South Dublin County
Habitats Directive Assessment

Screening of the Draft

Ballycullen-Oldcourt Local Area Plan for

Appropriate Assessment

in accordance with the requirements of Article 6(3) of the EU Habitats Directive

October 2013

CONTENTS

SECTION 1

1.1 INTRODUCTION

This document represents South Dublin County Council's Appropriate Assessment (AA) Screening Report for the Ballycullen-Oldcourt Local Area Plan in South Dublin County. This report has been prepared in accordance with the requirements of Article 6(3) of the Habitats Directive (Directive 92/43/EEC).

Council directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna – 'The Habitats Directive' was transposed into Irish law by the European Community (Natural Habitats) Regulations 1997 (S.I. No. 94/1997).

Article 6 (3) of the 'Habitats' Directive 92/43/EEC states that;
Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the sites conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, If appropriate, after having obtained the opinion of the general public.

Article 6(4) states:
'if, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of economic or social nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted. Where the site concerned hosts a priority natural habitat type and/or a priority species the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.

Article 6(3) therefore requires that an "appropriate assessment" be undertaken for any plan or project which is not necessary for the management of a Natura 2000 site and which has the potential to have an impact on the integrity of a Natura 2000 site *i.e.* a Special Area of Conservation (SAC) or a Special Protection Area for Birds (SPA), or on the conservation objectives of such a site.

Within the area of South Dublin County, there are two areas designated as SACs: Glenasmole Valley SAC and a portion of the larger Wicklow Mountains SAC that extends into the county area. There is also one SPA which is in the process of being designated - a portion of the Wicklow Mountains SPA. These three Natura 2000 sites are all located in the Dublin Mountains, bordering with County Wicklow.

In effect, the Commission's ruling requires a robust and thorough application by all consent authorities, including planning authorities, of the requirement to undertake an appropriate assessment of the ecological implications of any plan or project, whether within or outside of a designated site, which may impact upon its stated conservation objectives.

1.2 METHODOLOGY

This Screening Statement for Appropriate Assessment has been prepared with regard to the following guidance documents where relevant:

- *Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC* (European Commission Environment Directorate General, 2001)

- *Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC* (EC Environment Directorate General, 2000)

- *Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities Circular* NPW 1/10 & PSSP 2/10

- *Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities.* (Department of Environment, Heritage and Local Government, 2010 revision)

- *Guidelines for Good Practice, Appropriate Assessment of Plans under Article 6(3) Habitats Directive* (International Workshop on Assessment of Plans under the Habitats Directive, 2011)

- *Guidance Document on Article 6(4) of the Habitats Directive 92/43/EEC.* Clarification of the Concepts of Alternative Solutions, Imperative Reasons of Over-riding Public Interest, Compensatory Measures, Overall Coherence. Opinion of the European Commission (European Commission, January 2007)

There are four stages in an Appropriate Assessment as outlined in the European Commission Guidance Document (2001), summarised below:

• Stage 1: Screening
The first step to establishing if an appropriate assessment is required is referred to as 'screening' and its purpose is to determine on the basis of a preliminary assessment and objective criteria if the plan or project, alone or in combination with other plans or projects, could have a significant effect on a Natura 2000 site in view of the sites conservation objectives. The process identifies any likely impacts upon a Natura 2000 Site, either alone or in combination with other projects or plans, and considers whether these impacts are likely to be significant.

• Stage 2: Appropriate Assessment
This step considers the impact of the project or plan on the integrity of the Natura 2000 Site, either alone or in combination with other plans or projects, to the site's structure and function and its conservation objectives. Additionally, where there are deemed to be adverse impacts, an assessment of the potential mitigation of those impacts is considered.

• Stage 3: Alternative Solutions
This stage examines alternative means of achieving the objectives of the project or plan that aim to avoid adverse impacts on the integrity of the Natura 2000 site.

• Stage 4: Imperative Reasons of Overriding Public Interest
This stage is the main derogation process outlined in Article 6(4) which examines whether there are imperative reasons of overriding public interest (IROPI) for allowing a plan or project which will have adverse effects on the integrity of a Natura 2000 site to proceed.

This screening exercise was based on a desk-top study drawing on information sources which included the following: NPWS on-line data for Natura 2000 sites; Ordnance Survey of Ireland mapping and aerial photography; geological, hydrological and soils data available from GSI; water quality data (EPA and SDCC); in-house data arising from site visits to proposed LAP lands.

The current documents present the results of the first of these four stages *i.e.* Screening, to determine if the Ballycullen-Oldcourt Local Area Plan will or will not have an impact on a Natura 2000 site. Its

conclusion that significant impacts on Natura 2000 sites will not occur as a result of this LAP, resulted in the screening process terminating at Stage 1.

SECTION 2 SCREENING MATRIX

2.1 DESCRIPTION OF THE PLAN OR PROJECT

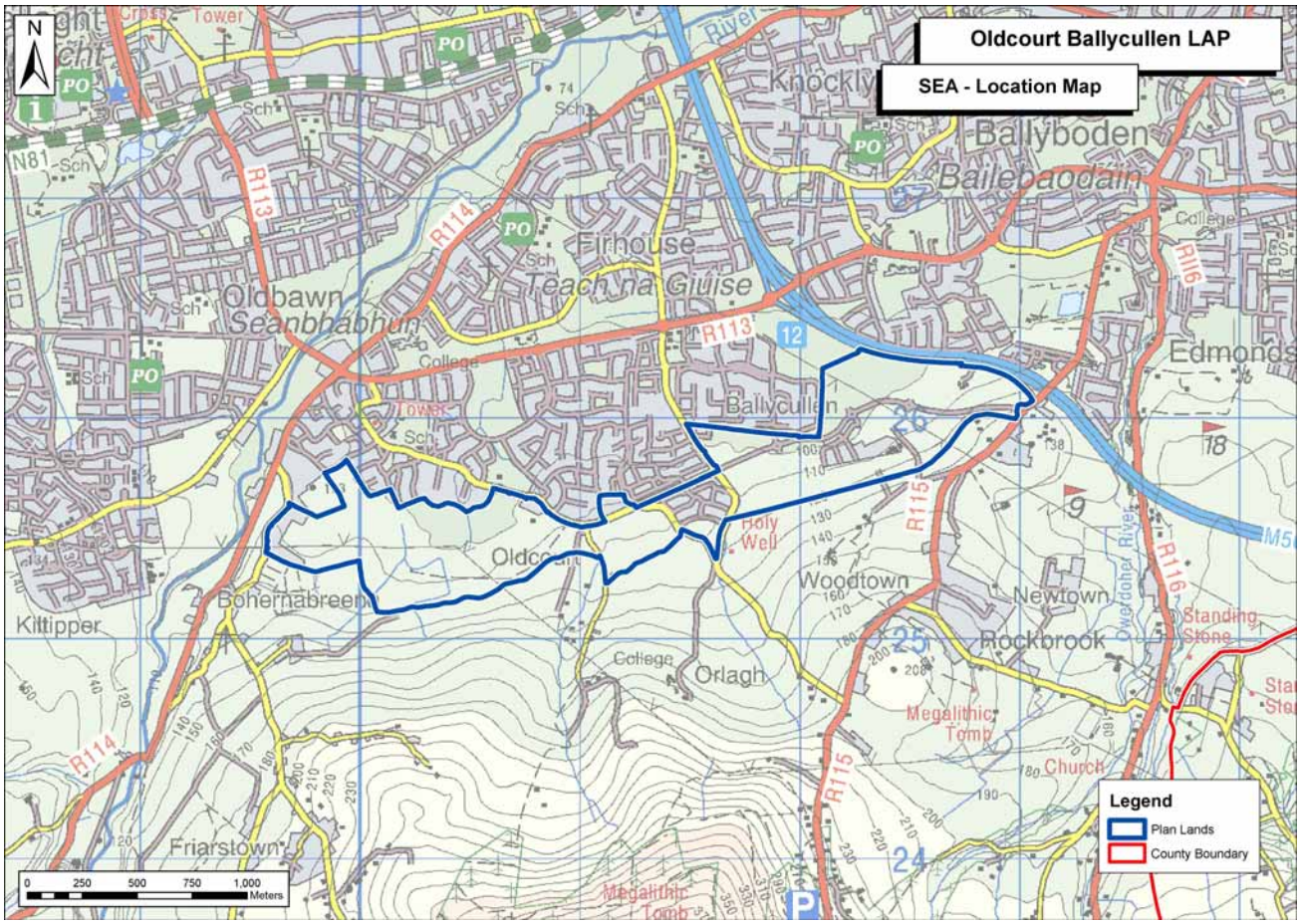
2.1.1 Context

A Local Area Plan is a statutory document prepared by the Planning Authority in accordance with the requirements of Sections 18, 19 and 20 of the Planning and Development Act, 2000 (as amended). A Local Area Plan must consist of a written statement and a plan or plans that are consistent with the objectives of the County Development Plan, its core strategy, and any regional planning guidelines that apply to the area of the Plan. Once adopted by the members of the Council, the Planning Authority and An Bord Pleanála must have regard to a Local Area Plan when determining planning applications in the area covered by the Plan. The authority or the Bord may also consider any draft local plan which has been prepared but not yet made.

2.1.2 Location and description of the Ballycullen-Oldcourt Local Area Plan lands

This Local Area Plan partly relates to lands that were the subject of the *Ballycullen – Oldcourt Action Area Plan* (2000) and if adopted, will supersede the previous plan. As shown in Figure 1, the current Ballycullen-Oldcourt Local Area Plan lands are located on the urban fringe of South Dublin County where it adjoins the foothills of the Dublin Mountains, the principal natural amenity of South Dublin. The southern limit of the zoned lands closely follows the 120m. contour which generally reflects the height limit of suburban development.

Figure 1 Location and extent of the Ballycullen-Oldcourt Local Area Plan lands.



The area is bounded on the east by the M50 Motorway and on the west by the Bohernabreena Road. Dublin City Centre is located approximately 12 kilometres to the northeast of the LAP lands, with Tallaght Town Centre located approximately 2/3 kilometres to the north west of the LAP lands

A large proportion of the Plan Lands remain undeveloped (approx 93.5 ha. i.e. 85%). These undeveloped lands are zoned 'Objective A1, for new residential development (approx. 90 ha.) and 'Objective F', to preserve and provide for open space and recreational amenities (approx. 3.5 ha). Approximately 25 hectares of undeveloped lands zoned 'Objective A1' are the subject of existing permissions that are yet to commence or recommence. All of the lands that are subject to extant permissions are located on the eastern side of the Plan Lands.

Of the largely undeveloped lands within the LAP area, these lands consist largely of medium sized field system. Extensive residential development has occurred in the eastern part of the plan lands at Ballycullen in recent years and, in addition, there are parts of this area that remain as an open construction areas from which the topsoil has been removed or other areas where topsoil has been deposited.

The LAP lands are crossed by two streams which are tributaries of the River Dodder, the Ballycullen Stream and the Oldcourt Stream and tributary. There has been partial culverting of the Ballycullen Stream as part of the Dalriada residential development and partial culverting of the Oldcourt Stream following the upgrading of the Oldcourt Road (an additional stream, the Whitestown Stream, has already been culverted as part of residential development).

The Plan Lands were identified for the preparation of a new Plan on the basis of:

- The approximate 90 Hectares (222 acres) of undeveloped lands along the Ballycullen-Oldcourt fringe that is zoned for residential development;
- The absence of any previous plan for West Oldcourt and changes in the economic, environmental and social context for the area since the *Ballycullen–Oldcourt Action Area Plan* (2000) was prepared;
- The existence of approximately 40 hectares (98 acres) of land along or off Stocking Avenue that is subject to planning permissions for relatively high density residential development (including apartment, duplex and triplex units) that may not now be developed;
- The expiry of permission for a local centre off Stocking Avenue, which was to provide for (inter alia) crèche, community and retail floorspace;
- The strategic positioning of the (Objective A1) residential zoned land, which forms an almost continuous linear land bank along the Ballycullen– Oldcourt fringe and the County Development Plan requirement for residential development on such lands to be carried out in accordance with approved Area Plans;
- The residential development that has recently occurred along Stocking Avenue and parts of the Oldcourt Road and Hunters Roads where community, education and recreational facilities have not kept pace with residential development;
- The need to address the challenges presented by the potential development of the rural fringe along the foothills of the Dublin Mountains, which has a unique amenity value in terms of natural and built heritage;
- The need to ensure that any further development retains as much of the character of the foothills of the Dublin Mountains as possible and sensitively addresses the contrast between new development, existing development and the countryside;
- The challenges presented for potential future development by the noise and traffic generated by the adjacent M50 motorway;
- The need to maintain and improve access to the Dublin Mountains for tourism and recreation;
- The necessity to provide a robust Sustainable Urban Drainage Framework for the development of these lands in view of the restricted surface water drainage capacity downstream.

2.1.3 Structure and Content of the LAP

The Plan is set out in a written statement with accompanying maps and tables. A list of the Plan's Chapters is outlined below:

Chapter 1 (*Introduction*), sets out the background to Local Area Plans and the rationale for the Ballycuullen-Oldcourt LAP. It also outlines the consultative process engaged in by SDCC in the preparation of the Plan.

Chapter 2 (*Development and Population Analysis*) provides a description of the LAP lands in terms of zoning, residential development and density, population and housing statistics, schools, vehicular and pedestrian access, public transport, and building heights. The findings from this Physical Analysis are brought together in a SCOT analysis.

Chapter 3 (*Existing Green infrastructure*) presents an appraisal of the natural and built heritage of the Ballycullen-Oldcourt LAP lands, including details on topography, flora and fauna, water, and human activity and settlement. The importance of the historical and the natural landscape is reinforced in this chapter.

Chapter 4 (*The Plan Rationale*) presents the LAPS vision and overall strategy by which this will be achieved.

Chapter 5 (*Frameworks Strategy*) details the 4 main strategies of the Plan: Accessibility and Movement; Green Infrastructure; Land Use and Density; and Built Form and Design.

Chapter 6 ((*Phasing*) details the phasing and timing for development within the Plan lands in a manner that ensures infrastructure and amenities are built in conjunction with residential and commercial development.

2.1.4 Vision and Rationale for the Plan Lands

The Plan's vision is stated as being:

A place with a strong sense of identity, character and a good quality of life that builds upon and responds to its setting within the foothills of the Dublin Mountains and location adjacent to the countryside; a permeable place that links existing and new development areas through a network of pedestrian and cyclist paths that permeate the Plan Lands and connect them with the mountains and countryside; an attractive residential area with local shopping facilities, quality streets and useful spaces that realise, protect and enhance the full potential of existing built and natural amenities through the sensitive and considered incorporation of mountain views, vistas of local historic structures, the sloping topography, hedgerows, streams, townland and parish boundaries and archaeology; a developing area that retains a clear delineation between the suburbs and the countryside by softening the transition between development and rural lands.

The broad objectives of the Plan are as follows:

- Take cognisance of the area's unique amenities and semi-rural location within the foothills of the Dublin Mountains and protect the amenities of existing dwellings;
- Sensitively integrate new development and existing development with each other and the surrounding rural and mountain context;
- Provide a Green Infrastructure Framework that will integrate natural and built heritage features, water management systems, improved accessibility, open spaces and recreational facilities;
- Provide for a network and hierarchy of linked public open spaces with varying roles and facilities;
- Create a series of small walkable residential blocks that are linked by secondary and tertiary streets and reinforce Stocking Avenue and Oldcourt Road as primary routes for activity, movement, local shopping and public transport;

- Sensitively transition densities and building heights in a manner that limits the impact of any new development on the setting of the Dublin Mountains and countryside;
- Provide a network of walking and cycling routes that further link residential blocks with each other, public transport stops and local shopping while providing routes towards the Dublin Mountains;
- Promote high quality and universal designs for streets, spaces and buildings that respond to the varying character areas and settings;
- Incorporate appropriate green infrastructure features that limits the impact of noise from the M50 on any future development;
- Ensure that development is phased in a manner that provides for the required community, school and parkland facilities either prior to or in tandem with development.

The area of the Plan Lands are considered to be affected by a number of constraints: utility line wayleaves; extant planning permissions; and steep areas of topography. As a result, the Plan Lands have been categorised into three areas as a first step to developing a sequenced rationale - highly constrained, partially constrained or relatively unconstrained.

