above, the Zol was estimated for potentially relevant effects from the Draft Plan based on the "*likely impacts of the plan, and the sensitivities of the ecological receptors, having regard for the precautionary principle*" as per DoEHLG guidance. These Zols are summarized in Table 3.

Table 2 Zones of Influence Estimated for Potential Effects from the Draft Plan

| Source of Effect | Effect | Potential Receptors | Potential Relevance of Effect to NIS | Potential Zone of Influence (Zol) of Effect |
|---|---|--|---|--|
| Noise from and visual presence of humans (including horse riders and dog walkers) | Reduction in ability of populations of QI species to forage, roost or breed (if such species are present within Zol) | QI fauna species sensitive to disturbance | Potentially relevant to wintering birds (if present within Zol) | Generally assessed within 500 m of the Draft Plan area in relation to human disturbance of wintering birds ¹⁴ . |
| Noise from cars and other motorised vehicles; including intense disturbance from motorists completing 'handbrake turn' or 'doughnut' maneuvers on the open coast. | Reduction in ability of populations of QI species to forage, roost or breed (if such species are present within Zol) | QI fauna species sensitive to disturbance | Potentially relevant to wintering birds (if present within Zol) | Assessed within the same distance as noise from human presence, in relation to wintering birds ¹⁵ (i.e. 500m). |
| Disturbance associated with use of alternative inland car parking sites | Reduction in ability of populations of QI species to forage, roost or breed (if such species are present within Zol) | QI fauna species sensitive to disturbance | Potentially relevant to wintering birds (if present within Zol) | Assessed within the same distance as noise from human presence, in relation to wintering birds ¹⁵ (i.e. 500m). |
| Physical impact of walkers, horse riders, and cars accessing coastal habitats | Trampling/erosion resulting in habitat degradation | QI habitats potentially accessible on foot, on horseback, and by car which are sensitive to erosion/trampling | Potentially relevant to dune habitats (if present within Zol) | All readily accessible habitats within and adjacent to the Draft Plan area. |
| Litter from pedestrians accessing the coast | Potential plastic ingestion by fauna, and habitat degradation, albeit perhaps largely superficial and damaging to aesthetics more than vegetation communities per se. | QI bird species potentially foraging in dunes and ingesting litter. QI habitats potentially accessible on foot. | Potentially relevant to all coastal habitats (if present within Zol) | All readily accessible habitats within and adjacent to the Draft Plan area, as wind and tide may carry litter beyond it. |
| Installation of recycling facilities, belly bins, and signage | Habitat loss and disturbance during installation | QI habitats within footprint of structures, and within access/egress routes for construction vehicles | Signs could affect mudflat and dune habitats. Litter facilities would only affect dunes (as would not be installed in intertidal areas) | Footprint of structures, and access/egress routes for construction vehicles. |

¹⁴ Wintering birds collectively considered at risk of disturbance at up to 500 m based on compilation of data from Madsen (1985); Smit & Visser (1993) and Rees et al., (2005).

The presence or potential presence of relevant QI species and habitats within the Zols referenced in Table 2 will be detailed in Section 4 Baseline Description. This distribution information will then be used in conjunction with scientifically-supported Zols to identify a preliminary list of European sites whose integrity could be adversely affected by the Draft Plan.

4. Baseline Description

In order to describe the relevant baseline environment for the Draft NIS, this Section describes any European sites, and their QIs identified in desktop and field surveys which are within the applicable Zones of Influence described in 3.6.2.

4.1 European Sites within and adjacent the Draft Plan Area

The nearest European sites to the Draft Plan area are the Boyne Coast and Estuary SAC (site code 1957), River Nanny Estuary and Shore SPA (site code 4158), and Boyne Estuary SPA (site code 4080) all of which overlap the Draft Plan area (see Figure 1). All the European sites identified in this report are illustrated in Figure 1; while the conservation objectives of all sites discussed are provided in Appendix B.

4.2 Overview of Plan Area

The Draft Plan area comprises an open sandy beach, backed by a series of coastal villages interspersed with public amenity grassland areas, a golf course, and a complex of various designated dune habitats within the Boyne Coast and Estuary SAC, which overlaps the Draft Plan area.

4.3 Terrestrial Habitats

The sandy shoreline is fronted by managed amenity grassland and car parking areas to the south around Laytown; including the horse parade ring for the 'Laytown Strand Races', which take place on the adjacent beach. Moving northwards to Bettystown, the beach is fronted by a mosaic of gardens and fragments of mown rough grassland, and at times a (very) narrow remnant fringe of (non-QI) dune habitat. North of the built fabric of Bettystown which fronts onto the beach, the inshore is dominated by a dune system, which grows increasingly wider towards the northern end of the Draft Plan area at the Boyne Estuary. Dune habitats are described in detail in Section 4.4 Coastal Habitats. The R150 coastal road runs parallel with the shore and often within c. 50 m of it, within the Draft Plan area. Inshore of the garden and/or dune-backed shoreline, lie the low density urban fabric of Laytown, Bettystown and Mornington, which includes a mosaic of amenity grassland, dry pasture, and occasional neglected fields of scrub.

4.4 Coastal Habitats

There is a partial remnant strip of non-QI 'dune' habitat (at times <2m wide) to the south of the Draft Plan area at Laytown, outside any SACs. North of Bettystown, degraded (non-QI) dune habitat extends inland across links course comprising the Laytown and Bettystown Golf Club. 'Continuous' (albeit heavily degraded) dune habitat runs northwards from Bettystown in a narrow strip on the seaward edge of the Golf Club, and gradually widens as it enters the Boyne Coast and Estuary SAC. This dune system comprises a QI fixed ('grey') dune, which is fringed on the seaward side by a QI *Ammophila arenaria* ('white') dune on the approach to Mornington, and additionally a narrow QI embryonic shifting dune close to the Boyne estuary. The severe trampling effects on this QI dune system are conspicuously apparent in aerial photographs, which show a capillary-like network of major and minor pathways between the golf course, beach, and local carparks. From aerial photographs, it appears well-worn paths frequently cross the dunes at intervals of less than 10 m.

At the extreme northern end of the Draft Plan area, two additional notable habitats within the Boyne Coast and Estuary SAC occur on and beside the dune system beside the Boyne Estuary, namely: a portion of Annex 1 but non-QI humid dune slack occupying a wet (ground-water-fed) hollow and; a short fringe of QI 'perennial vegetation of stony banks' (i.e. shingle habitat).

The intertidal and subtidal zone of the area occupied by the Draft Plan is occupied by QI sandflat habitat to the north within the boundary of the Boyne Coast and Estuary SAC. Whilst the 2km stretch of sandy beach around Bettystown is also Annex 1 sandflat habitat, it falls outside the boundary of any European site, and is in that sense 'undesigned' in the eyes of this NIS. The sandy beach at Laytown, comprising the southern end of the Draft Plan area is not designated as QI SAC habitat, yet is designated as QI wetland habitat for designated birds, within the Nanny Estuary and Shore SPA.

4.5 Freshwater Habitats and Watercourses

The Draft Plan is entirely located within the Baltray Water Management Unit (WMU) of the Eastern River Basin Management Plan 2009-2015 (ERBMP, 2009)¹⁵. The River Boyne and Blackwater SAC, located 5km upstream of the Draft Plan area is the only European site within this WMU.

Given the coastal location of the Draft Plan, it is not upstream of any freshwater habitats. A number of watercourses meet the sea along the soft coastline within the Draft Plan area. There are no European sites designated for the migratory life stages of fish or lamprey in the water catchment upstream of any of these watercourses (Figure 1).

Excluding the (designated) Nanny and Boyne Estuaries which respectively form the Draft Plan's southern and northern boundaries, there are only two watercourses crossing the Draft Plan area to meet the coastline. Firstly to the south, there is a network of minor streams forming the localized Betaghstown system around Bettystown which is not hydrologically connected to any European sites. Secondly, to the north there is a minor un-named stream entering the lower reaches of the Boyne Estuary. This stream enters the Boyne Coast and Estuary SAC; and the lower reach of the stream is itself designated as part of this SAC.

There are no other significant surface water features within or adjacent to the Draft Plan Area, based on desktop analysis of aerial photography from May 2017.

4.6 Estuarine Habitats and Watercourses

QI estuary habitats of the Boyne Coast and Estuary SAC

4.7 Groundwater

According to the online EPA databases, the Draft Plan area overlaps two different karstic groundwater bodies (Drogheda to the north, and Bettystown to the south), both of which are “at risk of not achieving good status”¹⁶.

Only one coastal habitat within the Zol of the Draft Plan area has a significant dependence on groundwater; namely the portion of humid dune slack in the Mornington dunes. Mapped in Figure 2b, this habitat lies within the Drogheda Groundwater Body and occupies a wet (ground-water-fed) hollow, at the northern end of the Draft Plan area by the Boyne Estuary. Although within the Boyne Coast and Estuary SAC, this Annex 1 habitat is not QI habitat of any European site, and is not directly relevant to this NIS. No alteration in groundwater hydrology will occur as a result of any proposals set out in the draft plan and this habitat will benefit from the mitigation measures (detailed in Section 6) proposed for the protection of QI habitats within this report.

4.8 Mobile species

4.8.1 QI Breeding Birds

The online database of the NBDC, which includes all records from the most recent (2007-2011) national Bird Atlas Project, was consulted to identify any records of QI breeding species within the potential Zol of the Draft Plan. This highlighted the presence of QI breeding little tern *Sterna ablifrons* of the Boyne Estuary SPA, which breeds on shingle/beaches north of the Boyne Estuary at Baltray. This area is subject to continuous monitoring and conservation actions under the ‘Little Tern Project’ which maintains a warden throughout the breeding season to protect the little tern colony, which is highly susceptible to chance human disturbance, weather events, or predation by birds and mammals. There is no breeding habitat for the species south of the Boyne Estuary. Although the species may feed in coastal waters within the Draft Plan area.

There are no other habitats significant to breeding populations of QI birds within the Zol of the Draft Plan, which is designated solely for wintering bird populations.

¹⁵ Note, the ‘second cycle’ of river basin management plans (2016-2021) were in draft format but had not been adopted at the time of writing.

¹⁶ Data sourced from EPA envision online mapper: <http://gis.epa.ie/Envision> Accessed November 2017.

4.8.2 QI Wintering Birds

Table 3 summarizes data on relevant QI wintering bird populations known to occur within the Draft Plan area from relevant desktop resources in Section 3.3. Observations from the site walkover in September 2017 informed the interpretation of this data.

Birdwatch Ireland does not count wetland birds in the area of open coast between the Boyne and Nanny estuaries which dominates the Draft Plan area.

The NPWS did survey the area during the 2010/2011 season when compiling the supporting documentation to conservation objectives for the River Nanny Estuary and Shore SPA (NPWS, 2012a) and Boyne Estuary SPA (NPWS, 2012 b).

Locations of high tide roosting birds recorded within the Draft Plan area during these NPWS surveys are mapped in Figure 2a. Peak high tide and low tide counts from these NPWS surveys, and surveys carried out by FERS in winter 2016/2017 (FERS, 2017) are presented in Table 3.