Highly constrained areas of the Plan Lands coincide with major utility lines, areas already developed, existing and zoned open spaces and features of significant heritage and drainage value. A wide corridor of land in the western area of the Plan Lands is constrained by the high voltage 220kV overhead transmission lines. Further lands are constrained by watermains, which run diagonally across the entirety of the Plan Lands, and 110kV overhead transmission lines that run diagonally across the eastern area of the Plan Lands. A linear area of land along the M50 motorway is also constrained by issues of excessive noise.

Relatively unconstrained areas of the Plan Lands largely comprise the more northern and lower lying areas of the Plan Lands that have a more gentle topography. These lands are generally not traversed by significant utility lines.

The partially constrained areas relate largely to the upper slopes along the southern fringe of the Dublin Mountains where there is a relatively steep topography and the lands become visually prominent. Gradients range between 1:16 and 1:6 and would be difficult to develop at standard densities without the use of extensive engineering solutions such as retaining walls, shoring, embankments and cut platforms. Development of these lands could therefore have a significant impact on the context, landscape and setting of the Dublin Mountains including panoramic views, the transition between countryside and suburbs, heritage features and the natural slope and drainage of the area.

This Plan's Vision will be realised by following 4 identified strategies:
1. Accessibility and Movement – The Accessibility and Movement Strategy seeks to open up the Plan Lands with a clear hierarchy of integrated streets for universal movement to include pedestrians, vehicles and cyclists. This will comprise the upgrade of Stocking Avenue, Hunters Road and Oldcourt Road as a primary route for movement across the Plan Lands and to areas outside the Plan Lands including towards the mountains. A new Main Link Street (primary) will connect the Oldcourt Road with the Bohernabreena Road. These streets will be fed by Local Link Streets (secondary) and Local Streets (tertiary) that will open up the lands for residential development. This strategy is accompanied by a range of street typologies, which are illustrated in plan, section and axonometric formats in Appendix 6 of the LAP document.

2. Green Infrastructure - Green infrastructure planning is deemed to be crucial in meeting the growing and increasingly complex and inter-related demands of European and national legislation and directives that relate to habitats, birds, floods, the water frameworks, SEA and environmental liability. It is also crucial to infuse existing quality of life features within new development. This Local Area

Plan seeks to create a green infrastructure network of high quality amenity routes, green spaces and surface water attenuation areas that will permeate the Plan Lands and utilise elements of heritage and potential biodiversity value.

3. Land Use and Density – The Land Use and Density Strategy is shaped by the numerous constraints encountered across the Plan Lands together with the Plan Rationale and Plan Strategies. This Strategy directs land uses and densities within three distinct areas (lower slope lands, mid slope lands and upper slope lands) where densities will vary according to context. The majority of the subject lands are zoned for residential development (Objective A1) under the County Development and this is reflected under this strategy. Accompanying objectives are set out in Appendix 1.

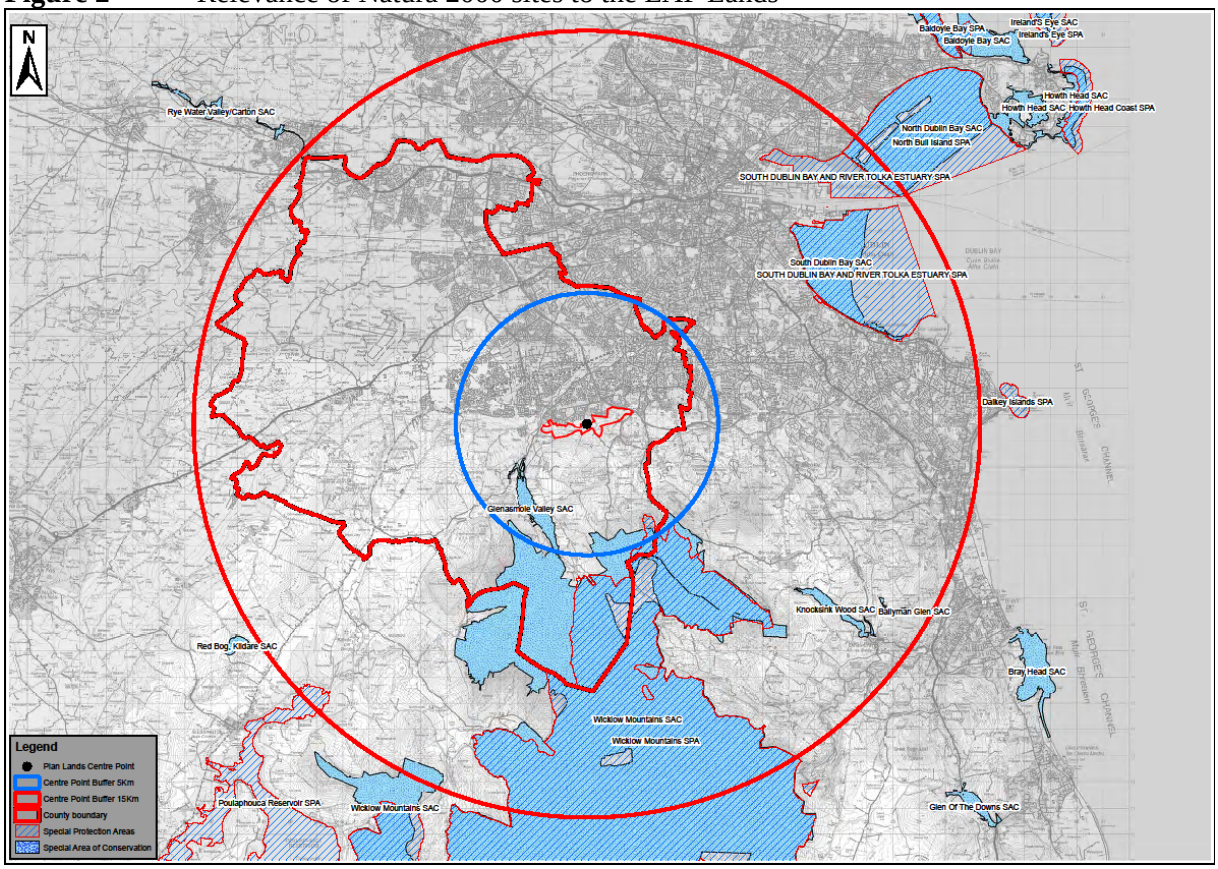
4. Built Form – This strategy will direct the layout of development into a network of village streets, blocks and plots that are sensitive to the Village's historic setting and cultural importance whilst introducing contemporary structures that are responsive to their surroundings. This strategy sets out to ensure that development, at a wider level, is carried out in an integrated, coherent and universal design led manner that responds to local contexts and accords with the core design principles on urban design, place making and street design as set out under the relevant government guidelines. This is concluded with a comprehensive indicative layout for the entire Plan Lands, which illustrates how the Plan Lands could be developed down to street level. Precise details and standards on urban design, place making and street design are set out in Appendix 2 of the Local Area Plan document.

2.2 ASSESSMENT OF RELEVANCE OF PROPOSED PLAN TO NATURA 2000 SITES

The Ballycullen-Oldcourt Local Area Plan is not directly connected with or necessary to the management of Natura 2000 sites in South Dublin County or elsewhere.

Best practice recommends assessing Natura 2000 sites located within 15km of a proposed plan or project (see Figure 2). These Natura 2000 sites are listed in Table 1.

Figure 2 Relevance of Natura 2000 sites to the LAP Lands



For the Ballycullen-Oldcourt LAP Lands, the sites of relevance requiring assessment are the following:

- three Natura 2000 sites within South Dublin County (Glenasmole Valley SAC, Wicklow Mountains SAC, and Wicklow Mountains SPA)
- the suite of Natura 2000 sites located downstream of the LAP Lands in Dublin Bay (North Dublin Bay SAC, South Dublin Bay SAC, South Dublin Bay and River Tolka Estuary SPA, and North Bull Island SPA)
- two sites in County Kildare (Poulaphouca Reservoir SPA, and Rye Water/Carton SAC)
- three sites in County Wicklow (Knocksink Wood SAC, Wicklow Mountains SAC and Wicklow Mountains SPA)
- one site in Dún Laoghaire-Rathdown, Co. Dublin (Ballyman Glen SAC).

There are no Natura 2000 sites located either within or directly adjacent to the proposed LAP lands. For the Natura 2000 sites located within Dún Laoghaire-Rathdown, County Wicklow and County Kildare, there are no direct ecological or hydrological links (source-pathway-receptors) between the proposed LAP lands and these Natura 2000 sites. Negative impacts on these sites are therefore highly unlikely by virtue of distance from the Ballycullen-Oldcourt village and the absence of source-pathway-receptors.

Within South Dublin County, the LAP lands are in close proximity to the Glenasmole Valley SAC which is approximately 3km SW of the Plan Lands. The LAP Lands are also approximately 7km north of the Wicklow Moutains SAC and Wicklow Mountains SPA. However, as the LAP Lands are located in a separate river catchment area to these three Natura 2000 sites and are located at lower altitude, there are no relevant source-pathway-receptors connecting the LAP Lands to these Natura 2000 sites. Negative impacts on these Natura 2000 sites are therefore highly unlikely.

The LAP lands are crossed by two streams which are tributaries of the River Dodder, the Ballycullen Stream and the Oldcourt Stream and tributary. As the River Dodder eventually empties into Dublin Bay at the Grand Canal Dock, a potential ecological link exists therefore between surface water drainage from the LAP Lands and those Natura 2000 sites located in Dublin Bay.

The Grand Canal Trunk Sewer (GCTS) services the plan lands; this sewer flow into the wastewater treatment works in Ringsend. The Council is cognisant of the need to ensure the requisite wastewater treatment provision to allow for development growth without which the development would conflict with the requirements of the Urban Wastewater Treatment Directive which requires the collection and high level treatment of wastewater, specifically those to be discharged to sensitive waters such as Dublin Bay (the terms of the recent EPA operating license reinforce this aspect).

TABLE 1. Natura 2000 sites within 15km of the proposed Ballycullen-Oldcourt LAP

Natura 2000 sites within South Dublin County	**Site Code**	**Other Natura 2000 sites within 15km of proposed LAP**	**Site Code**
Glenasmole Valley SAC Wicklow Mountains SAC Wicklow Mountains SPA	001209 002122 004040	North Dublin Bay SAC South Dublin Bay SAC South Dublin Bay and River Tolka Estuary SPA North Bull Island SPA	000206 000210 004024 004006
		Rye Water Valley/Carton SAC, Co. Kildare Poulaphouca Reservoir SPA, Co. Kildare	001398 004006
		Wicklow Mountains SAC Wicklow Mountains SPA Knocksink Wood SAC, Co. Dublin/Co.Wicklow Ballyman Glen, Co. Dublin/Co.Wicklow	002122 004040 000725 000713

2.3 AVOIDANCE OF IMPACTS

The preparation of the Ballycullen-Oldcourt Local Area Plan was an iterative process which worked to inform the development of appropriate policies and objectives from the earliest stages of the Plan's preparation process. As a result, there are a number of policies and objectives in place that relate to general environmental protection throughout the Plan lands.

The relevance of the proposed LAP to the Natura 2000 network was assessed above in Section 2.2 where the only potentially relevant impact was seen to arise from the hydrological link (via the Ballycullen Stream, the Oldcourt Stream, the River Dodder, and the Grand Canal Trunk Sewer) that exists between the Plan lands and the Dublin Bay Natura 2000 sites.

The full range of policies and objectives contained within the South Dublin County Council Development Plan 2010 – 2016 will also apply to all development proposals within the Ballycullen-Oldcourt Local Area Plan. The SDCC County Development Plan contains a number of policies and objectives that relate to the protection of the environment, landscape, water quality, and Natura 2000 sites. The protection of SACs and pNHAs is specifically referred to in Policy LHA 6 of the CDP:

> **Policy LHA 6**: *It is the policy of the Council to protect and preserve areas designated or proposed as Special Areas of Conservation (E.U. Habitats Directive) and proposed Natural Heritage Areas*'.

In addition, the requirements for appropriate assessment of potential impacts on Natura 2000 sites are detailed in Policy LHA 7:

> **Policy LHA 7:** *It is the policy of the Council that projects giving rise to significant direct, indirect or secondary impacts on Natura 2000 sites arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other effects shall not be permitted on the basis of this Plan (either individually or in combination with other plans or projects); Except as provided for in Article 6(4) of the Habitats Directive, viz.There must be:*
>
> *(a) No alternative solution available;*
> *(b) Imperative reasons of overriding public interest for the plan to proceed and*
> *(c) Adequate compensatory measures in place.*
>
> *All subsequent plan-making and adoption of plans arising from this Plan will be screened for the need to undertake Appropriate Assessment under Article 6 of the Habitats Directive. Where relevant, projects will be screened for the need to undertake Appropriate Assessment under Article 6 of the Habitats Directive.*

A range of other policies in the County Development Plan 2010-2016 relate to water quality and waste water treatment, all of which aim to eliminate or reduce the potential for deterioration of water quality, both ground water and surface water (see Appendix 4). In particular, Policy WD2 of the County development Plan specifically relates to the requirement that sufficient capacity in public waste water treatment must precede development.

> **Policy WD 2** Wastewater Treatment Plants and Wastewater Collection Systems
> *It is the policy of the Council that development shall be preceded by sufficient capacity in the public wastewater treatment plants and appropriate extensions in the existing public wastewater collection systems.*

For the proposed Ballycullen-Oldcourt LAP, each of the objectives proposed under the four identified plan strategies (see Section 2.1.4.) was screened to determine whether or not the potential existed for

these to have a significant negative impact on the Natura 2000 network. This assessment is presented in Appendix 3.

Within the draft Ballycullen-Oldcourt LAP, the Green Infrastructure Strategy (see Section 5.3 Green Infrastructure Strategy), in particular utilises green infrastructure as a means to '*create a green infrastructure network of high quality amenity routes, green spaces and surface water attenuation areas that will permeate the Plan Lands and utilise elements of heritage and potential biodiversity value'*.

The main features of the Green Infrastructure Strategy include:

1. Protecting and augmenting existing streams and field boundaries as natural swales for incorporation into an integrated Sustainable Urban Drainage System (SUDS) that will collect and direct run-off from the Dublin Mountains and new development before attenuating such in wetland areas and features prior to delayed release (if any) downstream.
2. Implementing a hierarchy of green spaces that will permeate the Plan Lands with spaces that will serve a variety of roles and functions.
3. The routing of SUDS features through green corridors and parks that will also accommodate networks of biodiversity corridors, hedgerows, streams, and surface water attenuation areas.
4. Creating landscaped buffers between the Plan Lands, the Dublin Mountains and the M50 to create a clear separation between the suburbs and countryside and to mitigate against noise.
5. Incorporating old and established paths into a comprehensive network of tracks and trails.
6. Requiring the design and arrangement of development to respond and flow with the topography of the lands rather than against the topography.

This Green Infrastructure Strategy has been informed by the SEA, Appropriate Assessment (Habitat Directive) and Flood Risk Assessment procedures. Thirty four (34) accompanying objectives by which this GI Strategy will be achieved are set out in Appendix 1 of the LAP document. These individual objectives provide for a range of specific measures which aim to protect and enhance existing ecological and hydrological resources on the LAP lands and hence the quality of water leaving the site.

In particular, the requirement for the incorporation of a range of SuDS measures, the assessment of Flood Risk, the protection of groundwater sources, and the provision of a specified and quantified areas of open spaces, all act together to ensure protection of biodiversity and to prevent the deterioration of water quality both on the LAP Lands and leaving the LAP Lands (see Appendix 3 for full text and assessments of these objectives).

Adherence to these strategy and objectives, in combination with the over-arching protective policies and objectives in the SDCC County Development Plan (relevant objectives listed in Appendix 4), will therefore act to avoid significant downstream impacts on Natura 2000 sites.

The draft Ballycullen-Oldcourt Local Area Plan has also been subject to Strategic Environmental Assessment which considered the following environmental issues within the LAP lands: Population, Biodiversity (flora, fauna), Landscapes/Geology, Agriculture, Water Quality, Air Quality, Waste Management, Cultural and Material assets, and Climate and Sustainability. The interaction between the various environmental topics is considered in the Environmental Report where potential impacts on biodiversity and flora and fauna have been examined.

The outcome of the SEA process indicates that where possible conflicts with the status of the listed Strategic Environmental Objectives were identified, these conflicts were all likely to be mitigated for.