Table 3 Summary of Wintering Bird Populations within Draft Plan Area in 2010/2011 season (QIs are highlighted in grey)

| Common name | Scientific name | Peak <u>high tide</u> count within Draft Plan Area (and % SPA population ¹⁷) | Peak <u>low tide</u> count within Draft Plan area (and % SPA population ¹⁷) | QI of River Nanny Estuary and Shore SPA? | QI of River Boyne Estuary SPA? | If not QI of either SPA within Draft Plan area, is species QI of other SPA within likely core foraging area? |
|---------------------------|---------------------------------|--|---|--|--------------------------------|--|
| Black-headed gull | <i>Chroicephalus ridibundus</i> | Not specified but <99 birds | Not specified but <99 birds | No | No | No; no SPAs designated for this species within at least 10 km of Draft Plan area. |
| Light-bellied Brent goose | <i>Branta bernicla hrota</i> | 8 (2%) | 8 (2%) | No | No | No; no SPAs designated for this species within 15 km of Draft Plan area (foraging range from Benson, 2009) |
| Common gull | <i>Larus canus</i> | Not specified but <99 birds | Not specified but <99 birds | No | No | No; no SPAs designated for this species within at least 10 km of Draft Plan area. |
| Dunlin | <i>Calidris alpina</i> | 120 | 181 | No | No | No; no SPAs designated for this species within at least 10km of Draft Plan area. |
| Golden plover | <i>Pluvialis apricaria</i> | 25 (2%) | 39 (2%) | ✓ | ✓ | N/A |
| Herring gull | <i>Larus argentatus</i> | 26(<0.1%) | 68 (<1%) | ✓ | No | N/A |
| Knot | <i>Calidris canutus</i> | 181 (95%) | 860(>100%) | ✓ | ✓ | N/A |
| Oystercatcher | <i>Haemotopus</i> | 145(21%) | 530(78%) | ✓ | ✓ | N/A |
| Redshank | <i>Tringa totanus</i> | Not specified within mixed flock of 50-99 birds | 0 | No | ✓ | N/A |

¹⁷ Note: In this report, 'SPA population' is effectively the same for both the River Nanny Estuary and Shore and Boyne Estuary SPA, because the published 'All-Ireland 1% population thresholds' (Crowe et al., 2008) are used to set the threshold qualifying for SPA designation.

| Common name | Scientific name | Peak <u>high tide</u> count within Draft Plan Area (and % SPA population ¹⁷) | Peak <u>low tide</u> count within Draft Plan area (and % SPA population ¹⁷) | QI of River Nanny Estuary and Shore SPA? | QI of River Boyne Estuary SPA? | If not QI of either SPA within Draft Plan area, is species QI of other SPA within likely core foraging area? |
|---------------|-----------------------------|--|---|--|--------------------------------|--|
| Ringed plover | <i>Charadrius hiaticula</i> | 0 | 187(>100%) | ✓ | No | N/A |
| Sanderling | <i>Calidris alba</i> | 0 | 281(>100%) | ✓ | ✓ | N/A |

Sources: NPWS Conservation Objective supporting documentation for the River Nanny Estuary and Shore SPA (NPWS, 2012a) and Boyne Estuary SPA (NPWS, 2012b)

In summary, Table 3 confirms that the Draft Plan area is important to QI wintering populations of two European sites; the River Nanny Estuary and Shore SPA and the River Boyne Estuary SPA.

Specifically the potential importance of the Draft Plan area to wintering birds of the above two European sites is as follows:

- Significant *low tide feeding* populations of six wintering bird species which are QIs of one or both of the above sites occur (herring gull, golden plover, knot, oystercatcher, ringed plover, sanderling)
- Significant *high tide roosting* populations of five wintering bird species of one or both of the above sites occur (golden plover, knot, oystercatcher, redshank, herring gull);
- High tide roosting populations are largely restricted to the Nanny Estuary at the southern end of the Draft Plan area; and,
- As would be expected, the soft sand shoreline of the Draft Plan is most important for populations of feeding birds favouring sandy habitats, particularly sanderling, and ringed plover; populations of both these species occur in numbers exceeding the SPA designation threshold.

There are no QI wintering bird populations of other European sites within the potential Zol of adverse effects on site integrity.

4.8.3 QI Mammals

Otter *Lutra lutra* is a widespread species in Ireland due to its broad diet, and relatively high tolerance of water pollution, light pollution and human disturbance relative to other QI species (see Reid *et al.*, 2014). There are no watercourses within the study area containing mature riparian tree cover, which are often favoured by otters when selecting holt sites (O'Sullivan, 1993; author unpublished data). The species has been recently identified as occupying underground breeding or resting sites ('holts') in sand dune habitats (Fennelly, 2017) but site surveys in September 2017 identified no potential breeding or resting sites of otter in any of the dune habitats within the study area. In any case, even if occurring, populations would be highly unlikely to be associated with QI populations because there are no SACs designated for otter within the river catchment in which the Draft Plan is located¹⁸.

The Draft Plan area is outside the range of the lesser horseshoe bat *Rhinolophus hipposideros* (NPWS, 2013a), which is the only bat species designated as a QI in Ireland. The species is restricted to the western Atlantic seaboard, and has never been recorded in Co. Meath.

There are no QI marine mammals relevant to the screening as no mammal haul-out sites of QI populations are known to occur within the potential Zol of disturbance from users of the Mornington/Bettystown/Laytown beach.

4.8.4 Other QI species

The potential dispersal range of the marsh fritillary butterfly *Euphydryas aurinia* is 10 km (Zimmerman *et al.*, 2011). There are no SACs designated for marsh fritillary butterfly within 10 km of the Draft Plan Area. No other QI invertebrate species are sufficiently mobile (e.g. whorl snails *Vertigo* sp.), and/or have potential habitat within the Draft Plan area.

¹⁸ For the avoidance of doubt, in this NIS, a 'river catchment' (whose definition varies according to authority) follows the River Basin District definition of a Water Management Unit; namely "a combination of several water bodies which are interconnected and have similar attributes".

4.9 Summary of Relevant European Sites and QIs

Table 4 presents the QIs of all European sites identified as present within the potential Zol of adverse effects from the Draft Plan.

Table 4 Relevant European sites (and QIs) present with Draft Plan area and within potential Zol of Draft Plan

| European site (and code) | QIs present (HT = High Tide; LT = Low Tide) |
|--|--|
| River Nanny Estuary and Shore SPA (4158) | Wintering birds: -Herring gull (Significant numbers at LT and HT) -Golden plover (Significant numbers at LT and HT) -Knot (HT and LT) -Oystercatcher (HT and LT) -Ringed plover (LT only) -Sanderling (LT only) Habitats -Wetlands |
| Boyne Estuary SPA (4080) | Wintering birds: -Golden plover (Significant numbers only at LT and HT) -Knot (HT and LT) -Oystercatcher (HT and LT) -Redshank (potentially significant numbers at HT only) -Sanderling (LT only) Habitats -Wetlands |
| Boyne Coast and Estuary SAC (1957) | -Mudflats and sandflats - <i>Ammophila arenaria</i> (white) dunes -Embryonic dunes -Fixed (grey) dunes |

In the next section, these European sites will be subjected to an assessment of whether the Draft Plan will result in adverse effects to site integrity.

Several QIs of the above sites do not occur within the Draft Plan area and/or are not within the Zol of potential adverse effects from the Draft Plan. These QIs, which are not considered further in this NIS, are presented in Table 5.

Table 5 QIs of the above sites not present with Draft Plan area and/or not within potential Zol of Draft Plan

| European site (and code) | QIs |
|------------------------------------|---|
| Boyne Estuary SPA (4080) | Breeding birds -Little tern Wintering birds ¹⁹ : -Black-tailed godwit <i>Limosa limosa</i> -Grey plover <i>Pluvialis squatarola</i> -Lapwing <i>Vanellus vanellus</i> -Shelduck <i>Tadorna tadorna</i> -Turnstone <i>Anas interpres</i> |
| Boyne Coast and Estuary SAC (1957) | -Atlantic salt meadows -Annual vegetation of drift lines -Estuaries -Mediterranean salt meadows -Salicornia and other annuals |

The complete list of QIs for which all sites named in this report are designated, are provided in Appendix B.

¹⁹ Should these species roost or feed within the Draft Plan Area in future, significant disturbance would be avoided by virtue of the protection inherent in Draft Plan Recommendation 19-25 in addition to the mitigation measures in Section 6.

5. Assessment

As set out in 3.1, the assessment section of the Draft NIS comprises a number of steps:

- Step 1 – Information Required (including ‘scoping’);
- Step 2 – Conservation Objectives;
- Step 3 – Prediction of Effects (including Article 10 considerations);
- Step 4 – Mitigation Measures and;
- Conclusion as to whether adverse effects to integrity will occur after mitigation implementation

5.1 Step 1: Information Required

5.1.1 Information on the Draft Plan (including Scoping)

The Draft Plan (including numbered Recommendations) has been summarized in Section 2. These Recommendations were scoped for their potential to have Likely Significant Effects on European sites. Where Likely Significant Effects on European sites cannot be excluded from a Recommendation (s), further assessment is required within the Draft NIS to determine the potential for adverse effects to integrity of European sites.

5.1.1.1 Scoping of Recommendations

Table 6 summarizes which measures were scoped in and out of the Draft NIS, along with the rationale.

Table 6 Recommendations which were scoped in in the revised BMP (those scoped in are highlighted in grey)

| Recommendation. | Recommendation | Action | Scoped 'In' or 'Out' of the Draft NIS | Rationale |
|-----------------|---------------------------------|---|---------------------------------------|--|
| 1 | Improve Beach access | Purchase houses on Seaview Terrace and provide a range of amenities within a custom built building. Develop community facilities at Seaview Terrace. | Out | Project will be subject to Future AA Screening prior to implementation of Recommendation. No Likely Significant Effects from the Draft Plan. |
| 2 | | Examine creation of a one way system for beach traffic during busy periods. | Out | These works are within the curtilage of existing roads, and are not within the zone of influence of likely significant disturbance effects to wintering birds. No Likely Significant Effects from the Draft Plan. |
| 3 | | Examine Access Controls to the beach. | Out | Any reduction in parking on the beach presents a reduction in a potential source of disturbance to wintering birds and/or coastal habitats. No Likely Significant Effects from the Draft Plan. |
| 4 | Beach parking management | Complete, but phased removal of parking from the Mornington/Bettystown/Laytown beach, subject to the availability of appropriate alternative parking. | Out | Taking parking off the beach will remove one potential source of disturbance to wintering birds. No Likely Significant Effects from the Draft Plan. |
| 5 | | Restrict and co-ordinate parking in parking zones, using cones and temporary bollards, preferably south of Seaview Terrace. | Out | The existing parking arrangements are not part of the Draft Plan (5.1.1.3 This is a temporary measure; parking will be removed in phases, as per Recommendation 4. |
| 6 | | The existing Lifeguard Zone is to be relocated south to an area north of Seaview Terrace. | Out | Lifeguard activities relate to the summer season, when wintering birds are not present. No potential for disturbance to the breeding little tern colony (located north of the Draft Plan area) for which the Boyne Estuary SPA is designated. No Likely Significant Effects from the Draft Plan. |
| 7 | | Agree and implement overspill beach parking during the summer months in the school car parks if required. | Out | Review of the school car park locations (illustrated in Figure 3) found there to be no risk that human or vehicular disturbance in these locations would pose a risk to European sites. In the case of wintering birds, these carparks will only be used in summer time. No Likely Significant Effects from the Draft Plan. |
| 8 | | Consider overspill beach parking during the summer months in the existing greenfield site in Laytown. | Out | Whilst the existing greenfield site in Laytown is located adjacent to the mouth of the River Nanny Estuary and Shore SPA; this SPA is not designated for any breeding birds, and the carpark would only be used in the summer months when wintering birds are not present. The greenfield site at Laytown is not located within the potential zone of influence of disturbance to the breeding little tern colony for which the Boyne Estuary SPA is designated (located north of the Draft Plan area). No Likely Significant Effects from the Draft Plan. |
| 9 | | Provide a shuttle bus to connect school carparks and Laytown | Out | Review of the car park locations (illustrated in Figure 3) found there to be no risk that |

| Recommendation. | Recommendation | Action | Scoped 'In' or 'Out' of the Draft NIS | Rationale |
|-----------------|---------------------------------|---|---------------------------------------|--|
| | | parking (greenfield site) to Bettystown Beach during the summer months, if required. | | human or vehicular disturbance would pose a risk to European sites. The proposed bus route is not located within the potential zone of influence of disturbance to the breeding little ern colony for which the Boyne Estuary SPA is designated. In the case of wintering birds, the bus route would only be used in summer time. No Likely Significant Effects from the Draft Plan. |
| 10 | | Introduce car free days at the beach during beach events. | Out | Any reduction in parking on the beach presents a reduction in a potential source of disturbance to wintering birds and/or coastal habitats. No Likely Significant Effects from the Draft Plan. |
| 11 | | The Beach Warden responsibilities should include managing and coordinating when the overspill parking is required. | Out | Any reduction in parking on the beach presents a reduction in a potential source of disturbance to wintering birds and/or coastal habitats. No Likely Significant Effects from the Draft Plan. |
| 12 | Tackle dog fouling | Increase the fine for dog fouling to the maximum that is permissible under the either the Section 22 of the Litter Pollution Act or MCC Foreshore Bye-Laws. | Out | Any reduction in dog fouling presents a potential reduction in pressure on coastal habitats. Increased regulation of dog fouling may increase control of dogs by owners, leading to a decrease in bird disturbance events. No Likely Significant Effects from the Draft Plan. |
| 13 | | Increase enforcement of byelaws, litter and waster legislation by MCC officials and beach wardens during the summer months. | Out | No Likely Significant Effects from the Draft Plan. |
| 14 | | New signage campaign regarding Dog Fouling | In | Potential for Likely Significant Effects from the Draft Plan, should signs be installed in QI habitats. |
| 15 | Litter management | Provide for larger capacity bins during the summer season. | In | Potential for Likely Significant Effects from the Draft Plan, should bins be installed in QI habitats. |
| 16 | | Adopt 'Leave-no-trace' policy for the beach or for a section of the beach. | Out | No Likely Significant Effects from the Draft Plan. |
| 17 | | Provide for recycling facilities, either nearby or on the beach. | In | Potential for Likely Significant Effects from the Draft Plan, should recycling facilities be installed in QI habitats. |
| 18 | | Encourage greater community involvement and run awareness campaigns regarding waste, litter, dog fouling etc. | Out | No Likely Significant Effects from the Draft Plan. |
| 19 | Implement animal control | Prohibit dogs in the lifeguard patrol area between 11a.m. - 6p.m. during the summer months. | Out | The SPA habitats within the Draft Plan Area are designated for wintering birds. No Likely Significant Effects from the Draft Plan. |
| 20 | | Control of dogs within the River Nanny Estuary and Shore SPA | Out | This Recommendation has arisen as a result of input to the Draft Plan from Draft NIS |

| Recommendation. | Recommendation | Action | Scoped 'In' or 'Out' of the Draft NIS | Rationale |
|-----------------|------------------------|--|---------------------------------------|---|
| | | i.e. dogs to be leashed from September to March inclusive. | | authors. The Recommendation has as its sole objective the protection of European sites. No Likely Significant Effects from the Draft Plan. |
| 21 | | Restriction of horses from the dunes at Mornington within the Boyne Coast and Estuary SAC. | Out | This Recommendation has arisen as a result of input to the Draft Plan from Draft NIS authors. The Recommendation has as its sole objective the protection of European sites. No Likely Significant Effects from the Draft Plan. |
| 22 | | Restriction of horses from the shoreline within the Nanny Estuary and Shoreline SPA from September to March inclusive (except for the Laytown Strand Races). | Out | This Recommendation has arisen as a result of input to the Draft Plan from Draft NIS authors. The Recommendation has as its sole objective the protection of European sites. No Likely Significant Effects from the Draft Plan. |
| 23 | Improve signage | Review existing signage and, where necessary, develop new signage incorporating 'softer', playful and/or eye-catching graphics/text phrasing, to promote a sense of stewardship and self-policing amongst beach users. | In | Whilst this Recommendation has arisen as a result of input to the Draft Plan from Draft NIS authors, there is the potential for Likely Significant Effects from the Draft Plan, should signs be installed in QI habitats. |
| 24 | | Provide for a co-ordinated and consistent suite of signage to promote a sense of pride in the local area. | In | There is the potential for Likely Significant Effects from the Draft Plan, should signs be installed in QI habitats. |
| 25 | | Review the indicative locations for signage and ensure signage pertaining to the Nanny River Estuary and Shore SPA is located at the point of entry into, and within the site. | In | There is the potential for Likely Significant Effects from the Draft Plan, should signs be installed in QI habitats. |

| Recommendation. | Recommendation | Action | Scoped 'In' or 'Out' of the Draft NIS | Rationale |
|-----------------|---|---|---------------------------------------|--|
| 26 | Increase beach tourism and activities in spring and summer only (April to August inclusive), outside the wintering bird season | <p>Organise beach events, including:</p> <ul style="list-style-type: none"> • Car Free Days • Canoeing with jetties on the River Nanny • Beach Football • Creating designated area for sports. • Swimming lessons / Life-saving programs for all. • Attraction of Maidens Tower of Mornington • East Coast Cycle Route • Tara Brooch • Greenway Mornington to Drogheda • Fishing • Triathlons • Eco-tourism • Kiting – festivals • Volleyball • Sailing • Sand yachting • Sandcastles • Bird watching with the erection of bird watching huts/stands. • Provision of space for clubs to meet/change etc. | In | There is the potential for Likely Significant Effects from the Draft Plan, should events increase trampling of coastal habitats. Likely Significant Effects to wintering birds from this recommendation are scoped out as they will be scheduled from April to August inclusive. |
| 27 | Achieve blue flag status | Maintain high quality water with An Taisce. | Out | No specific activities predicted to result from this Recommendation. No Likely Significant Effects from the Draft Plan. |
| 28 | | Implement the car parking proposals as outlined in this Recommendations appendix. These proposals will reduce and manage the parking on the beach, with the future aim of removing all parking on the beach in the future. | Out | No Likely Significant Effects from the Draft Plan following rationale for Recommendations 4-10. |
| 29 | | Limit the access to the dunes in Mornington by closing off the vehicular access to the parking area to better control and manage vehicle movements in the area. Consider providing a limited number of car parking spaces on the adjacent road. | In | Potential for Likely Significant Effects from the Draft Plan, should bollards be installed in QI habitats. |

5.1.1.2 Note on Scoping of Projects Subject to Future Screening/AA

Recommendation 1 of the Draft Recommendations Report proposes MCC purchase the land on Seaview Terrace by Bettystown Beach, and develop these lands into a mixed use beach front complex to potentially include facilities such as public toilets, changing facilities, a life guard tower and a café. This development would require local-authority-led planning permission under Part 8 of the Planning Acts, as amended (so-called ‘Part 8 planning’).

The Draft Plan also states that existing issues arising from unsewered surface water flowing on to the beach will be addressed by intercepting and finding an alternative type outfall. It is understood that these drainage proposals would also fall under future local-authority-led ‘Part 8’ planning requirements as amended.

Where projects require planning permission (including local authority ‘Part 8 planning’ permission), there is a requirement for them to be screened for AA (and if necessary to be subjected to AA), under the Planning and Development Act 2000, as amended.

Even projects exempt from planning permission are legally required to be screened or AA, and if necessary subjected to AA under the EC (Bird and Natural Habitats) Regulations 2011 S.I. 477 of 2011, as amended.

On this basis, effect pathways from future projects ‘within’ the Draft Plan (including Recommendation 1 of the Draft Plan), are scoped out of this NIS, because such projects will be subject to their own AA Screening (and if necessary AA) at a future date prior to their approval and/or implementation (so-called ‘down-the-line assessments’).

5.1.1.3 Scoping of Other Relevant Items

Scoping of Original Action to Permit Beach Parking

The Bye-Laws first regulating/permitting beach parking date to 2010, thereby pre-dating the EC (Bird and Natural Habitat) Regulations 2011-2015 transposing the requirement for AA of non-‘Planning Act’ land-use plans such as the Draft Plan in Ireland. For this reason, potential (historical) effects from this original action are not assessed within the Draft NIS.

Scoping of Sand Extraction from beaches within the Draft Plan Area

Sand extraction (and erosion resulting from it) has been established by the NPWS (2013b) as a national threat to the conservation status of many dune habitats. Several consultation submissions on the Draft Plan (summarized in Section 3.4.1.3) indicate this activity, which is carried out by Drogheda Port Company (DPC) has historically and/or currently continues to, affect coastal habitats within the Draft Plan area. MCC does not currently carry out any sand extraction or dredging activities within the Draft Plan area. The Draft NIS authors discussed concerns that DPC’s dredging within the Draft Plan area could have effects on European sites with MCC in February 2018. MCC commenced discussions with Drogheda Port Company in April 2018, with a view to addressing these concerns within the issues paper for DPC’s 2020-2050 masterplan²⁰. As such, sand extraction (and/or dredging) is not part of the Draft Plan and, however it is assessed under in-combination effects (Section 5.3.6).

Scoping of Recreational activities not covered by the Draft Plan

The Draft NIS does not assess the once-yearly disturbance to birds and coastal habitats from the Laytown Races, which is subject to its own licencing and permitting regime.

²⁰ Unpublished report available from Drogheda Public Library in Stockwell Street or the Port Company HQ at Harbourville

5.1.2 Source-Pathway-Receptor Links with Relevant European Sites and QIs

Table 7 carries forward the relevant European sites and QIs, and matches these with the effect pathways and Recommendations of the Draft Plan (scoped in) potentially resulting in adverse effects.

Table 7 European sites (and QIs) present with Draft Plan area and within potential Zol of Draft Plan

| European site (and code) | QIs present (HT = High Tide; LT = Low Tide) | Recommendation Scoped in (Section 5.1.1) | Source-Pathway-Receptor Linkage for Adverse Effects |
|--|---|---|--|
| River Nanny Estuary and Shore SPA (4158) | Wintering birds: -Herring gull (Significant numbers at LT and HT) -Golden plover (Significant numbers at LT and HT) -Knot (HT and LT) -Oystercatcher (HT and LT) -Ringed plover (LT only) -Sanderling (LT only) | 15 (Litter management) 26 (Increase beach tourism) | Noise and visual presence of visitors attending autumn/winter beach events would disturb feeding and/or roosting wintering birds. Additive human disturbance could arise if litter facilities are located near bird feeding or roosting areas. |
| | Habitats -Wetlands | 23-25 (Improve signage) | If signs are installed in intertidal habitats, there will be loss of QI wetland bird habitat. Habitat losses would be very localized; however Conservation Objectives require the habitat area to remain stable. |
| Boyne Estuary SPA (4080) | Wintering birds: -Golden plover (Significant numbers at LT and HT) -Knot (HT and LT) -Oystercatcher (HT and LT) -Redshank (potentially significant numbers at HT only) -Sanderling (LT only) | 15 (Litter management) 26 (Increase beach tourism) | As above, noise and visual presence of visitors attending autumn/winter beach events would disturb feeding and/or roosting wintering birds. Additive human disturbance could arise if litter facilities are located near bird feeding or roosting areas. |
| | Habitats -Wetlands | 23-25 (Improve signage) | As above, if signs are installed in intertidal habitats, there will be loss of QI wetland bird habitat. Habitat losses would be very localized; however Conservation Objectives require the habitat area to remain stable. |
| Boyne Coast and Estuary SAC (1957) | -Mudflats and sandflats | 23-25 (Improve signage) | If signs are installed in intertidal habitats, there will be loss of QI wetland bird habitat. Habitat losses would be very localized; however Conservation Objectives require the habitat area to remain stable. |
| | - <i>Ammophila arenaria</i> dunes (white dunes) | 15 (Litter management) | Visitors attending autumn/winter beach events would trample coastal habitats. |
| | -Embryonic dunes | 23-25 (Improve signage) | Additive human disturbance could arise |
| | -Fixed dunes | 26 (Increase beach tourism) | If litter facilities or signage are located within these habitats |

5.1.3 Information on European Sites

Information is provided below on the three European sites (one SAC and two SPAs), for which source-pathway-receptor linkages were identified with the Draft Plan.

A brief discursive summary of each of these European sites is initially provided in the following sections to place QIs in the particular context of their designated site.