2.4 OTHER INSTRUMENTS CONSIDERED

The draft Ballycullen-Oldcourt LAP was considered in the context of a range of other higher level measures, all of which assist in mitigating any potential impacts of the LAP. These include the following National Plans, Regional Plans and Local Plans: Sustainable Development – A Strategy for Ireland (1997); National Spatial Strategy 2002-2020; National Climate Change Strategy, 2000; National Heritage Plan (2002); The Planning System and Flood Risk Management Guidelines 2009; Regional Planning Guidelines 2010 – 2020: A Platform For Change And Transport 21; Sustainable Residential Development In Urban Areas 2009; The Retail Planning Strategy For The Greater Dublin Area (2008-2016); South Dublin County Council Development Plan 2010 – 2016; Green City Guidelines' (UCD Urban Institute Ireland 2008).

SECTION 3 DESCRIPTION OF NATURA 2000 SITES

There are no Natura 2000 sites located within the draft Ballycullen-Oldcourt LAP. The Natura 2000 sites located within 15km of the LAP are listed in Table 1. There are also two proposed Natural Heritage Area (pNHA) in the vicinity of the LAP lands. The Dodder Valley proposed Natural Heritage Area (Site Code: 000991) is located c.2km to the north of the plan lands while Lugmore Glen pNHA (Site Code: 001212) is located c. 4km west of the Plan Lands . There are no other designated biodiversity areas affected by the proposed Local Area Plan which have a recognised National, European Union or International protection status.

Full site descriptions of the Natura 2000 sites listed in Table 1 are provided in Appendix 1. A summary of the main elements of interest for each of these sites follows:

Glenasmole Valley SAC contains a high diversity of habitats and plant communities and lists three habitats listed on Annex I of the EU Habitats Directive: petrifying springs with tufa formation, semi-natural dry grassland and scrubland facies on calcareous substrate (*Festuco-Brometalia*) (important orchid sites), and *Molinia* meadows on calcareous, peaty, or clayey-silt-laden soils (*Molinion caeruleae*). Both petrifying springs and orchid-rich calcareous grasslands also qualify as Priority Habitats under the Habitats Directive. The presence of four Red Data Book plant species further enhances the value of the site as does the presence of populations of several mammal and bird species of conservation interest. The River Dodder flows through the valley and has been impounded here to form two reservoirs which supply water to south Dublin.

Draft Conservation Objectives:

1 To maintain the Annex 1 habitats for which the cSAC has been selected at favourable conservation status – *Petrifying springs with tufa formation, Semi-natural dry grassland and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (*important orchid sites), *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)
2 To maintain the extent, species richness and biodiversity of the entire site.
3 To establish effective liaison and co-operation with landowners, legal users and relevant authorities.

Wicklow Mountains SAC is an important complex, extensive, upland site covering much of the Wicklow Mountains and a portion of the Dublin Mountain range. Within the boundaries of South Dublin County, the SAC encompasses the mountains of Ballymorefinn, Corrig, Kilakee, and Cruagh, stretching south to the summit of Kippure Mountain at the border with County Wicklow. While the entire SAC lists ten habitats listed in Annex I of the EU Habitats Directive, the vegetation within the South Dublin County portion of the site mainly provides good examples of the typical upland habitats of heath, blanket bog and upland grassland. Several rare, protected plant and animal species also occur in this SAC.

Draft Conservation Objectives:

1 To maintain the Annex 1 habitats for which the cSAC has been selected at favourable conservation status:– Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea; Natural dystrophic lakes and ponds; Northern Atlantic wet heaths with *Erica tetralix*; European dry heaths; Alpine and Boreal heaths; Species-rich *Nardus* grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe); Blanket bog; Siliceous scree of the montane to snow levels; (Androsacetalia alpinae and Galeopsietalia ladani); Calcareous rocky slopes with chasmophytic vegetation; Siliceous rocky slopes with chasmophytic vegetation; Old sessile oak woods with *Ilex* and *Blechnum* in British Isles.
2 To maintain the Annex 2 species for which the cSAC has been selected at favourable conservation status: - *Lutra lutra*
3 To maintain the extent, species richness and biodiversity of the entire site.

4 To establish effective liaison and co-operation with landowners, legal users and relevant authorities.

Wicklow Mountains SPA (Site Code 4040) is an extensive upland site, comprising a substantial part of the Wicklow Mountains (See Appendix for full site description). The site, which is within the Wicklow Mountains National Park, is fragmented into about twenty separate parcels of land. Much of the site is State-owned and managed for nature conservation based on traditional landuses for the uplands. The site is of high ornithological importance as it supports very good examples of upland and woodland bird communities, several of which are very rare at a national level. Two species, Ring Ouzel and Red Grouse, are Red-listed and their status is of high conservation concern.

Main Conservation Objective:
To maintain the special conservation interests for the SPA at favourable conservation status – Merlin, Peregrine.

Poulaphouca Reservoir SPA (Site Code 4063) is located in the western foothills of the Wicklow Mountains (See Appendix for full site description). The principal interest of the site is the Greylag Goose population, which is of international importance. The site provides the main roost for the birds, with feeding occurring mostly on improved grassland outside of the site. A range of other wildfowl species also occurs, including Whooper Swan, a species that is listed on Annex I of the E.U. Birds Directive. The site is also notable as a winter roost for gulls, especially Lesser Black-backed Gull.

Main Conservation Objective:
To maintain the special conservation interests for the SPA at favourable conservation status – Greylag Goose, Lesser Black-backed Gull, Wetland and Waterbirds.

Rye Water Valley/Carton (Site Code 001398)
This site is located between Leixlip and Maynooth in Co. Kildare. It extends along the Rye Water, a tributary of the River Liffey. The woodlands at Carton Demesne are the site of a rare fungus, *Diderma deplanatum* and also support birds such as Blackcap, Woodcock, and Long-eared Owls. On or about the lake, birds such as Little Grebe, Coot, Moorhen, Tufted Duck, Teal, and Kingfisher have been recorded. Kingfisher are listed in Annex 1 of the EU Birds Directive. The mineral spring occurring on the site is also listed as an Annex 1 habitat of the EU Habitats Directive. The Rye Water is a spawning ground for Trout and Salmon while White-clawed crayfish *Austropotomobius pallipes*has been recorded at Leixlip. Rare snail species and dragonflies also occur in the marsh vegetation near to Louisa Bridge. The main importance of the site lies in the presence of several rare and threatened plant and animal species and of a rare habitat – thermal, mineral, petrifying spring.

Draft Conservation Objectives:

1. To maintain the Annex 1 habitats for which the cSAC has been selected at favourable conservation status:– *Petrifying springs with tufa formation
2. To maintain the Annex 2 species for which the cSAC has been selected at favourable conservation status: - *Vertigo angustior, Vertigo moulinsiana*
3. To maintain the extent, species richness and biodiversity of the entire site.
4. To establish effective liaison and co-operation with landowners, legal users and relevant authorities.

North Dublin Bay SAC (Site Code 000206) covers the inner part of north Dublin Bay, the seaward boundary extending from the Bull Wall lighthouse across to the Martello Tower at Howth Head (See Appendix for full site description). The North Bull Island is the focal point of this site. This SAC site is an excellent example of a coastal site with all the main habitats represented. It holds good examples of ten habitats that are listed on Annex I of the E.U. Habitats Directive; one of these is listed with priority status. Several wintering bird species have populations of international importance, while

some invertebrates on the site are of national importance. The site also contains a numbers of rare and scarce plants including some which are legally protected.

Draft Conservation Objectives:

1. To maintain the Annex 1 habitats for which the cSAC has been selected at favourable conservation status:– Mudflats and sandflats not covered by seawater at low tide; Annual vegetation of drift lines; Salicornia and other annuals colonising mud and sand; Atlantic salt meadows (*Glauco Puccinellietalia maritimae*); *Petalophyllun ralfsii*; Mediterranean salt meadows (*Juncetalia maritimi*); Embryonic shifting dunes; Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes); Fixed coastal dunes with herbaceous vegetation (grey dunes); Humid dune slacks
2. To maintain the extent, species richness and biodiversity of the entire site.
3. To establish effective liaison and co-operation with landowners, legal users and relevant authorities.

South Dublin Bay SAC (Site Code 000210) lies south of the River Liffey and extends from the South Wall to the west pier at Dun Laoghaire (See Appendix for full site description). It is a fine example of a coastal system with extensive sand and mudflats. South Dublin Bay is also an internationally important bird site.

Draft Conservation Objectives:

1. To maintain the Annex 1 habitats for which the cSAC has been selected at favourable conservation status: - Mudflats and sandflats not covered by seawater at low tide.
2. To maintain the extent, species richness and biodiversity of the entire site.
4 To establish effective liaison and co-operation with landowners, legal users and relevant authorities.

South Dublin Bay and River Tolka Estuary SPA (Site Code 4024) comprises a substantial part of Dublin Bay. It includes the intertidal area between the River Liffey and Dun Laoghaire, and the estuary of the River Tolka to the north of the River Liffey, as well as Booterstown Marsh. A portion of the shallow marine waters of the bay is also included (See Appendix for full site description).

The site is an important site for wintering waterfowl, being an integral part of the internationally important Dublin Bay complex. It is of international importance for Light-bellied Brent Goose and of national importance for nine other waterfowl species. As an autumn tern roost, it is also of international importance. Furthermore, the site supports a nationally important colony of Common Tern. All of the tern species using the site are listed on Annex I of the E.U. Birds Directive, as are Bartailed Godwit and Mediterranean Gull.

Main Conservation Objective:
To maintain the special conservation interests for the SPA at favourable conservation status – Light-bellied Brent Goose, Oystercatcher, Ringed Plover, Golden Plover, Knot, Sanderling, Dunlin, Bar-tailed Godwit, Redshank, Black-headed Gull, Roseate Tern, Common Tern, Arctic Tern, and Wetland and Waterbirds.

SECTION 4 ASSESSMENT OF POTENTIAL IMPACTS

4.1 ASSESSMENT OF PROPOSED LAP

In Section 2.2 (Assessment of relevance of proposed Plan to Natura 2000 Sites), a potential hydrological link was identified as being the primary source-pathway-receptor between the draft LAP lands and Natura 2000 sites – primarily the Dublin Bay Natura 2000 sites. No other hydrological or ecological links to other Natura 2000 sites within 15km of the LAP lands was identified as posing a potential threat. This hydrological link via the Ballycullen Stream and the Oldcourt Stream thereby potentially provides a vehicle for the transfer of negative impacts to these Natura 2000 sites downstream of the draft LAP lands which rely on water quality for the maintenance of their conservation objectives.

An assessment of the objectives and policies of the proposed LAP (Appendix 3) was undertaken and no significant impacts were identified. In some instances, particularly arising from the Green Infrastructure strategy, positive impacts are likely to arise in relation to water quality and the overall biodiversity resource *e.g*. retention and enhancement of existing ecological features and wildlife corridors and the utilisation of SUDs measures to manage volume and quality of surface water discharge.

The draft Plan was assessed following the factors as listed: - size and scale; land-take; distance from the Natura 2000 site or key features of the site; resource requirements (water abstraction etc.); emissions (disposal to land, water, or air); excavation requirements); transportation requirements; duration of construction, operation, decommissioning, etc.; habitat area; disturbance to key species; habitat or species fragmentation; species density; changes in key indicators of conservation value (water quality etc.); climate change; key relationships that define the structure of the site; key relationships that determine the function of the site.

The Plan's policies and objectives, in conjunction with the over-arching policies of the South Dublin County Development Plan 2010-1016 within which framework the LAP is placed, in addition to the range of other instruments considered in the formulation of the LAP (see Section 2.4), all serve to ensure that no significant negative impact arises from the proposed Plan.

4.2 CUMULATIVE IMPACTS

The National Spatial Strategy 2002-2020 and the National Development Plan 2007-2013 set the national planning framework within which the proposed Ballycullen-Oldcourt Local Area Plan has been prepared. Within South Dublin County itself, the County Development Plan 2010-2016 provides the local framework within the regional approach of the Regional Planning Guidelines 2010-2020. These documents have been subject to screening for Appropriate Assessment to ensure no significant impacts are likely. The draft Ballycullen-Oldcourt LAP has been prepared taking the objectives and policies of these plans into account.

The assessment for the current draft Ballycullen-Oldcourt LAP indicates there will be no significant impacts arising from this plan. In relation to potential cumulative impacts from the proposed LAP in conjunction with other plans and projects, it is a requirement that each of these, in addition to each individual application within the proposed LAP itself, will all be subject to screening for appropriate assessment to ensure there will be no significant negative impact on Natura 2000 sites. Taken together, adherence to this required approach will ensure no cumulative impacts will arise from these plans.

SECTION 5 CONCLUSIONS

This screening report has evaluated the draft Ballycullen-Oldcourt Local Area Plan to determine whether or not significant negative impacts on Natura 2000 sites are likely to arise by virtue of the Plan's implementation. The report finds that the Plan has been formulated to ensure that developments and effects arising from the Plan, either individually or in combination with other plans and projects, shall not give rise to significant effects on the integrity of any Natura 2000 site.

The Appropriate Assessment procedure for this proposed Plan is therefore concluded at this Screening Stage and a detailed (Stage 2) Appropriate Assessment is not required.

Appendix 1

Natura 2000 descriptions (as listed in Table 1)

SITE SYNOPSIS
SITE NAME: GLENASMOLE VALLEY
SITE CODE: 001209

Glenasmole Valley in south Co. Dublin lies on the edge of the Wicklow uplands, approximately 5 km from Tallaght. The River Dodder flows through the valley and has been impounded here to form two reservoirs which supply water to south Dublin. The non-calcareous bedrock of the Glenasmole Valley has been overlain by deep drift deposits which now line the valley sides. They are partly covered by scrub and woodland, and on the less precipitous parts, by a herb-rich grassland. There is much seepage through the deposits, which brings to the surface water rich in bases, which induces local patches of calcareous fen and, in places, petrifying springs, a priority habitat listed on Annex I of the EU Habitats Directive.

Examples of calcareous fen and flush areas occur between the two reservoirs, where sedges (*Carex flacca* and *Carex panicea*) are joined by such species as Grass of Parnassus (*Parnassia palustris*), Few-flowered Spike-rush (*Eleocharis quinqueflora*), Zig-zag clover (*Trifolium medium*) and the scarce Fen Bedstraw (*Galium uliginosum*).

Orchid-rich grassland occurs in the drier parts of this site and in places grades into *Molinia* meadow, both of these habitats are listed on Annex I of the EU Habitats Directive. Species recorded in these habitats include Frog Orchid (*Coeloglossum viride*), Northern Marsh-orchid (*Dactylorhiza purpurella*), Fragrant Orchid (*Gymnadenia conopsea*), Marsh Helleborine (*Epipactis palustris*), Early-purple Orchid (*Orchis mascula*) and Greater Butterfly Orchid (*Platanthera chlorantha*).

Two Red Data Book species have also been found here, Green-winged Orchid (*Orchis morio*) and Small-white Orchid (*Pseudorchis albida*). The sward includes Sweet Vernal-grass (*Anthoxanthum odoratum*), Creeping Bent (*Agrostis stolonifera*) and Crested Dog's-tail (*Cynosurus cristatus*). Other species which occur are Common Bird's-foot-trefoil (*Lotus corniculatus*), Kidney Vetch (*Anthyllis vulneraria*), Common Restharrow (*Ononis repens*), Yellow-wort (*Blackstonia perfoliata*) and Autumn Gentian (*Gentianella amarella*).

Woodland occurs in patches around the site. On the east side of the valley, below the northern lake, a Hazel (*Corylus avellana*) wood has developed on the unstable calcareous slopes and includes Ash (*Fraxinus excelsior*), Downy Birch (*Betula pubescens*), Goat Willow (*Salix caprea*) and (Irish) Whitebeam (*Sorbus hibernica*). Spring Wood-rush (*Luzula pilosa*), Wood Speedwell (*Veronica montana*) and Brambles (*Rubus fruticosus* agg.) are included in the ground flora.

Wet semi-natural broad-leaved woodland is also found around the reservoirs and includes Alder (*Alnus glutinosa*) and Willow (*Salix* spp.) with Yellow Iris (*Iris pseudacorus*), Horsetail (*Equisetum* spp.), Brambles and localised patches of Japanese Knotweed (*Reynoutria japonica*), an introduced species.

The lake shore vegetation is not well developed, which is typical of a reservoir. There are occasional patches of Canary-grass (*Phalaris arundinacea*) and Purple-loosestrife (*Lythrum salicaria*), which are more extensive around the western shore of the northern lake, along with Common Marsh-bedstraw (*Galium palustre*) and Water Mint (*Mentha aquatica*). Other vegetation includes Shoreweed (*Littorella uniflora*) and the scarce Water Sedge (*Carex aquatilis*).

As well as the Green-winged Orchid and Small-white Orchid, two other threatened species which are listed in the Irish Red Data Book also occur in the site, Yellow Archangel (*Lamiastrum galeobdolon*) and Yellow Bird's-nest (*Monotropa hypopitys*).

The site provides excellent habitat for bat species, with at least four species recorded: Pipistrelle, Leisler's, Daubenton's and Brown Long-eared Bat. Otter occurs along the

river and reservoirs. These habitats also support Kingfisher, an Annex I species under the EU Birds Directive.

Glenasmole Valley contains a high diversity of habitats and plant communities, including three habitats listed on Annex I of the EU Habitats Directive. The presence of four Red Data Book plant species further enhances the value of the site as does the presence of populations of several mammal and bird species of conservation interest.

03.09.2001

SITE SYNOPSIS
SITE NAME: WICKLOW MOUNTAINS
SITE CODE: 002122

This site is a complex of upland areas in Counties Wicklow and Dublin, flanked by Blessington Reservoir to the west and Vartry Reservoir in the east, Cruagh Mt. in the north and Lybagh Mt. in the south. Most of the site is over 300m, with much ground over 600m and the highest peak of Lugnaquilla at 925m.

The Wicklow Uplands comprise a core of granites flanked by Ordovician schists, mudstones and volcanics. The form of the Wicklow Glens is due to glacial erosion. The Wicklow Mountains are drained by several major rivers including the Dargle, Liffey, Dodder, Slaney and Avonmore. The river water in the mountain areas is often peaty, especially during floods.

The topography is typical of a mountain chain, showing the effects of more than one cycle of erosion. The massive granite has weathered characteristically into broad domes. Most of the western part of the site consists of an elevated moorland, covered by peat. The surrounding schists have assumed more diverse outlines, forming prominent peaks and rocky foothills with deep glens. The dominant topographical features are the products of glaciation. High corrie lakes, deep valleys and moraines are common features of this area. The substrate over much of the area is peat, usually less than 2m deep. Poor mineral soil covers the slopes and rock outcrops are frequent

The vegetation over most of the site is a mosaic of heath, blanket bog and upland grassland (mostly on peaty soil, though some on mineral soil), with stands of dense Bracken (*Pteridium aquilinum*) and small woodlands mainly along the rivers. Mountain loughs and corrie lakes are scattered throughout the site. The site supports many habitats that are listed on Annex I of the E.U. Habitats Directive.

The two dominant vegetation communities in the area are heath and blanket bog. Heath vegetation, with both wet and dry heath well represented, occurs in association with blanket bog, upland acid grassland and rocky habitats. The wet heath is characterised by species such as Ling (*Calluna vulgaris*), Cross-leaved Heath (*Erica tetralix*), Cottongrasses (*Eriophorum* spp.), Tormentil (*Potentilla erecta*), Mat-grass (*Nardus stricta*), Bent grasses (*Agrostis* spp.) and bog mosses (*Sphagnum* spp.). In places the wet heath occurs in conjunction with flush communities and streamside vegetation, and here species such as Heath Rush (*Juncus squarrosus*) and *Carex* spp. are found. Dry heath at this site is confined to shallow peaty soils on steep slopes where drainage is better and particularly in sheltered conditions. It is characterised by species such as Ling, Gorse (*Ulex* spp.), Bell Heather (*Erica cinerea*), Bilberry (*Vaccinium myrtillus*), Purple Moor-grass (*Molinia caerulea*) and lichens (*Cladonia* spp.). In places the heath grades into upland grassland on mineral soil, some examples of which correspond to the E.U. Habitats Directive Annex I priority habitat species-rich *Nardus* grassland.

Blanket bog is usually dominated by Cottongrasses, Ling and bog mosses (*Sphagnum* spp.). On steeper slopes there is some flushing and here Purple Moor-grass, Heath Rush, and certain *Sphagnum* species become more common. The Liffey Head blanket bog is among the best of its kind in eastern Ireland, with deep peat formations and an extensive system of dystrophic pools developed among the hummocks and hollows on the bog surface. The vegetation is largely dominated by Ling and Cross-

leaved Heath, with Cottongrasses (*Eriophorum vaginatum* and *E. angustifolium*), Deergrass (*Scirpus cespitosus*) and Bog Asphodel (*Narthecium ossifragum*). In drier areas, Bilberry and Cowberry (*Vaccinium vitis-idaea*) are common, while the scarce Bog Rosemary (*Andromeda polifolia*) is also found. Blanket bog occurs over extensive areas of deeper peat on the plateau and also on gentle slopes at high altitudes. Peat erosion is frequent on the peaks - this may be a natural process, but is likely to be accelerated by activities such as grazing.

Due to the underlying rock strata, the water of the rivers and streams tends towards acidity. The water is generally oligotrophic and free from enrichment. The lakes within the area range from the high altitude lakes of Lough Firrib and Three Lakes, to the lower pater-noster lakes of Glendalough, Lough Tay and Lough Dan. Spectacular corrie lakes (such as Loughs Bray (Upper and Lower), Ouler, Cleevaun, Arts, Kellys and Nahanagan) exhibit fine sequences of moraine stages. The deep lakes are characteristically species poor, but hold some interesting plants including an unusual form of Quillwort (*Isoetes lacustris* var. *morei*), a Stonewort (*Nitella* sp.) and Floating Bur-reed (*Sparganium angustifolium*). The Red Data Book fish species Arctic Char has been recorded from Lough Dan, but this population may now have died out.

Alpine vegetation occurs on some of the mountain tops, notably in the Lugnaquilla area, and also on exposed cliffs and scree slopes elsewhere in the site. Here alpine heath vegetation is represented with species such as Crowberry (*Empetrum nigrum*), Cowberry, Dwarf Willow (*Salix herbacea*), the grey-green moss *Racomitrium lanuginosum* and scarce species such as Mountain Clubmoss (*Diphasiastrum alpinum*), Firmoss (*Huperzia selago*), and Starry Saxifrage (*Saxifraga stellaris*). Some rare arctic-alpine species have been recorded, including Alpine Lady's-mantle (*Alchemilla alpina*) and Alpine Saw-wort (*Saussurea alpina*).

Small areas of old oakwood (Blechno-Quercetum petraeae type) occur on the slopes of Glendalough and Glenmalure, near L. Tay and L. Dan, with native Sessile Oak (*Quercus petraea*) 100-120 years old. On wetter areas, wet broadleaved semi-natural woodlands occur, which are dominated by Downy Birch (*Betula pubescens*). Mixed woodland with non-native tree species also occurs.

The site supports a range of rare plant species, which are listed in the Irish Red Data Book: Parsley Fern (*Cryptogramma crispa*), Marsh Clubmoss (*Lycopodiella inundata*), Greater Broom-rape (*Orobanche rapum-genistae*), Alpine Lady's-mantle, Alpine Saw-wort, Lanceolate Spleenwort (*Asplenium billotii*), Small White Orchid (*Pseudorchis albida*) and Bog Orchid (*Hammarbya paludosa*). The latter three species are legally protected under the Flora (Protection) Order, 1999. The rare Myxomycete fungus, *Echinostelium colliculosum*, has been recorded from the Military Road.

Mammals and birds which occur are typical of the uplands. Deer are abundant, mainly hybrids between Red and Sika Deer. Other mammals include Hare, Badger and Otter, the latter being a species listed on Annex II of the E.U. Habitats Directive. Pine Marten has recently been confirmed as occurring within the site. Among the birds, Meadow Pipit, Skylark, Raven and Red Grouse are resident throughout the site. Wheatear, Whinchat and the scarce Ring Ouzel are summer visitors. Wood Warbler and Redstarts are rare breeding species of the woodlands. Dipper and Grey Wagtail are typical riparian species. Merlin and Peregrine Falcon, both Annex I species of the EU Birds Directive, breed within the site. Recently, Goosander has become established as a breeding species.

Large areas of the site are owned by NPWS, and managed for nature conservation based on traditional landuses for the uplands. The most common landuse is traditional sheep grazing. Other land uses include turf-cutting, mostly hand-cutting but some machine-cutting occurs. These activities are largely confined to the Military Road, where there is easy access. Large areas which had been previously hand-cut and are now abandoned, are regenerating. In the last 40 years, forestry has become an important landuse in the uplands, and has affected both the wildlife and the hydrology of the area. Amenity use is very high, with Dublin city close to the site.

Wicklow Mountains is important as a complex, extensive upland site. It shows great diversity from a geomorphological and a topographical point of view. The vegetation provides examples of the typical upland habitats with heath, blanket bog and upland grassland covering large, relatively undisturbed areas. In all ten habitats listed on Annex I of the EU Habitats Directive are found within the site. Several rare, protected plant and animal species occur.
12.10.2001

SITE SYNOPSIS
SITE NAME: WICKLOW MOUNTAINS SPA
SITE CODE: 004040

This is an extensive upland site, comprising a substantial part of the Wicklow Mountains. The underlying geology of the site is mainly of Leinster granites, flanked by Ordovician schists, mudstones and volcanics. The area was subject to glaciation and features fine examples of glacial lakes, deep valleys and moraines. Most of site is over 300 m, with much ground being over 600 m; the highest peak is Lugnaquillia (925 m). The substrate over much of site is peat, with poor mineral soil occurring on the slopes and lower ground. Exposed rock and scree are features of the site.

The dominant habitats present are blanket bog, heaths and upland grassland. The bog habitat is usually dominated by Ling (*Calluna vulgaris*), Cross-leaved Heath (*Erica tetralix*), Cottongrasses (*Eriophorum vaginatum* and *E. angustifolium*), Deergrass (*Scirpus cespitosus*) and Bog Asphodel (*Narthecium ossifragum*). Bog mosses (*Sphagnum* spp.) are well represented. On shallower peats, dry heath is represented by such species as Ling, Gorse (*Ulex* spp.), Bell Heather (*Erica cinerea*), Bilberry (*Vaccinium myrtillus*), Purple Moor-grass (*Molinia caerulea*) and lichens (*Cladonia* spp.). Fine examples of native Oak woodlands are found in the Glendalough area, and include Sessile Oak (*Quercus petraea*) trees of 100-120 years old. Glendalough Lake is a good example of an oligotrophic system.

The site supports good examples of both upland and woodland bird communities. The open peatlands provide excellent foraging habitat for Merlin (5-10 pairs) and Peregrine (*c*. 10 pairs). The Merlins nest in old crows nests, whilst the Peregrines nest on cliffs and crags. Other birds of the open peatlands and scree slopes include Ring Ouzel, now a very rare bird in Ireland, and Red Grouse. The Wicklow uplands are the only regular location in Ireland where Goosander breeds, with the Glendalough lakes being a regular site. This species was proved to be breeding only as recently as 1994 and it is now well established. Whinchat, a localised species in Ireland, breeds within the site.

The Glendalough Oak woods are a regular location for several rare breeding passerines. Redstart is recorded most years and 1-2 pairs probably breed. Wood Warbler is another annual visitor, with perhaps up to 5 pairs in some years. Recently, Garden Warbler has been recorded, whilst Blackcap has a very strong breeding population.

The site, which is within the Wicklow Mountains National Park, is fragmented into about twenty separate parcels of land. Much of the site is State-owned and managed for nature conservation based on traditional landuses for the uplands. The most common landuse is traditional sheep grazing. Other land uses include turf-cutting, mostly by hand though some machine-cutting also occurs. Grazing by sheep and deer in the woodlands can be damaging as it prevents or reduces regeneration. Dublin City is close to the site and amenity use is very high; if not properly controlled, recreational activities could cause disturbance to some bird species.

This site is of high ornithological importance as it supports very good examples of upland and woodland bird communities. Several of the species which occur are very rare at a national level. Two species, Ring Ouzel and Red Grouse, are Red-listed and their status is of high conservation concern. Also of note is that Merlin and Peregrine are both listed on Annex I of the E.U. Birds Directive.

25.8.2004

SITE SYNOPSIS
SITE NAME: POULAPHOUCA RESERVOIR SPA
SITE CODE: 004063

Poulaphouca Reservoir SPA, located in the western foothills of the Wicklow Mountains, was created in 1944 by damming of the River Liffey for the purpose of generating electricity from hydropower. The reservoir covers an area of approximately 20 square kilometres and is the largest inland water body in the Mideast and south-east regions. The reservoir receives water from two main sources, the River Liffey at the northern end, and the Kings River at the southern end. The exit is into the River Liffey gorge at the western end. Underlying the reservoir are sands and gravels deposited during the last glaciation. The shores of the lake are mostly sandy.

When water levels are low the exposed lake muds are colonised by an ephemeral flora of annual plant species. Wet grassland areas occur in sheltered bays around the lake but especially in the northern part. Reed Canary-grass (*Phalaris arundinacea*) is the main grass species present, but other plant species characteristic of wet grasslands occur, including Creeping Bent (*Agrostis stolonifera*), Meadowsweet (*Filipendula ulmaria*), Yellow Iris (*Iris pseudacorus*) and Water Mint (*Mentha aquatica*). Sedges (*Carex* spp.) are locally common, while Rusty Willow (*Salix cinerea* subsp. *oleifolia*) scrub is often found associated with the wet grassland. In some places the water
washes against grassy banks which are generally less than a metre high, and in a few places there are steep sand and clay cliffs, up to 15 m high - these are remnants of the old River Liffey channel. In many places the banks are actively eroding, and a strip of conifers has been planted around much of the perimeter of the reservoir in an attempt to stabilize the banks.

Poulaphouca Reservoir is of international importance for its Greylag Goose population, which is one of the largest in the country. The site provides the main roost for the birds, with feeding occurring mostly on improved grassland outside of the site. An average peak of 1,058 individuals occurred during the five seasons 1995/96 to 1999/00. A range of other waterfowl species occur in relatively low numbers, including Whooper Swan (34), Wigeon (262), Teal (136), Mallard (283),
Goldeneye (36), Cormorant (16), Great Crested Grebe (11), Curlew (118) and Mute Swan (17). The site is also used by Grey Heron (12).

The reservoir attracts roosting gulls during winter, most notably a large population of Lesser Black-backed Gull (1,116), which in Ireland is rare in winter away from the south coast. Black-headed Gull (1,245) and Common Gull (229) also occur. Breeding birds at the site include Great Crested Grebe (several pairs), which is localised in its distribution in eastern Ireland, as well as Snipe and Lapwing. The principal interest of the site is the Greylag Goose population, which is of international importance. A range of other wildfowl species also occurs, including Whooper Swan, a species that is listed on Annex I of the E.U. Birds Directive. The site is also notable as a winter roost for gulls, especially Lesser Black-backed Gull.
2.3.2005

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

This site covers the inner part of north Dublin Bay, the seaward boundary extending from the Bull Wall lighthouse across to the Martello Tower at Howth Head. The North Bull Island is the focal point of this site. The island is a sandy spit which formed after the building of the South Wall and Bull Wall in the 18th and 19th centuries. It now extends for about 5 km in length and is up to 1 km wide in places.

A well-developed and dynamic dune system stretches along the seaward side of the island. Various types of dunes occur, from fixed dune grassland to pioneer communities on foredunes. Marram Grass (*Ammophila arenaria*) is dominant on the outer dune ridges, with Lyme Grass (*Leymus arenarius*) and Sea Couchgrass (*Elymus farctus*) on the foredunes. Behind the first dune ridge, plant diversity increases with the appearance of such species as Wild Pansy (*Viola tricolor),* Kidney Vetch (*Anthyllis vulneraria*), Bird's-foot Trefoil (*Lotus corniculatus*), Rest Harrow (*Ononis repens*), Yellow Rattle (*Rhinanthus minor*) and Pyramidal Orchid (*Anacamptis pyramidalis*). In these grassy areas and slacks, the scarce Bee Orchid (*Ophrys apifera*) occurs.

About 1 km from the tip of the island, a large dune slack with a rich flora occurs, usually referred to as the 'Alder Marsh' because of the presence of Alder trees (*Alnus* spp). The water table is very near the surface and is only slightly brackish. Saltmarsh Rush (*Juncus maritimus*) is the dominant species, with Meadow Sweet (*Filipendula ulmaria*) and Devil's-bit (*Succisa pratensis*) being frequent. The orchid flora is notable and includes Marsh Helleborine (*Epipactis palustris*), Common Twayblade (*Listera ovata*), Autumn Lady's-tresses (*Spiranthes spiralis*) and Marsh orchids (*Dactylorhiza* spp.)