The tables in Section 5.1.2 then provide the following key information on relevant European sites and QIs:

- National conservation status of each relevant QI from latest conservation assessments (NPWS, 2013a, b; European Topic Centre for Biodiversity, 2015);
- Conservation status for each relevant QI within its European site ('site-level' status), from NPWS Conservation Objective supporting documentation, or from the Natura Standard Data Form descriptor ("Excellent", "Good" or "Average/ Reduced");
- In the case of bird populations, site-level trends in bird populations from Birdwatch Ireland IWeBS data (2005-2015); and,
- Existing pressures and future threats of medium or high importance for relevant QI habitats and non-bird species in the Irish context (NPWS, 2013a, b), and threats to birds relevant in the Irish context identified by Bird Life International (2017) and the BTO Bird Atlas 2007-2011 (Balmer *et al.*, 2013).

Mapping is provided of relevant European sites (Figure 1), as well as the distribution of relevant QIs (Figure 2a; SPAs; Figure 2b; SACs).

5.1.3.1 Boyne Coast and Estuary SAC

The following site summary has been sourced from the NPWS' Natura Standard Data Form for the site (NPWS, 2015a):

"This moderately sized coastal site, which is situated below the town of Drogheda, comprises most of the estuary of the Boyne River, a substantial river which drains a large catchment. On the seaward side the site extends north and south for several kilometres to include the remaining intact areas of dune systems at Baltray and Mornington, as well as the adjacent beaches and intertidal sand flats. The main channel of the Boyne is contained by training walls for navigable purposes. As well as intertidal sand and mud flats, the inner part of the site has salt marshes and Spartina swards."

While the site has a good diversity of coastal habitats, including fixed dunes; most have been modified in some way. The containment of the main tidal channel has altered the tidal pattern which affects the functioning of the various estuarine habitats. Both dune systems were formerly far more extensive but much of the stable areas have now been converted to golf course".

The NPWS (NPWS, 2012f) have assessed the overall conservation status of the Boyne Coast and Estuary SAC as unfavourable-inadequate.

All the QIs of this site are presented in Appendix B. The conservation status of relevant QIs, for which source-pathway-receptor linkages have been identified, are presented in Table 8.

Table 8 Boyne Coast and Estuary SAC: Conservation Status and Threats to Relevant Qualifying Interests

| Qualifying Interest (Habitat) | Site-level status (NPWS, 2012f or NPWS 2015a) | National status (NPWS, 2013b) | National Threats (NPWS, 2013b; primary threats from Draft Plan in bold) | Site-level threats (NPWS, 2012f.g); |
|---|---|-------------------------------|--|---|
| Embryonic dunes | Unfavourable (inadequate) | Unfavourable (Bad) | Coastal protection works, erosion . | “Embryonic dunes naturally contain a large amount of bare sand and so it is difficult to quantify the impact of damaging activities. However, it is likely that this habitat is suffering from recreational use similar to the mobile dunes. The future prospects of the habitat are considered unfavourable-inadequate, as the threat from recreational pressures is on-going at this site there is no management strategy for this habitat in the conservation plan.” |
| Fixed dunes (grey dunes) | Unfavourable (inadequate) | Unfavourable (Bad) | Coastal protection, erosion , agricultural intensification, grazing intensification or abandonment, sand extraction, roads/paths, urbanization , recreation , trampling , waste disposal , invasive species, natural succession (change in species), climate change | “The fixed dunes are under on-going threat from the golf course and the water abstraction facility in the south of the site” |
| Mudflats and sandflats | “Reduced” | Unfavourable (Inadequate) | Aquaculture, professional fishing, bait digging, removal of fauna, reclamation of land, coastal protection works, invasive species; surface water pollution (including fuels/oils) | None provided |
| <i>Ammophila arenaria</i> (white dunes) | Unfavourable (Inadequate) | Unfavourable (Inadequate) | Coastal protection, erosion, sand extraction, intensive cleaning of beaches , fencing , recreation , trampling , waste disposal , invasive species, natural succession (change in species), coastal dredging, climate change | “It is likely that the pressures from recreational activities will increase in the future” |

All QIs of the Boyne Coast and Estuary SAC occurring within the Draft Plan area are in ‘Unfavourable’ condition nationally, and all are in Unfavourable (or “Reduced”) condition at site-level.

5.1.3.2 Boyne Estuary SPA

The following site summary has been sourced from the NPWS’ Natura Standard Data Form for the site (NPWS, 2015b):

*“This moderately-sized coastal site, which is situated below the town of Drogheda, comprises most of the estuary of the Boyne River, a substantial river which drains a large catchment. Apart from one section which is over 1 km wide, the width is mostly less than 500 m. The main river channel, which is navigable and dredged, is defined by training walls, the latter being breached in places. Intertidal flats occur on the sides of the channelled river. The sediments vary from fine muds in the innermost areas to sandy muds or sands towards the mouth. The linear stretches of intertidal flats to the north and south of the river mouth are mainly sands. Intertidal areas are fringed by salt marshes in the inner sheltered areas. *Spartina* is frequent on the flats and salt marshes.*”

The Boyne Estuary is one of the most important sites for wintering waterfowl on the east coast; providing both feeding and roosting areas for the birds. [Note: Little tern *Sterna albifrons* is the only QI breeding species).

All the QIs of this site are presented in Appendix B. The conservation status of relevant QIs, for which source-pathway-receptor linkages have been identified, are presented in Table 9.

Table 9 Boyne Estuary SPA: Conservation Status, Population Trends and Threats to Relevant Qualifying Interests (Potentially Declining Populations in bold)

| Qualifying Interest (Habitat) | Qualifying Interest (Species; Scientific and Common Names) | Population (if relevant) | Overall Site status (NPWS,2015 b) | Site Population Trend 1995-2008* | Site Population Trend 2005-2015** | National Population Trend*** | 'National' Threats (Birdlife International , 2017) | Site-Level Threats (NPWS, 2012b) | |
|-------------------------------|--|------------------------------|-----------------------------------|----------------------------------|---|--------------------------------------|--|--|---|
| N/A | Golden plover | <i>Pluvialis apricaria</i> | Non-breeding | Good | Gradual increase (using smoothed trend) | No obvious declines | Good (short term); moderate (long-term) | Reductions to invertebrate food availability (intertidal/ pasture). Changes to flooding regime of coastal grasslands. Disturbance of coastal roosting or feeding areas | Walking with dogs, shooting, watercraft, aircraft |
| N/A | Knot | <i>Calidris canutus</i> | Non-breeding | Good | Fluctuating | Potential declines since 2011 | Good (short term); moderate (long-term) | Similar to golden plover | Similar to golden plover |
| N/A | Oystercatcher | <i>Haematopus ostralegus</i> | Non-breeding | Good | Increasing | No obvious declines | Good (short term); moderate (long-term) | Similar to golden plover | Similar to golden plover |
| N/A | Redshank | <i>Tringa tetanus</i> | Non-breeding | Excellent | Insignificant decline | No obvious declines | Good (short term); good (long-term) | Similar to golden plover | Similar to golden plover |
| N/A | Sanderling | <i>Calidris alba</i> | Non-breeding | Good | Gradual decline since 2000 | Potential declines since 2010 | Good (short term); moderate (long-term) | Similar to golden plover | Similar to golden plover |
| Wetlands | N/A | N/A | N/A | Not assessed | N/A | N/A | Not assessed | Habitat loss through reclamation | Not assessed |

Table Footnotes:

* Site Population Trend 1995-2008 from NPWS Conservation Objective supporting documentation (NPWS, 2012b)

** Site Population Trend 2005-2015 from Birdwatch Ireland IWeBS data.

***National Population Trend from EOINET (2015); article 17 reporting; short term (1999-2011); long-term (1987-2011)

Nationally, none of the QI populations of the Boyne Estuary SPA were assessed as of 'Poor' status by the NPWS in the recent 'Article 17' reporting up to 2012; either in the short or longer term (European Topic Centre for Biodiversity, 2015).

However, from the period 2005 to 2015, there appear to have been potentially significant declines at the level of the European site, for QI knot and sanderling populations.

5.1.3.3 River Nanny Estuary and Shore SPA

The following site summary has been sourced from the NPWS' Natura Standard Data Form for the site (NPWS, 2015c):

"The site comprises the estuary of the River Nanny and sections of the shoreline to the north and south of the estuary (c.3 km in length). The estuarine channel, which extends inland for almost 2 km, is narrow and well sheltered. Sediments are muddy in character and edged by saltmarsh and freshwater marsh/wet grassland. The shoreline, which is approximately 500 m in width to the low tide mark, comprises beach and intertidal habitats. It is a well-exposed shore, with coarse sand sediments. The well-developed beaches, which are backed in places by clay cliffs, provide high tide roosts for the birds. The village of Laytown occurs in the northern side of the River Nanny estuary."

This is an important east coast site, as a roost area for the [numerous species of QI wintering birds] but also provides feeding habitat."

All the QIs of this site are presented in Appendix B. The conservation status of relevant QIs, for which source-pathway-receptor linkages have been identified, are presented in Table 10.

Table 10 River Nanny Estuary and Shore SPA: Conservation Status and Threats to Relevant Qualifying Interests

| Qualifying Interest (Habitat) | Qualifying Interest (Species; Scientific and Common Names) | Population (if relevant) | Site-level Status (NPWS, 2012b) | Site-Level Population Trend 1995-2008* | Site-Level Population Trend 2005-2015 ** | National Population Trend (EIONET, 2015)*** | 'National' Threats (Birdlife International, 2017) | Site-Level Threats (NPWS, 2012b) |
|-------------------------------|--|--------------------------|---------------------------------|--|--|---|---|----------------------------------|
| N/A | Golden plover <i>Pluvialis apricaria</i> | Non-breeding | Highly unfavourable | Progressive declines | Insufficient data points to assess trend | Good (short term); moderate (long-term) | Reduction in invertebrate food availability (intertidal/ pasture). Changes to flooding regime of coastal grasslands. Disturbance of roosting or feeding areas | Walking including dogs, shooting |
| N/A | Herring gull <i>Larus argentatus</i> | Non-breeding | Not assessed | Not assessed | No obvious declines | Moderate (short term); moderate (long-term) | Botulism, oil pollution, avian influenza | Walking including dogs, shooting |
| N/A | Knot <i>Calidris canutus</i> | Non-breeding | Favourable) | Stable | Potential declines since 2011 | Good (short term); moderate (long-term) | Similar to golden plover | Walking including dogs, shooting |
| N/A | Oystercatcher <i>Haematopus ostralegus</i> | Non-breeding | Favourable | Increasing | No obvious declines | Good (short term); moderate (long-term) | Similar to golden plover | Walking including dogs, shooting |
| N/A | Ringed plover <i>Charadrius hiaticula</i> | Non-breeding | Favourable | Declines since 2004 | Fluctuating | Good (short term); moderate (long-term) | Similar to golden plover | Walking including dogs, shooting |
| N/A | Sanderling <i>Calidris alba</i> | Non-breeding | Favourable | Fluctuating | No obvious trend | Good (short term); moderate (long-term) | Similar to golden plover | Walking including dogs, shooting |
| Wetlands | N/A | N/A | Not assessed | Not assessed | N/A | Not assessed | Habitat loss through reclamation | Walking including dogs, shooting |

Table Footnotes:

* Site Population Trend 1995-2008 from NPWS Conservation Objective supporting documentation (NPWS, 2012a)

** Site Population Trend 2005-2015 from Birdwatch Ireland IWeBS data.

***National Population Trend from EIONET (2015); article 17 reporting; short term (1999-2011); long-term (1987-2011)

Nationally, none of the QI populations of the River Nanny Estuary and Shore SPA were assessed as of 'Poor' status by the NPWS in the recent 'article 17' reporting up to 2012, either in the short or longer term (European Topic Centre for Biodiversity, 2015).

However, there appear to have been potentially significant recent declines at the level of the European site, for QI golden plover, knot, and ringed plover population. Declines of golden plover are particularly severe, leading to an assessment of Unfavourable at site-level.