Saltmarsh extends along the length of the landward side of the island. The edge of the marsh is marked by an eroding edge which varies from 20 cm to 60 cm high. The marsh can be zoned into different levels according to the vegetation types present. On the lower marsh, Glasswort (*Salicornia europaea*), Saltmarsh Grass (*Puccinellia maritima*), Annual Sea-blite (*Suaeda maritima*) and Greater Sea-spurrey (*Spergularia media*) are the main species. Higher up in the middle marsh Sea Plantain (*Plantago maritima*), Sea Aster (*Aster tripolium*), Sea Arrowgrass (*Triglochin maritima*) and Sea Pink (*Armeria maritima*) appear. Above the mark of the normal high tide, species such as Scurvy Grass (*Cochlearia officinalis*) and Sea Milkwort (*Glaux maritima*) are found, while on the extreme upper marsh, Sea Rushes (*Juncus maritimus* and *J. gerardii*) are dominant. Towards the tip of the island, the saltmarsh grades naturally into fixed dune vegetation.

The island shelters two intertidal lagoons which are divided by a solid causeway. The sediments of the lagoons are mainly sands with a small and varying mixture of silt and clay. The north lagoon has an area known as the "*Salicornia* flat", which is dominated by *Salicornia dolichostachya*, a pioneer Glasswort species, and covers about 25 ha. Tassel Weed (*Ruppia maritima)* occurs in this area, along with some Eelgrass (*Zostera angustifolia*). Eelgrass (*Z. noltii*) also occurs in Sutton Creek. Cordgrass (*Spartina anglica*) occurs in places but its growth is controlled by management. Green algal mats (*Enteromorpha* spp., *Ulva lactuca*) cover large areas of the flats during summer. These sediments have a rich macrofauna, with high densities of Lugworms (*Arenicola marina*) in parts of the north lagoon. Mussels (*Mytilus edulis*) occur in places, along with bivalves such as *Cerastoderma edule*, *Macoma balthica* and *Scrobicularia plana*. The small gastropod *Hydrobia ulvae* occurs in high densities in places, while the crustaceans *Corophium volutator* and *Carcinus maenas* are common. The sediments on the seaward side of North Bull Island are mostly sands. The site extends below the low spring tide mark to include an area of the sublittoral zone.

Three Rare plant species legally protected under the Flora Protection Order 1987 have been recorded on the North Bull Island. These are Lesser Centaury (*Centaurium pulchellum*), Hemp Nettle (*Galeopsis angustifolia*) and Meadow Saxifrage (*Saxifraga granulata*). Two further species listed as threatened in the Red Data Book, Wild Sage (*Salvia verbenaca*) and Spring Vetch (*Vicia lathyroides*), have also been recorded. A rare liverwort, *Petalophyllum ralfsii*, was first recorded from the North Bull Island in 1874 and has recently been confirmed as being still present there. This species is of high conservation value as it is listed on Annex II of the E.U. Habitats Directive. The North Bull is the only known extant site for the species in Ireland away from the western seaboard.

North Dublin Bay is of international importance for waterfowl. During the 1994/95 to 1996/97 period the following species occurred in internationally important numbers (figures are average maxima): Brent Geese 2,333; Knot 4,423; Bar-tailed Godwit 1,586. A further 14 species occurred in nationally

important concentrations - Shelduck 1505; Wigeon 1,166; Teal 1,512; Pintail 334; Shoveler 239; Oystercatcher 2,190; Ringed Plover 346; Grey Plover 816; Sanderling 357; Dunlin 6,238; Blacktailed Godwit 156; Curlew 1,193; Turnstone 197 and Redshank 1,175. Some of these species frequent South Dublin Bay and the River Tolka Estuary for feeding and/or
roosting purposes (mostly Brent Goose, Oystercatcher, Ringed Plover, Sanderling, Dunlin).

The tip of the North Bull Island is a traditional nesting site for Little Tern. A high total of 88 pairs nested in 1987. However, nesting attempts have not been successful since the early 1990s. Ringed Plover, Shelduck, Mallard, Skylark, Meadow Pipit and Stonechat also nest. A well-known population of Irish Hare is resident on the island The invertebrates of the North Bull Island have been studied and the island has been shown to contain at least seven species of regional or national importance in Ireland (Orders Diptera, Hymenoptera, Hemiptera).

The main landuses of this site are amenity activities and nature conservation. The North Bull Island is the main recreational beach in Co Dublin and is used throughout the year. Much of the land surface of the island is taken up by two golf courses. Two separate Statutory Nature Reserves cover much of the island east of the Bull Wall and the surrrounding intertidal flats. The site is used regularly for educational purposes.

North Bull Island has been designated a Special Protection Area under the E.U. Birds Directive and it is also a statutory Wildfowl Sanctuary, a Ramsar Convention site, a Biogenetic Reserve, a Biosphere Reserve and a Special Area Amenity Order site. This site is an excellent example of a coastal site with all the main habitats represented. The holds good examples of ten habitats that are listed on Annex I of the E.U. Habitats Directive; one of these is listed with priority status. Several of the wintering bird species have populations of international importance, while some of the invertebrates are of national importance. The site contains a numbers of rare and scarce plants including some which are legally protected. Its proximity to the capital city makes North Dublin Bay an excellent site for educational studies and research.

23.11.1999

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

This site lies south of the River Liffey and extends from the South Wall to the west pier at Dun Laoghaire. It is an intertidal site with extensive areas of sand and mudflats, a habitat listed on Annex I of the E.U. Habitats Directive. The sediments are predominantly sands but grade to sandy muds near the shore at Merrion gates.

The main channel which drains the area is Cockle Lake. There is a bed of Eelgrass (*Zostera noltii*) below Merrion Gates which is the largest stand on the east coast. Green algae (*Enteromorpha* spp. and *Ulva lactuca*) are distributed throughout the area at a low density. Fucoid algae occur on the rocky shore in the Maretimo to Dún Laoghaire area. Species include *Fucus spiralis, F. vesiculosus, F. serratus, Ascophyllum nodosum* and *Pelvetia canaliculata.*
Lugworm (*Arenicola marina*) and Cockles (*Cerastoderma edule*) and other annelids and bivalves are frequent throughout the site. The small gastropod *Hydrobia ulvae* occurs on the muddy sands off Merrion Gates.

South Dublin Bay is an important site for waterfowl. Although birds regularly commute between the south bay and the north bay, recent studies have shown that certain populations which occur in the south bay spend most of their time there. The principal species are Oystercatcher (1215), Ringed

Plover (120), Sanderling (344) and Dunlin (2628), Redshank (356) (average winter peaks 1996/97 and 1997/98). Up to 100 Turnstones are usual in the south bay during winter. Brent Geese regularly occur in numbers of international importance (average peak 299). Bar-tailed Godwit (565), a species listed on Annex I of the EU Birds Directive, also occur.

Large numbers of gulls roost in South Dublin Bay, e.g. 4,500 Black-headed Gulls in February 1990; 500 Common Gulls in February 1991. It is also an important tern roost in the autumn, regularly holding 2000-3000 terns including Roseate Terns, a species listed on Annex I of the E.U. Birds Directive. South Dublin Bay is largely protected as a Special Protection Area.
At low tide the inner parts of the south bay are used for amenity purposes. Baitdigging is a regular activity on the sandy flats. At high tide some areas have windsurfing and jet-skiing.

This site is a fine example of a coastal system with extensive sand and mudflats, a habitat listed on Annex I of the E.U. Habitats Directive. South Dublin Bay is also an internationally important bird site.

25.2.2000

SITE SYNOPSIS
SITE NAME: SOUTH DUBLIN BAY AND RIVER TOLKA ESTUARY SPA
SITE CODE: 004024
The South Dublin Bay and River Tolka Estuary SPA comprises a substantial part of Dublin Bay. It includes the intertidal area between the River Liffey and Dun Laoghaire, and the estuary of the River Tolka to the north of the River Liffey, as well as Booterstown Marsh. A portion of the shallow marine waters of the bay is also included.

In the south bay, the intertidal flats extend for almost 3 km at their widest. The sediments are predominantly well-aerated sands. Several permanent channels exist, the largest being Cockle Lake. A small sandy beach occurs at Merrion Gates, while some bedrock shore occurs near Dun Laoghaire. The landward boundary is now almost entirely artificially embanked. There is a bed of Dwarf Eelgrass (*Zostera noltii*) below Merrion Gates which is the largest stand on the east coast. Green algae (*Enteromorpha* spp. and *Ulva lactuca*) are distributed throughout the area at a low density. The macro-invertebrate fauna is well-developed, and is characterised by annelids such as Lugworm (*Arenicola marina*), *Nephthys* spp. and Sand Mason (*Lanice conchilega*), and bivalves, especially Cockle (*Cerastoderma edule*) and Baltic Tellin (*Macoma balthica*). The small gastropod Spire Shell (*Hydrobia ulvae*) occurs on the muddy sands off Merrion Gates, along with the crustacean *Corophium volutator*.

Sediments in the Tolka Estuary vary from soft thixotrophic muds with a high organic content in the inner estuary to exposed, well-aerated sands off the Bull Wall. The site includes Booterstown Marsh, an enclosed area of saltmarsh and muds that is cut off from the sea by the Dublin/Wexford railway line, being linked only by a channel to the east, the Nutley stream. Sea water incursions into the marsh occur along this stream at high tide. An area of grassland at Poolbeg, north of Irishtown Nature Park, is also included in the site.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Light-bellied Brent Goose, Oystercatcher, Ringed Plover, Golden Plover, Grey Plover, Knot, Sanderling, Dunlin, Bar-tailed Godwit, Redshank, Black-headed Gull, Roseate Tern, Common Tern and Arctic Tern. The E.U. Birds Directive pays particular attention to wetlands, and as these form part of the SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

The site is an important site for wintering waterfowl, being an integral part of the internationally important Dublin Bay complex – all counts for wintering waterbirds are mean peaks for the five year

period 1995/96-99/2000. Although birds regularly commute between the south bay and the north bay, recent studies have shown that certain populations which occur in the south bay spend most of their time there. An internationally important population of Light-bellied Brent Goose (525) occurs regularly and newly arrived birds in the autumn feed on the Eelgrass bed at Merrion. Light-bellied Brent Goose is also known to feed on the grassland at Poolbeg.

The site supports nationally important numbers of a further nine species: Oystercatcher (1,263), Ringed Plover (161), Golden Plover (1,452), Grey Plover (183), Knot (1,151), Sanderling (349), Dunlin (2,753), Bar-tailed Godwit (866) and Redshank (713). Other species occurring in smaller numbers include Great Crested Grebe (21), Curlew (397) and Turnstone (75).

South Dublin Bay is a significant site for wintering gulls, especially Black-headed Gull (3,040), but also Common Gull (330) and Herring Gull (348). Mediterranean Gull is also recorded from here, occurring through much of the year, but especially in late winter/spring and again in late summer into winter. Both Common Tern and Arctic Tern breed in Dublin Docks, on a man-made mooring structure known as the E.S.B. dolphin – this is included within the site. Small numbers of Common Tern and Arctic Tern were recorded nesting on this dolphin in the 1980s. A survey of the dolphin in 1999 recorded Common Tern nesting here in nationally important numbers (194 pairs). This increase was largely due to the ongoing management of the site for breeding terns. More recent data highlights this site as one of the most important Common Tern sites in the country with over 400 pairs recorded here in 2007.

The south bay is an important tern roost in the autumn (mostly late July to September). Birds also use the Dalkey Islands to the south. The origin of many of the birds is likely to be the Dublin breeding sites (Rockabill and the Dublin Docks) though numbers suggest that the site is also used by birds from other sites, perhaps outside the state. More than 10,000 terns have been recorded, consisting of Common, Arctic and Roseate terns. The wintering birds within this site are now well-monitored. More survey, however, is required on the wintering gulls and the autumn terns.
Booterstown Marsh supports an important population of Borrer's Saltmarsh-grass (*Puccinellia fasciculata*), a rare, Red Data Book species that is listed on the Flora (Protection) Order, 1999.

The South Dublin Bay and River Tolka Estuary SPA is of international importance for Light-bellied Brent Goose and of national importance for nine other waterfowl species. As an autumn tern roost, it is also of international importance. Furthermore, the site supports a nationally important colony of Common Tern. All of the tern species using the site are listed on Annex I of the E.U. Birds Directive, as are Bartailed Godwit and Mediterranean Gull.

1.5.2008

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

This site covers all of the inner part of north Dublin Bay, with the seaward boundary extending from the Bull Wall lighthouse across to Drumleck Point at Howth Head. The North Bull Island sand spit is a relatively recent depositional feature, formed as a result of improvements to Dublin Port during the 18th and 19th centuries. It is almost 5 km long and 1 km wide and runs parallel to the coast between Clontarf and Sutton. Part of the interior of the island has been converted to golf courses.
A well-developed and dynamic dune system stretches along the seaward side of the island. Various types of dunes occur, from fixed dune grassland to pioneer communities on foredunes. Marram Grass (*Ammophila arenaria*) is dominant on the outer dune ridges. Species of the fixed dunes include Wild Pansy (*Viola tricolor*), Kidney Vetch (*Anthyllis vulneraria*), Bird's-foot Trefoil (*Lotus corniculatus*), Pyramidal Orchid (*Anacamptis pyramidalis*) and, in places, the scarce Bee Orchid

(*Ophrys apifera*). A feature of the dune system is a large dune slack with a rich flora, usually referred to as the 'Alder Marsh' because of the presence of Alder (*Alnus glutinosa*) trees. The water table is very near the surface and is only slightly brackish. Sea Rush (*Juncus maritimus*) is the dominant species, with Meadowsweet (*Filipendula ulmaria*) and Devil's-bit Scabious (*Succisa pratensis*) being frequent. The orchid flora is notably diverse in this area.

Saltmarsh extends along the length of the landward side of the island and provides the main roost site for wintering birds in Dublin Bay. On the lower marsh, Glasswort (*Salicornia europaea*), Common Saltmarsh-grass (*Puccinellia maritima*), Annual Seablite (*Suaeda maritima*) and Greater Sea-spurrey (*Spergularia media*) are the main species. Higher up in the middle marsh Sea Plantain (*Plantago maritima*), Sea Aster (*Aster tripolium*), Sea Arrowgrass (*Triglochin maritima*) and Thrift (*Armeria maritima*) appear. Above the mark of the normal high tide, species such as Common Scurvygrass (*Cochlearia officinalis*) and Sea Milkwort (*Glaux maritima*) are found, while on the extreme upper marsh, Sea Rush and Saltmarsh Rush (*Juncus gerardi*) are dominant.

The island shelters two intertidal lagoons which are divided by a solid causeway. These lagoons provide the main feeding grounds for the wintering waterfowl. The sediments of the lagoons are mainly sands with a small and varying mixture of silt and clay. Tasselweed (*Ruppia maritima*) and small amounts of Eelgrass (*Zostera* spp.) are found in the lagoons. Common Cord-grass (*Spartina anglica*) occurs in places. Green algal mats (*Enteromorpha* spp., *Ulva lactuca*) are a feature of the flats during summer. These sediments have a rich macro-invertebrate fauna, with high densities of Lugworm (*Arenicola marina*) and Ragworm (*Hediste diversicolor*). Mussels (*Mytilus edulis*) occur in places, along with bivalves such as *Cerastoderma edule*, *Macoma balthica* and *Scrobicularia plana*. The small gastropod *Hydrobia ulvae* occurs in high densities in places, while the crustaceans *Corophium volutator* and *Carcinus maenas* are common. The sediments on the seaward side of North Bull Island are mostly sands and support species such as Lugworm and the Sand Mason (*Lanice conchilega*). The site includes a substantial area of the shallow marine bay waters.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Light-bellied Brent Goose, Shelduck, Teal, Pintail, Shoveler, Oystercatcher, Ringed Plover, Golden Plover, Grey Plover, Knot, Sanderling, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Curlew, Redshank, Turnstone and Black-headed Gull. The site is also of special conservation interest for holding an assemblage of over 20,000 wintering waterbirds. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

The North Bull Island SPA is of international importance for waterfowl on the basis that it regularly supports in excess of 20,000 waterfowl. It also qualifies for international importance as the numbers of three species exceed the international threshold – Light-bellied Brent Goose (1,548), Black-tailed Godwit (367) and Bartailed Godwit (1,529) (all waterfowl figures given are average maxima for the five winters 1995/96 to 1999/00). The site is the top site in the country for both of these species. A further 14 species have populations of national importance – Shelduck (1,259), Teal (953), Pintail (233), Shoveler (141), Oystercatcher (1,784), Ringed Plover (139), Golden Plover (1,741), Grey Plover (517), Knot (2,623), Sanderling (141), Dunlin (3,926), Curlew (937), Redshank (1,431) and Turnstone (157). The populations of Pintail and Knot are of particular note as they comprise more than 10% of the respective national totals. Species such as Grey Heron, Cormorant, Wigeon, Goldeneye, Red-breasted Merganser and Greenshank are regular in winter in numbers of regional or local importance. Gulls are a feature of the site during winter, especially Black-headed Gull (2,196). Common Gull (332) and Herring Gull (331)

also occur here. While some of the birds also frequent South Dublin Bay and the River Tolka Estuary for feeding and/or roosting purposes, the majority remain within the site for much of the winter. The wintering bird populations have been monitored more or less continuously since the late 1960s and the site is now surveyed each winter as part of the larger Dublin Bay complex.
The North Bull Island SPA is a regular site for passage waders, especially Ruff, Curlew Sandpiper and Spotted Redshank. These are mostly observed in single figures in autumn but occasionally in spring or winter.
The site formerly had an important colony of Little Tern but breeding has not occurred in recent years. Several pairs of Ringed Plover breed, along with Shelduck in some years. Breeding passerines include Skylark, Meadow Pipit, Stonechat and Reed Bunting. The island is a regular wintering site for Short-eared Owl, with up to 5 present in some winters.
The site has five Red Data Book vascular plant species, four rare bryophyte species, and is nationally important for three insect species. The rare liverwort, *Petalophyllum ralfsii*, was first recorded from the North Bull Island in 1874 and its presence here has recently been re-confirmed. This species is of high conservation value as it is listed on Annex II of the E.U. Habitats Directive. A well-known population of Irish Hare is resident on the island
The main landuses of this site are amenity activities and nature conservation. The North Bull Island is one of the main recreational beaches in Co. Dublin and is used throughout the year. Two separate Statutory Nature Reserves cover much of the island east of the Bull Wall and the surrounding intertidal flats. North Bull Island is also a Wildfowl Sanctuary, a Ramsar Convention site, a Biogenetic Reserve, a Biosphere Reserve and a Special Area Amenity Order site. Much of the SPA is also a candidate Special Area of Conservation. The site is used regularly for educational purposes and there is a manned interpretative centre on the island.
The North Bull Island SPA is an excellent example of an estuarine complex and is one of the top sites in Ireland for wintering waterfowl. It is of international importance on account of both the total number of waterfowl and the individual populations of Lightbellied Brent Goose, Black-tailed Godwit and Bar-tailed Godwit that use it. Also of significance is the regular presence of several species that are listed on Annex I of the E.U. Birds Directive, notably Golden Plover and Bar-tailed Godwit, but also Ruff and Short-eared Owl.
22.5.2008

SITE SYNOPSIS
SITE NAME: BALLYMAN GLEN
SITE CODE: 000713
Ballyman Glen is situated approximately 3 km north of Enniskerry. It is orientated in an east-west direction with a stream running through the centre. The glen is bounded mostly by steeply sloping pasture with Gorse (*Ulex europaeus*) and areas of wood and scrub.
This site is a candidate SAC selected for alkaline fen and petrifying springs, both habitats listed on Annex I of the EU Habitats Directive.
The glen contains a small strip of fen, which runs along the county boundary and extends into County Dublin. This fen is very alkaline and is associated with petrifying spring/seepage areas that have given rise to thick deposits of marl. The vegetation of the main part of the fen is dominated by Greater Tussock-sedge (*Carex paniculata*), Tall Fescue (*Festuca arundinacea*), Butterworts (*Pinguicula vulgaris* and *P. lusitanica*), Black Bog-rush (*Schoenus nigricans*) and Broad-leaved Cottongrass (*Eriophorum latifolium*). The site is particularly notable for its orchids, which includes Early Marsh-orchid (*Dactylorhiza incarnata*), Narrow-leaved Marsh-orchid (*D. traunsteineri*) and Marsh Helleborine (*Epipactis palustris*). In addition, twenty species of sedge have been recorded in the area, including the scarce Long-stalked

Yellow-sedge (*Carex lepidocarpa*). The fen area is being invaded by Downy Birch (*Betula pubescens*). Associated with the fen, and also with the woodland elsewhere in the site, are petrifying springs. These lime-encrusted seepage areas are rich in bryophytes including such diagnostic species as Great Horsetail (*Equisetum telmateia*), *Cratoneuron commutatum* and *C. filicinum*.
Wet woodland and scrub occur along the margins of the stream for most of the length of the glen, extending outwards in areas to create inaccessible and species-rich patches of woodland. The canopy is dominated by Alder (*Alnus glutinosa*), Willow (*Salix* spp.) and Ash (*Fraxinus excelsior*). The woodland has a dense shrub layer which includes Hawthorn (*Crataegus monogyna*) and Spindle (*Euonymus europaeus*), and a diverse ground flora with Marsh Hawks-beard (*Crepis paludosa*), Sanicle (*Sanicula europaea*), Herb-Robert (*Geranium robertianum*), Bugle (*Ajuga reptans*), Horsetails (*Equisetum* spp.), Meadowsweet (*Filipendula ulmaria*) and some sedges (*Carex* spp.). Areas of marsh are found in the wetter areas by the stream, particularly at the western end of the site.
There is an area of broad-leaved woodland on the steeper southern slopes of the glen. Common species occurring here are Ash and Sycamore (*Acer pseudoplatanus*), with Brambles (*Rubus fruticosus* agg.) colonizing the more open areas.
An area of land that slopes towards the fen has been used as a landfill site for domestic refuse. The site is also used a clay pigeon shoot and shattered clay pigeons are scattered throughout the area. Fens are rare in Wicklow/Dublin and this is one of only two sites in Wicklow for the Narrow-leaved Marsh-orchid. The fen vegetation is well developed, with an unusually large number of sedge species present. The presence of alkaline fen and of petrifying spring/seepage areas on the site is particularly notable, as these habitats are listed, the latter with priority status, on Annex I of the EU Habitats Directive.
30.10.2002

SITE SYNOPSIS
SITE NAME: KNOCKSINK WOOD
SITE CODE: 000725
Knocksink Wood is situated in the valley of the Glencullen River north-west of Enniskerry. The fast-flowing Glencullen River winds its way over granite boulders along the valley floor. The steep sides of the valley are mostly covered with calcareous drift.
Some of the slopes are dominated by Sessile Oak (*Quercus petraea*) with a sparse shrub layer of Holly (*Ilex aquilinum*) and Hazel (*Corylus avellana*), while on the ground there is a carpet of Great Wood-rush (*Luzula sylvatica*). Other areas are characterised by mixed woodland, with Oak, Ash (*Fraxinus excelsior*), Beech (*Fagus sylvatica*), Sycamore (*Acer pseudoplatanus*) and the occasional conifer occurring. The ground flora includes Ivy (*Hedera helix*) and Brambles (*Rubus fruticosus* agg.), and often luxuriant ferns, such as Hart's Tongue (*Phyllitis scolopendrium*), Soft Shield-fern (*Polystichium setiferum*), and mosses. Lichens occur abundantly on some trees.
A notable feature of the slopes are the frequent and extensive springs and seepage areas within the woodland. These petrifying springs are listed as a priority habitat on Annex I of the EU Habitats Directive. Associated with the springs and the river are stands of wet alluvial forest, also a habitat listed with priority status on Annex I of the EU Habitats Directive. The wet woodland is dominated by Ash and Alder (*Alnus* spp.) and is assigned to the group *Carici remotae-Fraxinetum*. Other species which occur include Willow (*Salix* spp.), Birch (*Betula pubescens*) and Hazel. Islands in the river and open gravelly areas provide further habitat diversity.
A number of scarce or rare plants occur within the site including Blue Fleabane (*Erigeron acer*), Ivy-leaved Bellflower (*Wahlenbergia hederacea*) and Yellow

Archangel (*Lamiastrum galeobdolon*).
This site has one of the most diverse woodland invertebrate faunas in Ireland, incorporating wet woodland organisms threatened internationally within the EU. Vertebrates noted in the vicinity, either by tracks, sett or sight, include Red Squirrel, Badger, Rabbit and Deer. The woodland supports large populations of birds, including many common passerines (Robin, Blackbird, Song Thrush, Wren, Chaffinch) and crows, such as Rook, Hooded Crow, Magpie, Jackdaw and Raven. A Buzzard has been noted in the area and Dipper are occasionally seen in the river. The importance of this site lies in the diversity of woodland habitats which occur. The presence of rare or threatened plants and invertebrates adds to the interest. Much of this site has been designated a Statutory Nature Reserve and there is presently an educational centre within the site.
7.8.2003

Appendix 2

Identification of Natura 2000 Sites and their Relevance to the Proposed LAP

Site Name and Code	Distance from Proposed Plan	Natura 2000 Features of Interest	Do any potential source-pathway-receptor links exist between the proposed development and the Natura 2000 site?
Glenasmole Valley SAC (001209)	3 km	*Petrifying springs with tufa formation Semi-natural dry grassland and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (*important orchid sites) *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)	No. The Glenasmole Valley SAC is located in the Dublin Mountains which is situated at an altitude higher than that of the proposed LAP lands and in a separate river catchment area which does not drain through the proposed LAP lands. There are therefore no hydrological links connecting the Natura 2000 site to the lands of the proposed LAP. In addition, there are no direct ecological pathways linking the two areas.
Wicklow Mountains SAC (002122)	7 km	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea Natural dystrophic lakes and ponds Northern Atlantic wet heaths with *Erica tetralix* European dry heaths; Alpine and Boreal heaths Species-rich *Nardus* grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) Blanket bog	No. The Wicklow Mountains SAC is located in the Dublin Mountains which is situated at an altitude higher than that of the proposed LAP lands and in a separate river catchment area which does not drain through the proposed LAP lands. There are therefore no hydrological links connecting the Natura 2000 site to the lands of the proposed LAP. In addition, there are no direct ecological pathways linking the two areas.
Wicklow Mountains SPA (004040)	8 km	Merlin (Falco columbarius) Peregrine (Falco peregrinus)	No. The Wicklow Mountains SPA is located in the Dublin Mountains which is situated at an altitude higher than that of the proposed LAP lands and in a separate river catchment area which does not drain through the proposed LAP lands. There are therefore no hydrological links connecting the Natura 2000 site to the lands of the proposed LAP. In addition, there are no direct ecological pathways linking the two areas.

Poulaphouca Reservoir SPA (004063)	10 km	Greylag Goose (Anser anser) Lesser Black-backed Gull (Larus fuscus)	No. The Poulaphouca Reservoir SPA is located south of the proposed LAP lands in adjacent Co. Kildare in a separate river catchment area which does not drain through the proposed LAP lands. There are therefore no hydrological links connecting the Natura 2000 site to the lands of the proposed LAP. In addition, there are no other direct ecological pathways linking the two areas.
North Dublin Bay SAC (000206)	>10 km	Mudflats and sandflats not covered by seawater at low tide Annual vegetation of drift lines Salicornia and other annuals colonizing mud and sand Spartina swards (Spartinion maritimae) Atlantic salt meadows (Glauco-Puccinellietalia maritimae) Petalwort (Petalophyllum ralfsii) Mediterranean salt meadows (Juncetalia maritimi) Embryonic shifting dunes Shifting dunes along the shoreline with Ammophila arenaria (white dunes) Fixed coastal dunes with herbaceous vegetation (grey dunes) Humid dune slacks	While a potential hydrological link connects the proposed LAP lands to this Dublin Bay Natura 2000 site, the policies and objectives outlined in the proposed LAP and in the over-arching document of the South Dublin County Development Plan in relation to water supply, ground water and surface water quality, waste water treatment, and capacity of Ringsend Waste Water treatment plant, will together ensure no significant impact arises from the LAP.
South Dublin Bay SAC (000210)	> 10km	Mudflats and sandflats not covered by seawater at low tide	While a potential hydrological link connects the proposed LAP lands to this Dublin Bay Natura 2000 site, the policies and objectives outlined in the proposed LAP and in the over-arching document of the South Dublin County Development Plan in relation to water supply, ground water and surface water

			quality, waste water treatment, and capacity of Ringsend Waste Water treatment plant, will together ensure no significant impact arises from the LAP.
South Dublin Bay and River Tolka Estuary SPA (004024)	>10 km	Light-bellied Brent Goose (Branta bernicla hrota) Oystercatcher (Haematopus ostralegus) Ringed Plover (Charadrius hiaticula) Golden Plover (Pluvialis apricaria) Knot (Calidris canutus) Sanderling (Calidris alba) Dunlin (Calidris alpina) Bar-tailed Godwit (Limosa lapponica) Redshank (Tringa totanus) Black-headed Gull (Larus ridibundus) Roseate Tern (Sterna dougallii) Common Tern (Sterna hirundo) Arctic Tern (Sterna paradisaea) Wetlands & Waterbirds	While a potential hydrological link connects the proposed LAP lands to this Dublin Bay Natura 2000 site, the policies and objectives outlined in the proposed LAP and in the over-arching document of the South Dublin County Development Plan in relation to water supply, ground water and surface water quality, waste water treatment, and capacity of Ringsend Waste Water treatment plant, will together ensure no significant impact arises from the LAP.

North Bull Island SPA (004006)	>10 km	Light-bellied Brent Goose (Branta bernicla hrota) Shelduck (Tadorna tadorna) Teal (Anas crecca) Pintail (Anas acuta) Shoveler (Anas clypeata) Oystercatcher (Haematopus ostralegus) Golden Plover (Pluvialis apricaria) Grey Plover (Pluvialis squatarola) Knot (Calidris canutus) Sanderling (Calidris alba) Dunlin (Calidris alpina) Black-tailed Godwit (Limosa limosa) Bar-tailed Godwit (Limosa lapponica) Curlew (Numenius arquata) Redshank (Tringa totanus) Turnstone (Arenaria interpres) Black-headed Gull (Larus ridibundus) Wetlands & Waterbirds	While a potential hydrological link connects the proposed LAP lands to this Dublin Bay Natura 2000 site, the policies and objectives outlined in the proposed LAP and in the over-arching document of the South Dublin County Development Plan in relation to water supply, ground water and surface water quality, waste water treatment, and capacity of Ringsend Waste Water treatment plant, will together ensure no significant impact arises from the LAP.

Appendix 3

Screening of individual actions proposed in the draft Ballycullen-Oldcourt Local Area Plan

Objectives of the Draft Ballycullen-Oldcourt Local Area Plan

The objectives of the proposed Local Area Plan are grouped under the four strategies as identified above in Section 2.1.3 were each assessed for any potential negative impact upon the Natura 2000 sites listed in Table 1.

1. Accessibility and Movement Strategy

Objective		Potential for negative impact on Natura 2000 sites
AM1	All development proposals that include routes for vehicular movement or sections of such routes for movement, regardless of extent, shall largely comply with the street network strategy illustrated in Figure 5.1. (Section 5.2). New streets shall follow the contours of the land in a concentric fashion in order to minimise the impact on the landscape and on natural drainage.	This is a design objective and will have no negative impact on Natura 2000 sites downstream of Local Area Plan lands.
AM2	Development shall help create and link with a curvilinear layout of streets All development shall avail of every possibility to link and provide routes into the planned street network and provide a choice of multi-directional connections to existing and planned local facilities and services.	This is a design objective and will have no negative impact on Natura 2000 sites downstream of Local Area Plan lands.
AM3	All development proposals that include routes for vehicular movement or sections of such routes for movement, regardless of extent, shall implement and adhere to the street hierarchy and functions detailed in Table 5.1 and the requirements of the *Design Manual for Urban Roads and Streets (DMURS).*	This is a design objective and will have no negative impact on Natura 2000 sites downstream of Local Area Plan lands.
AM4	Development proposals shall offer choices of connected routes for pedestrian, cyclist and motor vehicles and help to dissipate traffic throughout the Plan Lands especially vehicular traffic.	This is a design objective and will have no negative impact on Natura 2000 sites downstream of Local Area Plan lands.