5.2 Step 2: Conservation Objectives

The version numbers of all conservation objectives are provided in the tables in Appendix B, and referenced in Section 8. The following sections present tables of all Conservation Objective attributes for the relevant QIs within the above sites to inform the assessment of adverse effects on site integrity in the Draft NIS. Shortened descriptions have been provided for CO attributes for ease of presentation

5.2.1 Boyne Coast and Estuary SAC

For relevant QIs for which source-pathway-receptor links have been identified with the Draft Plan, Table 11 identifies which Conservation Objective attributes could be adversely affected.

Table 11 Boyne Coast and Estuary SAC: Conservation Objective Attributes

| Relevant Qualifying Interest | Conservation Objective | Attributes Potentially Affected by Draft Plan | Attributes <u>Not</u> Potentially Affected by Draft Plan |
|---|------------------------|---|--|
| Embryonic dunes | Restore | -Vegetation structure -Vegetation composition -Habitat area -Physical structure relating to supply and circulation of sand | None – all potentially affected |
| Fixed (grey) dunes | Restore | -Vegetation structure -Vegetation composition -Habitat area | -Physical structure relating to supply and circulation of sand |
| Mudflats and sandflats | Maintain | -Distribution of invertebrate communities and sediment types -Habitat area | None |
| <i>Ammophila arenaria</i> (white) dunes | Restore | -Vegetation structure -Vegetation composition -Habitat area | -Physical structure relating to supply and circulation of sand |

Source: NPWS (2012c)

All dune QI habitats have a restorative conservation objective, indicating their poor condition locally and reflecting their Unfavorable status nationally. The Draft Plan has the potential to interfere with the Conservation Objectives for all the named QIs.

5.2.2 Boyne Estuary SPA

For relevant QIs for which source-pathway-receptor links have been identified with the Draft Plan, Table 12 identifies which Conservation Objective attributes could be adversely affected.

Table 12 Boyne Estuary SPA: Conservation Objective Attributes

| Relevant Qualifying Interest | Conservation Objective | Attributes Potentially Affected by Draft Plan | Attributes <u>Not</u> Potentially Affected by Draft Plan |
|------------------------------|------------------------|---|--|
| Golden plover | Maintain | -Population Trend -Distribution | None |
| Knot | Maintain | -Population Trend -Distribution | None |
| Oystercatcher | Maintain | -Population Trend -Distribution | None |
| Redshank | Maintain | -Population Trend -Distribution | None |
| Sanderling | Maintain | -Population Trend -Distribution | None |
| Wetland habitat | Maintain | -Habitat area | |

All QI bird populations have a conservation objective to maintain their existing conservation status. The Draft Plan has the potential to interfere with the Conservation Objective for all the named QIs, except for wetland habitats. QI wetland habitat is therefore 'scoped out' from the next step of the Draft NIS (Step 2- impact prediction).

5.2.3 Nanny River Estuary and Shore SPA

For relevant QIs for which source-pathway-receptor links have been identified with the Draft Plan, Table 13 identifies which Conservation Objective attributes could be adversely affected.

Table 13 Nanny River Estuary and Shore SPA: Conservation Objective Attributes

| Relevant Qualifying Interest | Conservation Objective | Attributes Potentially Affected by Draft Plan | Attributes <u>Not</u> Potentially Affected by Draft Plan |
|------------------------------|------------------------|---|--|
| Golden plover | Maintain | -Population Trend -Distribution | None |
| Herring gull | Maintain | -Population Trend -Distribution | None |
| Knot | Maintain | -Population Trend -Distribution | None |
| Oystercatcher | Maintain | -Population Trend -Distribution | None |
| Ringed plover | Maintain | -Population Trend -Distribution | None |
| Sanderling | Maintain | -Population Trend -Distribution | None |
| Wetland habitat | Maintain | Habitat area | None |

Source: NPWS (2012e)

All QI bird populations have a conservation objective to maintain their existing status. The Draft Plan has the potential to interfere with the Conservation Objective for all the named QIs, except for wetland habitat. QI wetland habitats are therefore 'scoped out' from the next step of the Draft NIS (Step 2- impact prediction).

5.2.4 Summary of QIs Scoped out from the Draft NIS

As identified in 5.2 with reference to the relevant conservation objectives for European sites, the following QIs have been scoped out of the Draft NIS:

- QI little tern and wetland bird habitat of the Boyne Estuary SPA;
- Wetland bird habitat of the Nanny River Estuary and Shore SPA; and,
- Wetland bird habitat of the Boyne Estuary SPA.

5.3 Step 3: Prediction of Effects

The prediction of effects from the Draft Plan to the integrity of the European sites is presented in this Section. In-combination effects are presented in Section 5.3.6.

5.3.1 Summary of Relevant Recommendations from Draft Plan

The Recommendations scoped in from the Draft Plan are summarized in Table 14.

Table 14 Recommendations Scoped into the Draft NIS

| Recommendation. | Recommendation | Action | Scoped 'In' or 'Out' of the Draft NIS | Rationale |
|-----------------|---------------------------|--|---------------------------------------|---|
| 14 | Tackle dog fouling | New signage campaign regarding Dog Fouling | In | Potential for Likely Significant Effects from the Draft Plan, should signs be installed in QI habitats. |
| 15 | Litter management | Provide for larger capacity bins during the summer season. | In | Potential for Likely Significant Effects from the Draft Plan, should bins be installed in QI habitats. |
| 17 | | Provide for recycling facilities, either nearby or on the beach. | In | Potential for Likely Significant Effects from the Draft Plan, should recycling facilities be installed in QI habitats. |
| 23 | Improve signage | Review existing signage and, where necessary, develop new signage incorporating 'softer', playful and/or eye-catching graphics/text phrasing, to promote a sense of stewardship and self-policing amongst beach users. | In | Whilst this Recommendation has arisen as a result of input to the Draft Plan from Draft NIS authors, there is the potential for Likely Significant Effects from the Draft Plan, should signs be installed in QI habitats. |
| 24 | | Provide for a co-ordinated and consistent suite of signage to promote a sense of pride in the local area. | In | There is the potential for Likely Significant Effects from the Draft Plan, should signs be installed in QI habitats. |
| 25 | | Review the indicative locations for signage and ensure signage pertaining to the Nanny River Estuary and Shore SPA is located at the point of entry into, and within the site. | In | There is the potential for Likely Significant Effects from the Draft Plan, should signs be installed in QI habitats. |

| | | | | |
|----|--|--|----|---|
| 26 | <p>Increase beach tourism and activities in spring and summer only (April to August inclusive), outside the wintering bird season</p> | <p>Organise beach events in spring and summer only (April to August inclusive), outside the wintering bird season, including:</p> <ul style="list-style-type: none"> • Car Free Days • Canoeing with jetties on the River Nanny • Beach Football • Creating designated area for sports. • Swimming lessons / Life-saving programs for all. • Attraction of Maidens Tower of Mornington • East Coast Cycle Route • Tara Brooch • Greenway Mornington to Drogheda • Fishing • Triathlons • Eco-tourism • Kiting – festivals • Volleyball • Sailing • Sand yachting • Sandcastles • Bird watching with the erection of bird watching huts/stands. • Provision of space for clubs to meet/change etc. | In | <p>There is the potential for Likely Significant Effects from the Draft Plan, should events increase trampling of coastal habitats.</p> |
| 29 | <p>Achieve blue flag status</p> | <p>Limit access to Mornington dunes (close off vehicular access to parking area). Consider providing limited car parking spaces on adjacent road.</p> | In | <p>Potential for Likely Significant Effects from the Draft Plan, should bollards be installed in QI habitats.</p> |

5.3.2 Boyne Coast and Estuary SAC

The prediction of effects from the Draft Plan to the integrity of the Boyne Coast and Estuary SAC is set out in Table 15 Boyne Coast and Estuary SAC: Prediction of Effects on Site Integrity, along with the conservation status at national and site-level, Recommendations of Draft Plan which has been scoped in, and the relevant pathway for effects.

Table 15 Boyne Coast and Estuary SAC: Prediction of Effects on Site Integrity

| Relevant Qualifying Interest | Conservation Status | Recommendations of Draft Plan Scoped in | Relevant Pathways with Draft Plan | Prediction of Effects |
|---|--|---|--|---|
| <i>Ammophila arenaria</i> (white) dunes | Unfavourable nationally Unfavourable at site level | 15 and 17 (Litter management) 14 and 23-25 (Signage) 26 (Increase beach tourism in spring and summer only) 29 (Bollards to restrict vehicular dune access) | Visitors attending beach events in spring/summer could trample coastal habitats. Additive damage could arise if litter facilities, signage, or bollards installed to restrict vehicular access are located within these habitats | <u>Adverse effects</u> from Draft Plan alone via interference with Conservation Objective target for vegetation structure and composition attributes. |
| Embryonic dunes | Unfavourable nationally Unfavourable at site level | 15 and 17 (Litter management) 14 and 23-25 (Signage) 26 (Increase beach tourism in spring and summer only) 29 (Bollards to restrict vehicular dune access) | Visitors attending beach events in spring/summer could trample coastal habitats. Additive damage could arise if litter facilities, signage, or bollards installed to restrict vehicular access are located within these habitats | <u>Adverse effects</u> from Draft Plan alone via interference with Conservation Objective target for vegetation structure and composition attributes. |
| Fixed (grey) dunes | Unfavourable nationally Unfavourable at site level | 15 and 17 (Litter management) 14 and 23-25 (Signage) 26 (Increase beach tourism in spring and summer only) 29 (Bollards to restrict vehicular dune access) | Visitors attending beach events in spring/summer could trample coastal habitats. Additive damage could arise if litter facilities, signage, or bollards installed to restrict vehicular access are located within these habitats | <u>Adverse effects</u> from Draft Plan alone via interference with Conservation Objective target for vegetation structure and composition attributes. |
| Mudflats and sandflats | Unfavourable nationally Unfavourable (~"Reduced") at site level | 23-25 (Improve signage) | If signs are installed in intertidal habitats, there will be loss of QI wetland bird habitat. Habitat losses would be very localized; however Conservation Objectives require the habitat area to remain stable. | <u>Adverse effects</u> from Draft Plan alone via interference with Conservation Objective target for vegetation structure and composition attributes. |

5.3.3 Boyne Estuary SPA

The table below predicts the effects from the Draft Plan on the Boyne Estuary SPA.

Table 16 Boyne Estuary SPA: Prediction of Effects on Integrity

| Relevant Qualifying Interest | Summary of Conservation Status* | Recommendations of Draft Plan Scoped in | Relevant Pathways with Draft Plan | Prediction of Effects |
|------------------------------|---|---|--|---|
| Golden plover | Population +/- stable nationally (very gradual declines) Favourable at site-level | 15 and 17 (Litter management) | Human disturbance could arise If litter facilities are located near bird feeding or roosting areas | <u>Adverse effects</u> from Draft Plan alone via interference with Conservation Objective targets to maintain long-term population trends and/or significantly decrease population range. |
| Knot | Population +/- stable nationally (very gradual declines) Favourable at site-level | 15 and 17 (Litter management) | Same pathways as golden plover, feeding and roosting birds affected. | <u>Adverse effects</u> from Draft Plan alone; same as for Golden Plover. |
| Oystercatcher | Population increasing nationally Favourable at site-level | 15 and 17 (Litter management) | Same pathways as golden plover, feeding and roosting birds affected. | <u>Adverse effects</u> from Draft Plan alone; same as for Golden Plover. |
| Redshank | Population increasing nationally Population +/- stable at site level (very gradual declines) | 15 and 17 (Litter management) | Same pathways as golden plover; similarly to golden plover only roosting birds affected. | <u>Adverse effects</u> from Draft Plan alone; same as for Golden Plover. |
| Sanderling | Population increasing nationally Favourable at site-level | 15 and 17 (Litter management) | Same pathways as golden plover; similarly to golden plover only feeding birds affected. | <u>Adverse effects</u> from Draft Plan alone; same as for Golden Plover. |
| Wetlands | Not assessed at any scale | 14 and 23-25 (Signage) | If signs are installed in intertidal habitats, there will be loss of QI wetland bird habitat. Habitat losses would be very localized; however Conservation Objectives require the habitat area to remain stable. | <u>Adverse effects</u> from Draft Plan alone via interference with Conservation Objective targets to maintain area of wetland habitat |

5.3.4 River Nanny Estuary and Shore SPA

The table below predicts the effects from the Draft Plan on the River Nanny Estuary and Shore SPA.

Table 17 River Nanny Estuary and Shore Estuary SPA: Prediction of Effects on Integrity

| Relevant Qualifying Interest | Summary of Conservation Status | Recommendations of Draft Plan Scoped in | Relevant Pathways with Draft Plan | Prediction of Effects |
|------------------------------|---|---|--|--|
| Golden plover | Population +/- stable nationally (very gradual declines) Unfavourable at site-level with progressive declines | 15 and 17 (Litter management) | Human disturbance could arise if litter facilities are located near bird feeding or roosting areas. | <u>Adverse effects</u> from Draft Plan alone via interference with Conservation Objective targets to maintain long-term population trends and/or significantly decrease population range |
| Herring gull | Population probably declining nationally, ("moderate" in both short and long-terms) Not determined by NPWS at site level, although no obvious declines | 15 and 17 (Litter management) | Same pathways as golden plover; feeding and roosting birds affected. | <u>Adverse effects</u> from Draft Plan alone as for golden plover above |
| Knot | Population +/- stable nationally (very gradual declines) Determined to be favourable at site level by NPWS in 2012 but potential recent declines | 15 and 17 (Litter management) | Same pathways as golden plover; feeding and roosting birds affected. | <u>Adverse effects</u> from Draft Plan alone as for golden plover above |
| Oystercatcher | Population increasing nationally Favourable at site level | 15 and 17 (Litter management) | Same pathways as golden plover; feeding and roosting birds affected. | <u>Adverse effects</u> from Draft Plan alone as for golden plover above |
| Ringed plover | Population increasing nationally Favourable at site level | 15 and 17 (Litter management) | Same pathways as golden plover (but only feeding birds affected). | <u>Adverse effects</u> from Draft Plan alone as for golden plover above |
| Sanderling | Favourable at site level | 15 and 17 (Litter management) | Same pathways as golden plover (but only feeding birds affected). | <u>Adverse effects</u> from Draft Plan alone as for golden plover above |
| Wetlands | Not assessed at any scale | 14 and 23-25 (Signage) | If signs are installed in intertidal habitats, there will be loss of QI wetland bird habitat. Habitat losses would be very localized; however Conservation Objectives require the habitat area to remain stable. | <u>Adverse effects</u> from Draft Plan alone via interference with Conservation Objective targets to maintain area of wetland habitat |

5.3.5 Summary of QIs Affected by Draft Plan

Table 18 below predicts the effects from the Draft Plan on the River Nanny Estuary and Shore SPA.

Table 18 Summary of QIs Affected by Draft Plan

| European site (and code) | QIs for which adverse effects predicted alone and in-combination | QIs for which adverse effects not predicted either alone or in-combination |
|--|--|--|
| River Nanny Estuary and Shore SPA (4158) | Wintering birds: -Herring gull -Golden plover -Knot -Oystercatcher -Ringed plover -Sanderling Habitats -Wetlands | Adverse effects predicted on all QIs |
| Boyne Estuary SPA (4080) | Wintering birds: -Golden plover -Knot -Oystercatcher -Redshank -Sanderling Habitats -Wetlands | Adverse effects predicted on all QIs |
| Boyne Coast and Estuary SAC (1957) | - <i>Ammophila arenaria</i> dunes (white dunes) -Embryonic dunes -Fixed dunes -Mudflats and sandflats | Adverse effects predicted on all QIs |

5.3.6 In-Combination Effects

5.3.6.1 Projects

Planning Application Search

A search was conducted of planning applications within the Draft Plan area, using the National Planning Application Map Viewer on the online 'myplan' portal²¹. The search was limited to the 5 year period preceding the date of issue of this Draft NIS (due to the typical five-year lifetime of permission). Excluding retention applications (i.e. where an impact has already occurred), and withdrawn and refused applications, the following applications were identified as having potential to act in-combination with the Draft Plan:

- Planning permission granted for an application within the dune system at Mornington for “Extensions and modifications to existing lighthouse, lighthouse keeper's house and outbuilding”;
- Numerous permission granted for new housing developments which have the potential to increase footfall within the Draft Plan area, thereby potentially intensifying the recreational pressures arising from the Draft Plan itself (e.g. including over 500 houses on former farmland at Bettystown by Brabazon Drive; under construction at the time of writing); and,
- Numerous permissions granted to extend or refurbish existing properties, or demolish and build new properties on shorefront land parcels at Bettystown and Laytown, which have the potential to create temporary additive disturbance to wintering birds which use the adjacent shoreline; thereby acting in-combination with the Draft Plan.

²¹ Available online at <http://myplan.ie/index.html> Accessed December 2017.

Dublin Airport

Whilst Dublin Airport is located more than 40 km south of the Draft Plan area, migratory flyways for many of the QI wintering birds affected by the Draft Plan may pass over the airport.

The North Runway project at Dublin Airport, currently under construction, and for which planning permission was extended, is reflective of the future expansion needs of Dublin Airport. The intensification of air traffic at the airport could act in-combination with the bird disturbance from the Draft Plan, given that several of the QI species affected by the Draft Plan are known to be killed by strikes with aircraft. Such strikes occur despite the long-running bird control plan in place at the airport, which includes habitat management measures to dissuade usage by designated bird populations. Published data from 1973 to 2007 suggest decreases in strikes with herring gull, but simultaneous increases in strikes with golden plover (Kelly *et al.*, 2008). Analyses of unpublished data held by the Dublin airport authority from 1990 to 2012 shows that herring gull, golden plover and oystercatcher are the only three species subject to “multiple strikes” by aircraft over this period; for which in-combination effects would occur with the Draft Plan.

Drogheda Port Company

It is possible that the dredging activities of Drogheda Port Company in the marine environment offshore of the Draft Plan area could be (unintentionally) accelerating erosive processes of the Mornington/Bettystown/Laytown beach; if sand is not returned to the coastal system. If dredged material is not returned to the system, the dredging could act in combination with the Draft Plan, to adversely affect QI wetland habitats of the Boyne Estuary and River Nanny Estuary and Shore SPAs, and/or QI mudflat and sandflat habitat of the Boyne Coast and Estuary SAC.

Other Projects

Coastal protection works at Bettystown/Laytown with the Draft Plan area may be carried out in summer 2018. No significant in-combination effects are proposed because modelling has concluded the proposed works will significantly impact coastal processes including sediment movement, and because the NIS for the proposed works (FERS, 2017) has proposed mitigation measures to avoid adverse effects including seasonal construction works outside the wintering bird season, and sensitive construction practices to avoid impacts from stockpiling and machinery movements across the shoreline.

The Draft Plan area is subject to a diverse range of coastal recreation activities which all act in combination with the Draft Plan to disturb QI bird populations in winter. These include:

- The Laytown Strand Races which take place once a year at low tide (usually in autumn; during the early ‘wintering’ bird season; and,
- The European Sand yacht Championships, which took place within the Draft Plan area in September 2017 (and were observed during the site walkover).

5.3.6.2 Plans

Meath County Development Plan

There are policies and/or specific projects identified in the Meath County Development Plan 2013-2019 (hereafter ‘the CDP’), which have the potential to act in-combination with the Draft Plan to adversely affect European sites. For instance:

- There is a policy “to investigate and if feasible to provide a new library in the Laytown/Bettystown area” (SOC OBJ 11) whose construction could result in bird disturbance on the shoreline.
- There is a policy “to seek the provision of a railway station at Bettystown with associated park and ride facilities (TRAN POL 8)” whose construction and operation could result in bird disturbance on the shoreline.
- Whilst not a specific policy, the CDP states that “the lands immediately adjoining the rail station in Laytown could accommodate people intensive enterprise” (Written Statement Volume 1; p.64).
- There is a proposal for a deep water port on the east Meath coast, which has been identified as a potential threat to the Boyne Estuary SPA and River Nanny Estuary and Shore SPA (Section 4.1.5).

- The Natura Impact Report (NIR) for the CDP highlights the potential for redevelopment of the Military camp site to affect the River Nanny Estuary and Shore SPA.
- The NIR for the CDP highlights the existing recreational pressures from dune trampling and bird disturbance dog-walking on the River Nanny Estuary and Shore SPA.

The CDP states that “Centres which have expanded on the basis of commuter development are not the focus for significant levels of new housing in the core strategy e.g. Laytown/Bettystown/Mornington East and Stamullen” (Written Statement Volume 1; p.50). However, there are significant housing developments under construction in the locality (see Section 5.3.6.1) which could lead to increased recreational pressures on European sites in the Draft Plan area.

However it is a legal requirement for any project or plan to be subjected to its own Screening for AA (and if necessary its own AA). There are also specific mitigation policies in the CDP, which will if correctly implemented mitigate the potential effect of these measures; for instance:

- There is a policy “to protect the integrity of Natura 2000 sites during the identification of suitable sites for recreation, in particular in terms of their design and use” (SOC Policy 38).
- In relation to transport proposals, there is a policy stating that “any such proposals for developments in Bettystown and south of Drogheda, will have to ensure that there are no adverse effects on the integrity of SPAs” (TRAN OBJ 2).
- In relation to the commitment to maximise the tourist potential of the Meath coastline, the CDP commits to achieve this “whilst ensuring the environmental protection of sensitive and protected coastal habitats and landscape.” (Written Statement Volume 1; p.60).
- In relation to the commitment to develop greenways along the banks of the Boyne and Blackwater Rivers (TRAN OBJ 8 and TRAN OBJ 9), the NIR for the CDP inserted: in such a manner so as not to significantly negatively impact on the conservation status of Natura 2000 sites” and “to encourage pedestrian access to certain areas of Natura 2000 sites for their appreciation and in a manner so as not to impact negatively on European site integrity”.

East Meath Local Area Plan 2014-2020

This Local Area Plan (LAP) (MCC 2014) covers the areas of Bettystown, Laytown, Mornington East, Donacarney and Mornington.

The zoning designations of lands within the LAP, which either overlap QI habitats, or are within the ZOI of mobile QI bird feeding and roosting areas are of direct relevance to the potential for future projects to interact with the Draft Plan and adversely affect European sites.

The dune system within the Boyne Coast and Estuary SAC (and undesignated Golf Club) is zoned as High Amenity (H1); whose objective it is “Minimise noise, vibration and emissions from traffic, industrial processes and extractive industry”. This zoning will prevent future development; however it will continue to facilitate recreation, which is currently damaging QI dune habitats in Unfavourable condition.

The lands bordering the Mornington/Bettystown/Laytown beach, where wintering QI bird populations feed and/or roost are primarily designated as ‘Existing Residential’; some parcels are designated as Commercial/Town Centre around Bettystown and Laytown. Construction on these lands is likely in relation to development or refurbishment of residential or commercial buildings, and could act in combination with noise and physical disturbance from recreation associated with the Draft Plan to adversely affect European sites. The lands occupied by the existing caravan park at Bettystown are zoned ‘Tourism’. The operation of this caravan park may lead to increased visitor numbers and exacerbate trampling of QI dunes in the Boyne Coast and Estuary SAC; whilst the seasonal nature of caravan park occupation means in-combination disturbance effects on wintering birds are unlikely.

There are a number of linear transport objectives identified in the LAP which could act in combination with the Draft Plan to adversely affect European sites; albeit in all cases there is mitigation within the LAP in the form of policy wording.

An indicative route for a pedestrian and cycleway (GI OBJ 6), which passes through the Boyne Coast and Estuary SAC and Boyne Estuary SPA and runs north-south along the shoreline for much of the Draft Plan area

could directly or indirectly act in-combination with the Draft Plan, albeit the relevant policy states that “all aspects of the proposal will undergo screening for AA”.