AM5	All neighbourhoods shall be afforded direct and convenient vehicular, pedestrian and cyclist access to Primary or Secondary Link Streets. Local Streets shall be safe, barrier free, overlooked by development and shall have a design speed of 30kph.	This is a design objective and will have no negative impact on Natura 2000 sites downstream of Local Area Plan lands.
AM6	An open network of streets that provides full permeability for all users shall be implemented in the more compact areas of the Plan Lands (Lower and Mid Slope Lands) while a filtered permeability network of streets that provides good permeability for vehicles and full permeability for pedestrians and cyclists shall be implemented in the less compact areas (Upper Slope Lands).	This is a design objective and will have no negative impact on Natura 2000 sites downstream of Local Area Plan lands.
AM7	Streets shall be designed using a more integrated approach to pedestrian, cycle, vehicular movement in accordance with the requirements of the *DMURS* and the principles of universal design to include for people of all ages and abilities. Sufficient provision shall be provided for pedestrian and cyclist movement on both sides of each street (with the exception of shared surface streets) with reduced carriageway widths for vehicles.	This is a permeability design objective and will have no negative impact on Natura 2000 sites downstream of Local Area Plan lands.
AM8	Local (tertiary) Streets shall be designed for speeds conducive to shared pedestrian, cycle and vehicular movement.	This is a design objective and will have no negative impact on Natura 2000 sites downstream of Local Area Plan lands.
AM9	Cycling and walking shall be encouraged within and through the Plan Lands by creating a connected network of safe and accessible pedestrian and cycle routes that serve all streets and spaces including existing streets. All neighbourhood blocks shall be afforded direct pedestrian and cyclist access to Primary or Secondary Link Streets Link Streets and direct or indirect routes to community facilities especially parks, open spaces, local shopping facilities and public transport. There shall be no barriers to pedestrian or cyclist movement between housing developments including between new and existing developments and no barriers shall be erected along streets with limited exception for garden boundaries.	No impact on Natura 2000 network. – potential for overall positive impact. Sustainable settlement, access and transport patterns are likely to result in reduced car based movements and therefore fewer carbon emissions.

AM10	Junctions shall be designed to provide for safe and convenient pedestrian and cyclist movement in accordance with the *DMURS*. Roundabout junctions are actively discouraged. Existing roundabout junctions along Stocking Avenue and Hunters Road shall also be upgraded to signalized junctions that incorporate pedestrian and cycling crossing movements (see Fig 5.1 and Section 5.2). The upgraded junctions should be carried out as part of adjoining development and shall be designed in accordance with the *DMURS.*	No impact on Natura 2000 network. – potential for overall positive impact. Sustainable settlement, access and transport patterns are likely to result in reduced car based movements and therefore fewer carbon emissions.
AM11	All commercial, community and school development shall include for bicycle parking facilities designed in accordance with the recommendations set out in the *National Cycle Manual* (2011) and Standards and Design Criteria section of this LAP.	No impact on Natura 2000 network. – potential for overall positive impact. Sustainable settlement, access and transport patterns are likely to result in reduced car based movements and therefore fewer carbon emissions.
AM 12	Planning applications for residential, commercial and employment development shall provide for or integrate with direct, safe and attractive pedestrian and cycle routes to existing and planned public transport stops and termini.	No impact on Natura 2000 network. – potential for overall positive impact. Sustainable settlement, access and transport patterns are likely to result in reduced car based movements and therefore fewer carbon emissions.
AM 13	No barriers shall be erected along Link Streets and existing barriers adjacent to new development especially railings along Oldcourt Road and Stocking Avenue shall be removed for improved street frontage and access. This should be carried out as part of any development that bounds or is located adjacent to the aforementioned streets.	This is a design objective and will have no negative impact on Natura 2000 sites downstream of Local Area Plan lands.
AM 14	To offer choices of routes and help to dissipate vehicular traffic throughout the Plan Lands by providing for multiple vehicular routes and connections in the form of Secondary Link Streets and Local Streets between neighbourhood blocks and local facilities including shopping, public transport and parks.	This is a design objective and will have no negative impact on Natura 2000 sites downstream of Local Area Plan lands.

AM 15	To design streets for slow vehicular speeds from the outset with street designs that accord with the *DMURS* and incorporate a combination of measures including, closer proximity of buildings, narrow carriageways, frequent crossing points, reduced visibility splays, on-street parking, tighter corner radii, shared surfaces and horizontal and vertical elements such as low traffic tables at junctions and pinch points. This will include a design speed of 30 – 40 kilometres per hour for Link Streets and 10 - 30 kilometres per hour for Local Streets.	This is a design objective and will have no negative impact on Natura 2000 sites downstream of Local Area Plan lands.
AM 16	Assess all interfaces between proposed developments, existing housing and undeveloped lands at planning application stage and ensure that all proposed development connects and integrates with the existing and planned network of streets and spaces. All developments shall seek to create permeable layouts and encourage surveillance of streets and spaces.	This is a design objective and will have no negative impact on Natura 2000 sites downstream of Local Area Plan lands.
AM 17	Create open ended routes through existing and new development in a manner that ensures greater permeability and convenient pedestrian and cycle access to community facilities, schools, open spaces, local shopping, or public transport stops for future and existing residents.	No impact on Natura 2000 network - potential for overall positive impact. Sustainable settlement and public transport patterns are likely to result in reduced car based movements and therefore fewer carbon emissions.
AM 18	Upgrade existing cul-de-sacs to provide for, at a minimum, pedestrian and cyclist access. Temporary cul-de-sacs shall only be permissible between occupied housing and adjacent construction works and shall exclude turning circles, hammerhead junctions and masonry walls. The temporary nature of any such cul-de-sacs should be clearly annotated and illustrated on planning application drawings.	No impact on Natura 2000 network - potential for overall positive impact. Sustainable settlement and public transport patterns are likely to result in reduced car based movements and therefore fewer carbon emissions.

2. Green Infrastructure

GI 1	Promote the sustainable collection and on-site retention of surface water for delayed discharge to the local water system and for use as an on-site resource and as a means of creating a biodiversity network that will retain and develop existing flora and fauna.	No negative impact on Natura 2000 network. Likely positive impact - SUDS features such as these will help prevent contamination of groundwater, reduce the risk of flooding, and assist in maintaining the quality of water leaving the LAP lands and discharging ultimately into Dublin Bay.
GI 2	That a linked SUDS network shall be implemented fully across the Plan Lands in accordance with national and regional SUDS requirements including the Greater Dublin Strategic Drainage Study Initiative. All proposed developments shall contribute to the achievement of this integrated network in order to reduce surface water run-off and to minimise the risk of flooding of the Plan Lands and surrounding lands. This shall include for a series of attenuation and wetland areas (ponds, basis and reedbeds) set within parklands and wetland areas within linear green spaces. The size and depth of the proposed SUDS retention areas shall be designed in accordance with the policies of the Greater Dublin Drainage Study and the guidelines provided on the irishsuds.com website.	No negative impact on Natura 2000 network. Likely positive impact - SUDS features such as these will help prevent contamination of groundwater, reduce the risk of flooding, and assist in maintaining the quality of water leaving the LAP lands and discharging ultimately into Dublin Bay.
GI 3	Ensure that existing natural streams and drainage ditches shall be retained and augmented with grassed swales within a series of green corridors, wetland areas and parks to form an integral conveyance and attenuation system as part of the overall SUDS network.	No negative impact on Natura 2000 network. Likely positive impact - SUDS features such as these will help prevent contamination of groundwater, reduce the risk of flooding, and assist in maintaining the quality of water leaving the LAP lands and discharging ultimately into Dublin Bay.
GI 4	Ensure that SUDS elements such as swales, ponds, basins and reedbeds and other major SUDS features are planted with suitable riparian vegetation and water tolerant tree planting that will clean and attenuate surface water flow.	No negative impact on Natura 2000 network. Likely positive impact - SUDS features such as these will help prevent contamination of groundwater, reduce the risk of flooding, and assist in maintaining the quality of water leaving the LAP lands

		and discharging ultimately into Dublin Bay.
GI 5	Ensure that all newly created swales utilised within the SUDS network shall be of an appropriate (shallow and wide) dimension to allow for ease of maintenance, including mowing, and shall be designed in the interest of health and safety where practical.	No negative impact on Natura 2000 network. Likely positive impact - SUDS features such as these will help prevent contamination of groundwater, reduce the risk of flooding, and assist in maintaining the quality of water leaving the LAP lands and discharging ultimately into Dublin Bay.
GI 6	Ensure that all individual developments and associated infrastructure including streets and spaces shall incorporate on-site SUDS technologies detailed in the Standards Section (Appendix 2) of this Local Area Plan. Features such as porous paviors, green roofs, rainwater recycling systems and soakaways should be linked into the overall SUDS network.	No negative impact on Natura 2000 network. Likely positive impact - SUDS features such as these will help prevent contamination of groundwater, reduce the risk of flooding, and assist in maintaining the quality of water leaving the LAP lands and discharging ultimately into Dublin Bay.
GI 7	All planning applications for development in areas at risk of flooding shall be accompanied by a Flood Risk Assessment carried out at the site-specific level in accordance with *The Planning System and Flood Risk Management – Guidelines for Planning Authorities* (2009). The scope of flood risk assessment shall depend on the type and scale of development and the sensitivity of the area.	No negative impact on Natura 2000 network. Likely positive impact – this requirement will assist in reducing the risk of flooding and assist in maintaining the quality of water leaving the LAP lands and discharging ultimately into Dublin Bay.
GI 8	Development proposals in the vicinity of high and extreme groundwater vulnerability areas shall be accompanied by sufficient details to protect groundwater sources from pollution during construction and development phases. These details shall be in accordance with the requirements of the *South Dublin Groundwater Protective Scheme* (Geological Survey of Ireland, 2011).	No negative impact on Natura 2000 network. Likely positive impact – requirements such as these will help prevent contamination of groundwater and assist in maintaining the quality of water leaving the LAP lands and discharging ultimately into Dublin Bay.

GI 9	It is an objective of the LAP to ensure that all extensive development proposals maximise the opportunities for enhancement of existing biodiversity and are accompanied by a full ecological assessment, carried out by a suitably qualified professional, that includes measures to enhance biodiversity and avoid or minimise loss of biodiversity.	No negative impact on Natura 2000 network. Likely overall positive impact. Retention and enhancement of existing landscape and biodiversity features will aim to protect biodiversity and allow for effective operation of wildlife movements and habitat use within the area.
GI 10	Ensure that developments incorporate biodiversity corridors and heritage features within their designs and layouts	No negative impact on Natura 2000 network. Likely overall positive impact. Retention and enhancement of existing landscape and biodiversity features will aim to protect biodiversity and allow for effective operation of wildlife movements and habitat use within the area.
GI 11	Create an integrated network of green corridors and wetland areas (a minimum of 15 metres wide) by way of linking, preserving and incorporating hedgerows (especially townland and parish boundaries), wildlife corridors, SUDS features and existing streams.	No negative impact on Natura 2000 network. Likely overall positive impact. Retention and enhancement of existing landscape and biodiversity features will aim to protect biodiversity and allow for effective operation of wildlife movements and habitat use within the area.
GI 12	Protect and enhance historic field, townland and parish delineations including their associated hedgerows and ditches and require all relevant planning applications to detail how such delineations will be enhanced, reinstated or incorporated.	No negative impact on Natura 2000 network. Likely overall positive impact. Retention and enhancement of existing landscape and biodiversity features will aim to protect biodiversity and allow for effective operation of wildlife movements and habitat use within the area.
GI 13	Require green routes and biodiversity strips to be carefully designed to balance the protection of biodiversity together with the conveyance of water and accommodation of walking and cycling routes.	No negative impact on Natura 2000 network. Likely overall positive impact. The co-ordination of SUDS features, biodiversity corridors and amenity pathways has the potential to protect biodiversity and allow for the sustainable movement of wildlife and people within the area.

GI 14	Allow for limited sections of field boundaries to be carefully altered where a need has been clearly demonstrated on the basis of a requirement for accessibility in terms of pedestrian and cyclist movement and the creation of successful streets and spaces.	No negative impact on Natura 2000 network.
GI 15	Prohibit the culverting of watercourses and require structures adjacent to watercourses to be set back a minimum distance of 10 metres from the top of the bank. These corridors shall be landscaped to aid in the absorption of storm water flows and should also accommodate tracks and trails where possible.	No negative impact on Natura 2000 network. – potential for overall positive impact.
GI 16	Buildings, streets and spaces should be designed and arranged to respond and flow with the area's contours and natural drainage features.	No negative impact on Natura 2000 network.
GI 17	All development including streets, buildings and spaces shall be laid out to comply with South Dublin County Council Development Plan policy on Steep Sites and shall be designed to circumvent the need for intrusive engineered solutions such as cut and filled platforms, embankments or retaining walls.	No negative impact on Natura 2000 network.
GI 18	Proposals for development on steep sites shall gently ascend the contours of the Plan Lands with unique design solutions such as split-level housing where multiple storey housing is permissible.	This is a design objective and will have no negative impact on Natura 2000 sites downstream of Local Area Plan lands.
GI 19	It is an objective of this LAP to require the submission of habitat assessments to include flora and fauna studies (to include large mammal and bat surveys) as part of every relevant planning application for development and require the implementation of appropriate measures that ensure for the protection of Protected Species and their habitats.	No negative impact on Natura 2000 network. Likely overall positive impact. Assessment, retention and enhancement of existing landscape and biodiversity features will aim to protect habitats and species and allow for effective operation of wildlife movements and habitat use within the area.

GI 20	Habitats and species identified as having a high or moderate local value shall be protected, retained, incorporated and provided for within developments.	No negative impact on Natura 2000 network. Likely overall positive impact. Assessment, retention and enhancement of existing landscape and biodiversity features will aim to protect habitats and species and allow for effective operation of wildlife movements and habitat use within the area.
GI 21	Applications for development shall identify historic paths and seek to upgrade and integrate such into a permeable network of tracks and trails for pedestrians and cyclists.	This is a design objective and will have no negative impact on Natura 2000 sites downstream of Local Area Plan lands.
GI 22	Upgraded and new tracks and trails should correspond with ditches, streams, surface water attenuation areas and aid in the creation of a permeable network of linked open spaces including green corridors, green buffers, neighbourhood parks, wetland areas and playing pitches.	This is a design objective and will have no negative impact on Natura 2000 sites downstream of Local Area Plan lands.
GI 23	The tracks and trails network shall be developed to link with the Dublin Mountains and existing routes towards local historic landmarks and structures including the Hell Fire Club, Saint Colmcille's Well and Carthy's Castle.	This will have no negative impact on Natura 2000 sites downstream of Local Area Plan lands.
GI 24	Applications for development should clearly annotate and mark proposed tracks and trails and links to adjacent and surrounding lands. Conditions shall be attached to planning applications to clearly state that links to surrounding and adjoining lands shall be kept open and free from development (including barriers) and shall form part of a strategic network of pedestrian and cycle routes.	This will have no negative impact on Natura 2000 sites downstream of Local Area Plan lands.

GI 25	Upstanding archeologically remains and local historic features such as double ditch paths, gate pillars, stone walls and stone culverts shall be protected, preserved, or enhanced by development and incorporated into streets or open spaces.	This will have no negative impact on Natura 2000 sites downstream of Local Area Plan lands.
GI 26	Where significant archeologically features/deposits are discovered during archaeological investigations, it shall be a priority to provide for in-situ preservation especially features/deposits discovered during construction or investigation on lands to be occupied by planned open space(s).	This will have no negative impact on Natura 2000 sites downstream of Local Area Plan lands.
GI 27	Development on lands that benefit from existing and potential views of local upstanding monuments and protected structures including the Hellfire Club, Cathy's Castle, Orlagh College and Woodtown Manor shall incorporate and enhance the views of such structures in the form of street vistas and panoramic views across open spaces.	This will have no negative impact on Natura 2000 sites downstream of Local Area Plan lands.
GI 28	Development along and near the southern boundary of the Plan Lands shall include for a continuous and linked green buffer to the Dublin Mountains. This buffer shall include for the planting of woodlands where the buffer widens and the preservation and integration of existing hedgerows and streams. Narrowed areas of this buffer shall be no less than 15 metres in width.	This will have no negative impact on Natura 2000 sites downstream of Local Area Plan lands. Likely positive impact for biodiversity.