The NIR for this LAP includes a range of mitigation policies including:

- “To protect the importance of the Natura 2000 and environmentally designated sites within the plan area with particular reference to the coastline” (SH POL3).
- “The Planning Authority will, in general, retain all vegetation within a strip of 10 metres on either side of such channels and other watercourses which flow into the Natura 2000 sites in order to help protect the water quality in these channels” (WSU POL 14).
- “Any proposals for developments in Bettystown` will have to ensure that there are no adverse effects on the integrity of Natura 2000 sites” (TM POL 18).
- “All plans and projects which would be likely (either individually or in combination with other plans or projects) to give rise to significant adverse direct, indirect or secondary impacts on the integrity of any Natura 2000 sites having regard to their conservation objectives, shall not be permitted on the basis of this LAP” (HER OBJ 2).

However there is an undeniable challenge posed by accommodating recreation and tourism within European sites as evident in several policies such as:

- “To recognise and investigate the use of river corridors as natural amenity corridors, connecting the different parts of the plan area and linking up with established amenity areas whilst ensuring that the qualifying interests of the Natura 2000 sites are protected. This would include potential amenity walks along the River Nanny and the proposed Boyne Greenway extension to Mornington. Protection of the natural environment and adherence to GI POL 7 will be prioritised during the preparation of design and implementation of proposals” (GI POL 9); and
- “To raise public awareness and understanding of this area’s natural heritage and green infrastructure through facilitating access to certain areas of Natura 2000 sites for sustainable appreciation of their value (GI POL 6).

5.3.6.3 Conclusion Regarding In-Combination Effects

Prior to the implementation of mitigation, numerous existing and proposed projects and plans have been identified, which could act in combination with the Draft Plan to adversely affect the integrity of the Boyne Coast and Estuary SAC, Boyne Estuary SPA, and River Nanny Estuary and Shore SPA.

Prior to the implementation of mitigation, the magnitude of potential effects on achieving Conservation Objective targets (e.g. population size of wintering birds disturbed; range contraction of bird populations disturbed; or area over which dune vegetation structure is compromised) is significantly increased by considering in-combination effects. The consideration of in-combination effects did not identify adverse effects on additional QIs or additional European sites.

6. Step 4: Mitigation Measures

6.1.1 Mitigation by Design

As identified in the introduction to Section 2, regular meetings between MCC, and the authors of the Draft NIS and Draft Plan, Draft Plan Recommendations were iteratively amended to avoid adverse effects to European sites (i.e. 'mitigation by design'), taking account of relevant stakeholder submissions.

6.1.2 Enforcement

As part of their statutory role in the protection of European sites, MCC has committed to drafting a new Bye-law (s) to support the implementation of the protective measures for European sites incorporated into Draft Plan Recommendations. In particular:

- Control of dogs within the River Nanny Estuary and Shore SPA i.e. dogs to be leashed from September to March inclusive (Recommendation 20);
- Restriction of horses from the dunes at Mornington within the Boyne Coast and Estuary SAC (Recommendation 21);
- Restriction of horses from the shoreline within the Nanny Estuary and Shoreline SPA from September to March inclusive (except for the Laytown Strand Races (Recommendation 22); and,
- Limit access to Mornington dunes (Recommendation 22).

The new Bye-laws will address (to the extent legally practicable) the threats posed to coastal habitats and wintering birds from horses, dog-walkers, car users, and other forms of recreation.

6.1.3 Mitigation measures

Mitigation measures (mapped in Figure 3) were subsequently developed to avoid adverse effects to European sites from the following potential sources:

- New signage which poses a risk of localized habitat loss if placed in QI habitats (Recommendations 14, 23, 24, 25); and,
- New litter facilities which similarly poses a risk of localized habitat loss if placed in QI habitats, in addition to posing a risk of bird disturbance from human presence if placed near bird feeding or roosting areas (Recommendations 15 and 17).

6.1.3.1 New Signage

MCC will agree locations for all signs (and access/egress routes for construction vehicles) with a suitably experienced ecologist. The ecologist will first visit proposed locations to verify QI habitats are not present (i.e. to verify accuracy of mapping in Figure 2b) and where necessary to agree appropriate vehicular access and egress routes for the installation works.

6.1.3.2 New Litter Facilities

Belly bins are required within European sites to tackle the existing littering problem in dune habitats. Bins (and access/egress routes for construction vehicles) shall be located in unvegetated areas along existing paths. There will be no belly bins within 50 m of estuarine or shoreline habitats (i.e. wintering bird habitats), unless a suitably experienced ecologist has verified that dunes, existing buildings or other topographical features are present to visually screen human presence at the facilities from nearby wetland bird habitats.

Recycling facilities (and access/egress routes for construction vehicles) will be installed outside European sites, on areas of existing hardstanding or disturbed habitats with no potential for restoration to Annex 1 habitat condition (e.g. amenity grasslands). Recycling facilities will not be located within 100m of estuarine or shoreline habitats (i.e. wintering bird habitats) to avoid bird disturbance associated with the noise of recycling activities. MCC will agree locations for all litter facilities with a suitably experienced ecologist who has visited proposed locations.

7. Concluding Remarks

Following implementation of mitigation measures, It is the view of AECOM that the Draft Plan would have no adverse effects on the integrity of any European sites, either alone or in-combination with other plans or projects.

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Appendix A Figures

Figure 1: European Sites, described in the Natura Impact Assessment

Figure 2a: Distribution of Qualifying Interests within Relevant European sites (SPAs)

Figure 2b: Distribution of Qualifying Interests within Relevant European sites (SACs)

Figure 3: Proposed Mitigation Measures for Draft Beach Management Plan



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Legend

- Approximate Area of Draft Beach Management Plan
- Watercourses
- ▨ Special Protection Areas (SPA)
- ▨ Special Areas of Conservation (SAC)

0 1,000 Metres

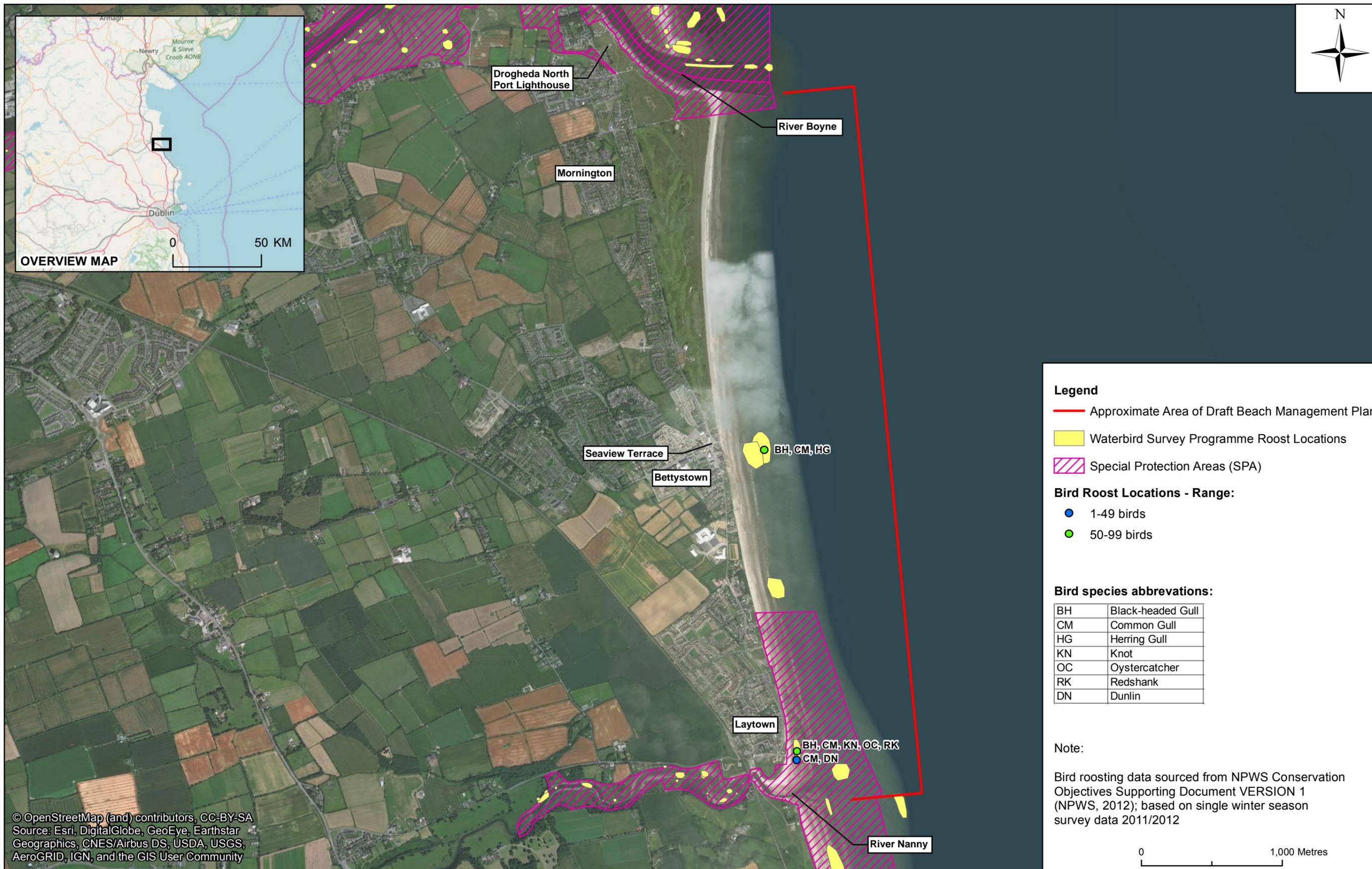
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| Client: | Meath County Council |
| Project: | Draft Bettystown/Laytown Beach Management Plan |

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| Title: | Figure 1: European sites described in the Natura Impact Statement |
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| Verified: | RF | Approved: | RF |
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| Drawing Reference: | | | 1711103_Bettystown_Figure1 |
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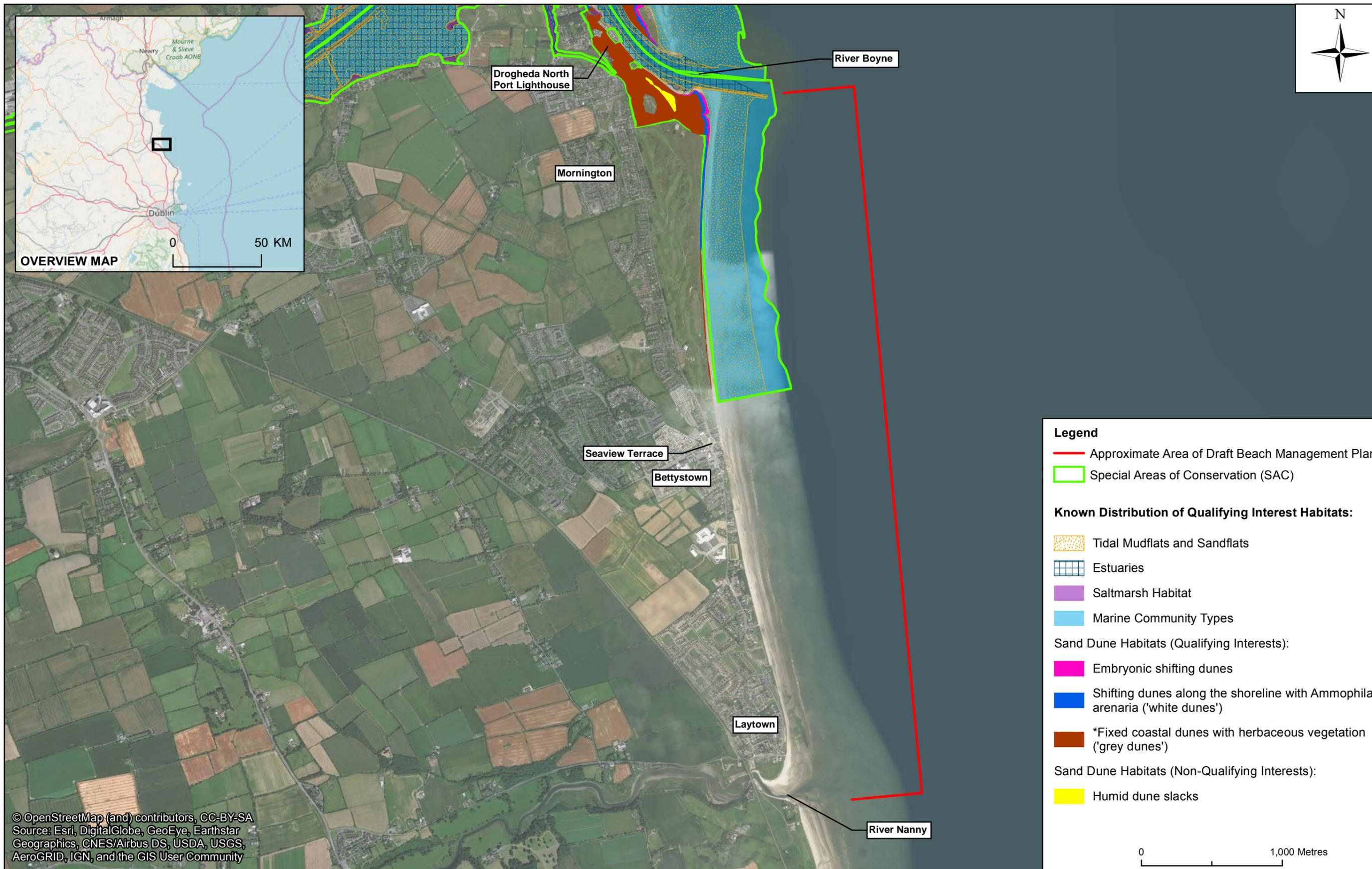
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| Client: | Meath County Council |
| Project: | Draft Bettystown/Laytown Beach Management Plan |

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| Title: | Figure 2a: Distribution of Qualifying Interests within Relevant European sites (SPAs) |
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Legend

- Approximate Area of Draft Beach Management Plan
- Special Areas of Conservation (SAC)

Known Distribution of Qualifying Interest Habitats:

- Tidal Mudflats and Sandflats
- Estuaries
- Saltmarsh Habitat
- Marine Community Types

Sand Dune Habitats (Qualifying Interests):

- Embryonic shifting dunes
- Shifting dunes along the shoreline with *Ammophila arenaria* ('white dunes')
- *Fixed coastal dunes with herbaceous vegetation ('grey dunes')

Sand Dune Habitats (Non-Qualifying Interests):

- Humid dune slacks

0 1,000 Metres

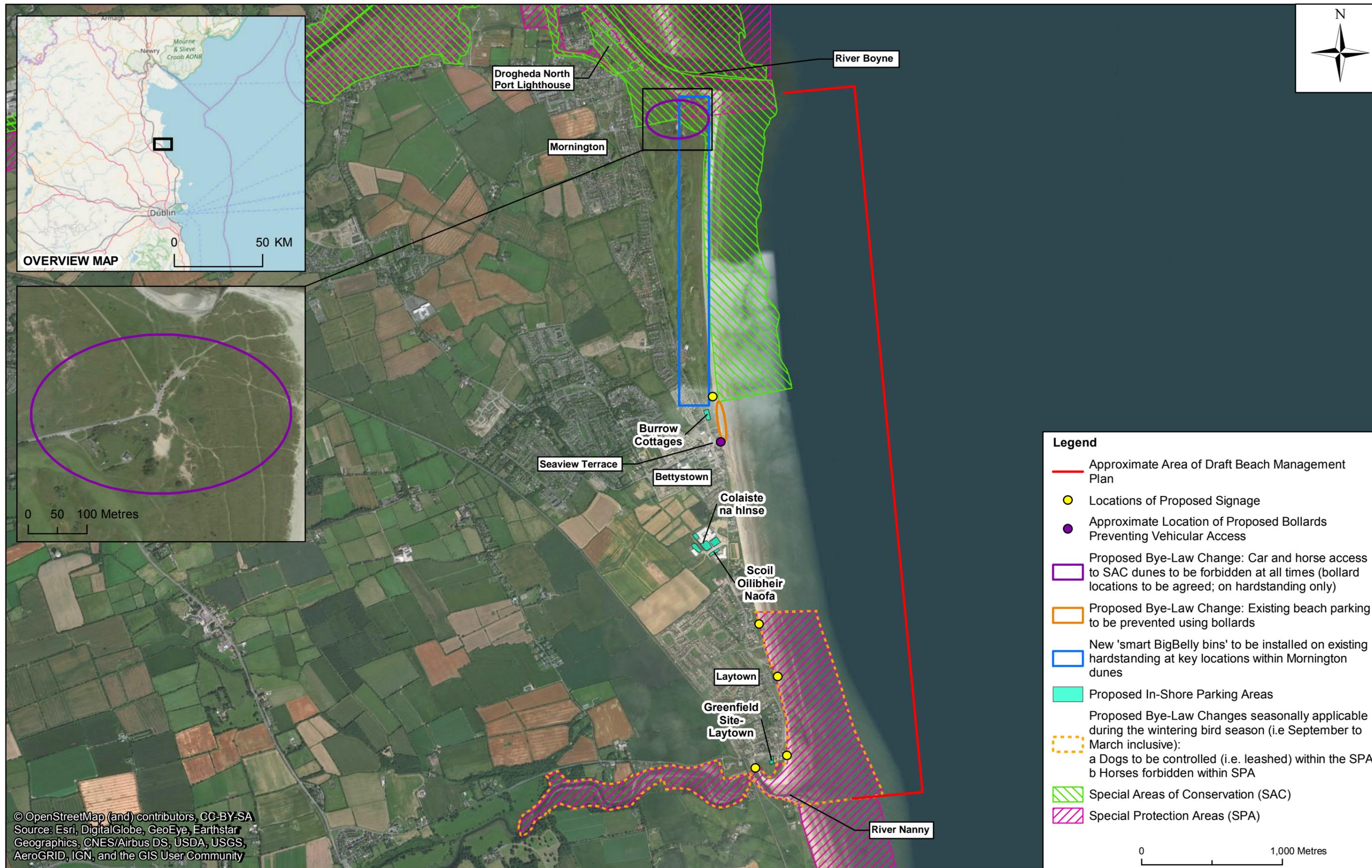
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| Client: | Meath County Council |
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| Title: | Figure 2b: Distribution of Qualifying Interests within Relevant European sites (SACs) |
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Legend

- Approximate Area of Draft Beach Management Plan
- Locations of Proposed Signage
- Approximate Location of Proposed Bollards Preventing Vehicular Access
- Proposed By-Law Change: Car and horse access to SAC dunes to be forbidden at all times (bollard locations to be agreed; on hardstanding only)
- Proposed By-Law Change: Existing beach parking to be prevented using bollards
- New 'smart BigBelly bins' to be installed on existing hardstanding at key locations within Mornington dunes
- Proposed In-Shore Parking Areas
- Proposed By-Law Changes seasonally applicable during the wintering bird season (i.e September to March inclusive):
 - a Dogs to be controlled (i.e. leashed) within the SPA
 - b Horses forbidden within SPA
- Special Areas of Conservation (SAC)
- Special Protection Areas (SPA)

0 1,000 Metres

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| Client: | Meath County Council |
| Project: | Draft Bettystown/Laytown Beach Management Plan |

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| Title: | Figure 3: Proposed Mitigation Measures for Draft Beach Management Plan |
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| Drawing Reference: | 171103_Bettystown_Figure3 | | A3 |

Appendix B European sites Discussed in this Report

| Site Name | Site (Code) | Conservation Objectives | Distance to Draft Plan Area | Feature (Habitat) | Feature (Species) | Population (if relevant) | Objective (Maintain or Restore) | |
|-----------------------------------|-------------|--|--------------------------------|----------------------------|---------------------|------------------------------|---------------------------------|----------|
| River Nanny Estuary and Shore SPA | 4158 | Site-specific (Version 1; NPWS, 2012e) | 0 m (overlaps Draft Plan area) | Wetlands | N/A | N/A | Maintain | |
| | | | | N/A | Oystercatcher | <i>Haematopus ostralegus</i> | Non-breeding | Maintain |
| | | | | N/A | Ringed plover | <i>Charadrius hiaticula</i> | Non-breeding | Maintain |
| | | | | N/A | Golden plover | <i>Pluvialis apricaria</i> | Non-breeding | Maintain |
| | | | | N/A | Knot | <i>Calidris canutus</i> | Non-breeding | Maintain |
| | | | | N/A | Sanderling | <i>Calidris alba</i> | Non-breeding | Maintain |
| | | | | N/A | Herring gull | <i>Larus argentatus</i> | Non-breeding | Maintain |
| Boyne Estuary SPA | 1957 | Site-specific (Version 1; NPWS, 2012d) | 0 m (overlaps Draft Plan area) | Wetlands | N/A | N/A | Maintain | |
| | | | | N/A | Shelduck | <i>Tadorna tadorna</i> | Non-breeding | Maintain |
| | | | | N/A | Oystercatcher | <i>Haematopus ostralegus</i> | Non-breeding | Maintain |
| | | | | N/A | Golden Plover | <i>Pluvialis apricaria</i> | Non-breeding | Maintain |
| | | | | N/A | Grey Plover | <i>Pluvialis squatarola</i> | Non-breeding | Maintain |
| | | | | N/A | Lapwing | <i>Vanellus vanellus</i> | Non-breeding | Maintain |
| | | | | N/A | Knot | <i>Calidris canutus</i> | Non-breeding | Maintain |
| | | | | N/A | Sanderling | <i>Calidris alba</i> | Non-breeding | Maintain |
| | | | | N/A | Black-tailed Godwit | <i>Limosa limosa</i> | Non-breeding | Maintain |
| | | | | N/A | Redshank | <i>Tringa totanus</i> | Non-breeding | Maintain |
| | | | | N/A | Turnstone | <i>Arenaria interpres</i> | Non-breeding | Maintain |
| | | | | N/A | Little Tern | <i>Sterna albifrons</i> | Breeding | Maintain |
| Boyne Coast and Estuary SAC | 1957 | Site-specific (Version 1; NPWS, 2012f) | 0 m (overlaps Draft Plan area) | Atlantic salt meadows | N/A | N/A | Maintain | |
| | | | | Mediterranean salt meadows | N/A | N/A | N/A | Maintain |
| | | | | Salicornia | N/A | N/A | N/A | Restore |
| | | | | Embryonic | N/A | N/A | N/A | Restore |

| Site Name | Site (Code) | Conservation Objectives | Distance to Draft Plan Area | Feature (Habitat) | Feature (Species) | Population (if relevant) | Objective (Maintain or Restore) | |
|--------------------------------|-------------|--------------------------------------|-----------------------------|--|-------------------|-----------------------------|---------------------------------|--|
| | | | | dunes | | | | |
| | | | | White dunes | N/A | N/A | N/A | Restore |
| | | | | Estuaries | N/A | N/A | N/A | Maintain |
| | | | | Mudflats and sandflats | N/A | N/A | N/A | Maintain |
| | | | | Fixed dunes | N/A | N/A | N/A | Restore |
| River Boyne and Blackwater SAC | 2299 | Generic (Version 5.0; NPWS, 2016a) | 3 km (upstream of plan) | N/A | River Lamprey | <i>Lampetra fluviatilis</i> | N/A | Maintain or Restore (not defined in generic Conservation Objectives) |
| | | | | N/A | Atlantic salmon | <i>Salmo salar</i> | N/A | |
| | | | | N/A | Otter | <i>Lutra lutra</i> | N/A | |
| | | | | N/A | N/A | N/A | N/A | |
| | | | | N/A | N/A | N/A | N/A | |
| Clogher Head SAC | 001459 | Site Specific (Version 1; NPWS 2017) | 10km (North of Plan) | Vegetated sea cliffs of the Atlantic and Baltic coasts | N/A | N/A | N/A | Maintain |
| | | | | European dry heaths | N/A | N/A | N/A | Maintain |