GI 29	Development along and near the boundary with the M50 motorway shall include a green corridor and wetland area that will mitigate against noise through the planting of semi-mature trees and incorporation of soft landscaped mounding/berms. Narrowed areas of this buffer shall be no less than 20 metres in width. All planning applications for development in close proximity to the M50 should be accompanied by a report, prepared by a qualified person, detailing mitigating measures for noise.	This will have no negative impact on Natura 2000 sites downstream of Local Area Plan lands. Likely positive impact for biodiversity.
GI 30	All residential development shall contribute to the creation of the planned network and hierarchy of open spaces.	No negative impact on Natura 2000 sites downstream of Local Area Plan lands.
GI 31	Public open space shall be provided at a minimum rate of 20% of development sites on the Lower Slope and Mid Slope Lands and 30% on the Upper Slope Lands. With the exception of lands located within the wayleave of 110kV and 220kV overhead transmission lines, only public open spaces that fall within the hierarchy of spaces and functions detailed in Table 5.3 (Section 5.2) shall be included in the calculation of public open space.	This will have no negative impact on Natura 2000 sites downstream of Local Area Plan lands. Likely positive impact for local biodiversity.
GI 32	Neighbourhood Parks shall be designed to operate as passive and active amenity spaces with extensive SUDS attenuating and storage features (ponds, basins, reed beds etc) linked to an overall SUDS network that will also act as landscape features.	This will have no negative impact on Natura 2000 sites downstream of Local Area Plan lands. Likely positive impact for local biodiversity and surface water management.
GI 33	Residual, narrow and incidental areas of open space with no role or function shall not be included in the calculation of open space provision.	No negative impact on Natura 2000 sites downstream of Local Area Plan lands.
GI 34	Play facilities shall be provided at a rate of 3 sq.m per dwelling and in	No negative impact on Natura 2000 sites downstream of Local Area Plan lands.

	accordance with *Planning Guidance on Provision of Children's Play Facilities in New Developments* (2007) and the Standards section of this LAP (Appendix 2).	

3 Land Use and Density

Objective		**Potential for Negative Impact on Natura 2000 sites**
LUD1	The density of development shall generally accord with that indicated under Table 5.4 and Figure 5.3 of this Local Area Plan (Section 5.4). The extent and density of development indicated for Options A and B on Figure 5.3 shall only be permissible where development is generally carried out in accordance with this LAP and, in the case of Option A, existing 220kV overhead electrical transmission lines are rerouted to coincide with the wayleaves of existing watermains.	No impact on Natura 2000 network.
LUD2	The density of development on sites that are subject to extant permissions should be amended in accordance with this Local Area Plan. Extensions of duration of permission should only be granted where development granted	No impact on Natura 2000 network.

LUD7	Residential development within the Upper Slope Lands shall consist of low density (12 – 18 dwellings per Ha./5 – 7 per acre) development comprising single storey detached and semi-detached housing. Additional split level floors may be acceptable where they are justified on the basis of topography, are sensitively incorporated into the slope of the lands and do not increase the height of dwellings to more than 1 storey from street level and by no more than 2 storeys from the side and rear. Dormer window structures shall only be permissible for single storey dwellings and must be within the structure of the main roof, below its ridge level and above its eaves line (at least approx. 3 tile courses). Densities adjacent to the green buffer along the southern fringe should be provided at the lower end of the scale (approx. 12 dwellings per hectares).	No impact on Natura 2000 network - potential for overall positive impact.
LUD3	The permissible dwelling mix shall yield 90% or more houses. Apartment and duplex units are not permissible on the Upper Slopes of the Plan Lands. Extensions of duration of permission should only be granted where development granted prior to the adoption of this Plan accords with this objective.	No impact on Natura 2000 network.
LUD4	A mix of house types and quality designs that will help aid legibility and way-finding is encouraged across the Plan Lands.	No impact on Natura 2000 network.
LUD8	All residential development shall provide community floorspace at a rate of 3 sq.m per 10 dwellings (excluding childcare floorspace). Such floorspace shall be grouped in community facilities and shall be located close to or within local shopping facilities/centres within the Plan Lands.	No impact on Natura 2000 network - potential for overall positive impact. Sustainable settlement and public transport patterns are likely to result in reduced car based movements and therefore fewer carbon emissions.
LUD5	Residential development within the Lower Slope Lands shall consist of medium density (35 – 38 dwellings per Ha/13-15 per acre.) terraced and semi-detached housing. New development adjacent to existing housing shall be designed sensitively to protect existing residential amenity.	No impact on Natura 2000 network.
LUD9	The primary locations for community floorspace shall include the Discount Foodstore site zoned Objective 'LC' on the western side of the Plan Lands and the site of the previously permitted Neighbourhood/Community Centre (Reg. Ref. SD05A/1014) on the eastern side.	No impact on Natura 2000 network - potential for overall positive impact.
LUD6	Residential development within the Mid Slope Lands shall consist of low density (22 – 28 dwellings per Ha./9 – 11 per acre) development comprising semi-detached and terraced housing of no more than 2 storeys. Additional split level floors may be acceptable where they are justified on the basis of topography, are sensitively incorporated into the slope of the lands and do not increase the height of dwellings from street level to more than 2 storeys.	No impact on Natura 2000 network - potential for overall positive impact.
LUD10	All service and retail developments shall comply with the *Retail Planning Guidelines for Planning Authorities* (2012) and the accompanying *Retail Design Manual* (2012), particularly in terms of scale, location and design. Such development shall comply with the Design Manual's Key Principles on Urban Design and the standards set out in Appendix 2 of this LAP.	No impact on Natura 2000 network - potential for overall positive impact.
LUD11	Planning applications for 100 or more dwellings shall be accompanied by a report identifying the demand for school places likely to be generated by the proposal and the capacity of schools in the vicinity to cater for such demand.	No impact on Natura 2000 network.

LUD12	Each of the two primary school sites designated under this LAP shall measure at least 1.8 hectares and shall each be set aside for the development of a primary school.	No impact on Natura 2000 network.
LUD13	All school and childcare development on the Plan Lands shall include for safe queuing and drop-off facilities for vehicles, which should be located to the side of buildings to allow for good street frontage.	No impact on Natura 2000 network.

4. Built Form and Design Strategy

Objective		**Potential for negative impact on Natura 2000 sites**
BF1	Development shall be arranged into a series of perimeter blocks that presents building frontages to surrounding streets especially at street corners with rear gardens enclosed within each residential block to the rear and parking/service areas enclosed to the side and/or rear of commercial, community and school developments. Rear gardens, blank facades and service areas shall not interface with any streets or spaces.	No impact on Natura 2000.
BF2	Block lengths within the Lower Slope Lands should be no more than 80 metres. Plot widths for dwellings in this area should vary between 5 metres and 9 metres and dwellings depths should be no more than 10 metres.	No impact on Natura 2000 network.

BF3	Block lengths within the Mid Slope Lands should be no more than 100 metres and no more than 120 metres within the Upper Slope Lands.	No impact on Natura 2000 network.
BF4	For commercial/local shopping developments, building depths should be no more than 20 metres and plots that are wider than 9 metres shall be vertically articulated with multiple entrances, good shopfront design and division. Perimeter shop units should be arranged to avoid long monotonous street frontages.	No impact on Natura 2000 network.
BF5	All development including streets, buildings and spaces shall be laid out to comply with South Dublin County Council Development Plan policy on Steep Sites and shall be designed to circumvent the need for retaining walls and significant alterations to topography such as the cutting and filling of platforms in the landscape.	No impact on Natura 2000 network.
BF6	Residential development within the Lower Slope Lands and all community, retail and school development shall present strong building frontages located close to street edges with a fine urban grain and on-street parking. Dwellings within the Mid Slope lands shall have a mixture of strong and set-back built frontages with on-street and in-curtilage parking. Dwellings on the Upper Slopes shall have softer frontages set back from the street edge behind planted front gardens that incorporate in-curtilage parking.	No impact on Natura 2000 network.
BF7	Views of the Dublin Mountains (including Montpelier Hill and the Bohernabreena Valley) and historic buildings and monuments (including the Hell Fire Club, Carthy's Castle, Orlagh College and Woodtown Manor) shall be enhanced and preserved by development as much as possible. This should be achieved through the carefully considered and sensitive arrangement of	No impact on Natura 2000 network.

	streets, spaces and buildings in a manner that preserves and creates vistas and views of these landmark and landscape elements.	
BF8	Development shall be no more than one storey in height at street level on the Upper Slope Lands, no more than two storeys in height at street level on the Mid Slope Lands and no more than three storeys in height on the Lower Slope Lands. New dwellings backing onto or adjacent to existing single storey dwellings should be no more than two storeys in height.	No impact on Natura 2000 network.
BF9	A variety of dwelling designs shall be incorporated throughout the Plan Lands and particularly within individual developments of more than 5 dwellings subject to the use of a limited palette of materials. Dwellings on corners shall be designed to overlook and address streets and spaces.	No impact on Natura 2000 network.
BF10	All streets are designed in accordance with the street hierarchy and design speeds set out in the Accessibility and Movement Strategy of this Plan (Section 5.2) together with the street design requirements set out in the DMURS including those that relate to movement, place and speed; streetscape; pedestrian and cyclist environment; and carriageway conditions..	No impact on Natura 2000 network.
BF11	The width of vehicular carriageways and footpaths shall comply with Table 5.6 (Section 5.5) and shall relate to the appropriate design speed, user needs, context and function of each street.	No impact on Natura 2000 network.
BF12	Wide pedestrian paths and crossings together with carefully considered cycle lanes/tracks shall be integrated into the design of all streets with the exception of fully integrated shared surface streets. Vehicular crossovers shall be designed to clearly indicate that pedestrians and cyclists have priority over	No impact on Natura 2000 network.

	vehicles.	
BF13	Transition zones and gateways shall also be utilised to slow vehicles entering the Plan Lands from rural roads including at the western end of the planned Primary Link Road with the Bohernabreena Road. These transition zones and gateways should include for narrowed carriageways, enclosure with street trees and changes to carriageway surface materials.	No impact on Natura 2000 network.
BF14	All development should comply with *Quality Housing for Sustainable Communities* (2007) and *Sustainable Residential Development in Urban Areas* (2009) with regards to sustainability, energy efficiency and orientation of development.	No impact on Natura 2000 network.
BF15	New housing schemes should be designed in accordance with passive solar design principles as set out under the *Urban Design Manual* (2009) and the Standards Section of this LAP (Appendix 2). The orientation of dwellings and internal layouts should therefore be arranged to maximise solar gain but in a balanced manner that does not significantly impact on the topography of the Plan Lands, conflict with Sustainable Urban Drainage Systems or significantly impinge on the successful creation of streetscapes in terms of good street frontage and passive surveillance.	No impact on Natura 2000 network - potential for overall positive impact.

5. Site Specific Policies

Objective		**Potential Negative Impact on Natura 2000 Sites**

SSP1	A primary school site of at least 1.8 hectares shall be reserved on the western side of the Stocking Wood development in accordance with that designated under the *South Dublin County Council Development Plan, 2010 - 2016*.	No impact on Natura 2000 network.
SSP2	Green spaces and playing pitches development as part of the primary school shall link with and integrate with the open space and sustainable urban drainage network planned under the Green Infrastructure Strategy (Section 5.3).	No impact on Natura 2000 network.
SSP3	The double ditch and associated open stream on the eastern side of the primary school site shall be protected and enhanced as part of any development.	No impact on Natura 2000 network.
SSP4	Surface water on the primary school site shall be intercepted by on-site SUDS features (i.e. green roofs, rainwater harvesters, soakaways and porous grass paviors for parking) and any run-off shall be discharged to the overall planned SUDS network.	No impact on Natura 2000 network. In general, SUDS features such as these will assist in preventing contamination of groundwater, reduce the risk of flooding, and assist in maintaining the quality and reducing the volume of the surface run-off from the LAP Lands.
SSP5	Development of the primary school site shall address Stocking Avenue to the north with relatively strong and continuous built frontage. Staff parking and drop-off facilities shall be located to the side (west) and/or rear (south) of the main primary school building.	No impact on Natura 2000 network.
SSP6	Pedestrian and cyclist access to any primary school development shall link with the pedestrian and cycle network planned under the Accessibility & Movement Strategy (Section 5.2) with access provided from Stocking Avenue and at least one more entrance along the western and/or southern sides of the primary school site.	No impact on Natura 2000 network – potential positive impact. Sustainable transport patterns are likely to result in reduced car based movements and therefore fewer carbon emissions.

SSP7	In the interest of pedestrian and cyclist safety and movement, development of the school site shall include for the upgrade of the existing adjacent roundabout junction on Stocking Avenue to a four arm junction with pedestrian and cyclist crossing facilities.	No impact on Natura 2000 network – potential positive impact. Sustainable transport patterns are likely to result in reduced car based movements and therefore fewer carbon emissions.
SSP8	Development of the Stocking Wood Lands (subject to planning permission SD05A/1014) shall include for a neighbourhood and community centre similar to that previously permitted. This shall provide for at least 460 sq.m of community floorspace (as part of the community floorspace requirement for the Plan Lands - see Section 5.4) and the required quantum of childcare floorspace for existing and proposed housing. Convenience shopping floorspace shall not exceed 1,500 sq.m (gross).	No impact on Natura 2000 network.
SSP9	The Stocking Wood Neighbourhood and Community Centre shall include an element of street frontage and on-street parking including any necessary traffic calming features, which shall correspond with the requirements of the *DMURS*.	No impact on Natura 2000 network.
SSP10	Ditches and associated open streams that abut or traverse the site of the Neighbourhood and Community Centre shall be protected and enhanced.	No impact on Natura 2000 network. Retention of existing landscape and biodiversity features will allow for effective operation of wildlife movements and habitat use within the area.
SSP11	Surface water on the Neighbourhood and Community Centre site shall be intercepted by on-site SUDS features (i.e. green roofs, rainwater harvesters,	No negative impact on Natura 2000 network. In general, SUDS features such as these will assist in preventing

	soakaways and porous grass paviors for parking) and any run-off shall be discharged to the planned overall SUDS network.	contamination of groundwater, reduce the risk of flooding, and assist in maintaining the quality and reducing the volume of the surface run-off from the LAP Lands.
SSP12	The Stocking Wood Neighbourhood Centre shall include for a bus lay-by or bay (designed in consultation with Dublin Bus) that will allow for the temporary parking of more than one bus at a time.	No impact on Natura 2000 network.
SSP13	In the interest of pedestrian and cyclist safety and movement, development of the neighbourhood/community centre site shall include for the upgrade of the existing adjacent roundabout junction on Stocking Avenue to a four arm junction with pedestrian and cyclist crossing facilities.	No impact on Natura 2000 network.
SSP14	No residential development shall commence on the lands that currently accommodate the existing GAA playing pitches, off Oldcourt Road, until such time as a site for replacement playing pitches have been provided on the Plan Lands. The 'Objective B' zoned lands to the south-east (between Gunny Hill and Oldcourt Lane) are designated under this LAP for such a facility, which should be shared with the adjacent designated school site. Playing facilities on these lands shall exclude floodlighting and include for the protection and augmentation of hedgerows.	No impact on Natura 2000 network.
SSP15	A primary school site of at least 1.8 hectares shall also be reserved on the 'Objective B' zoned lands located within the Plan Lands between Gunny Hill and Oldcourt Lane.	No impact on Natura 2000 network. In general, sustainable settlement and permeable pedestrian, cycling, and transport patterns are likely to result in reduced car based movements and therefore fewer carbon emissions.
SSP16	Playing pitches and any open green spaces developed as part of the primary school site shall link with and integrate with the open space and sustainable	No impact on Natura 2000 network – possible positive impacts.

	urban drainage network detailed under the Green Infrastructure Strategy (Section 5.3).	
SSP17	Surface water on the primary school site shall be intercepted by on-site SUDS features (i.e. green roofs, rainwater harvesters, soakaways and porous grass paviors for parking) and any run-off shall be discharged to the SUDS network envisaged for the Plan Lands.	No impact on Natura 2000 network. In general, SUDS features such as these will assist in preventing contamination of groundwater, reduce the risk of flooding, and assist in maintaining the quality and reducing the volume of the surface run-off from the LAP Lands.
SSP18	Pedestrian and cyclist access to any primary school development shall link with the pedestrian and cycle network detailed under the Accessibility & Movement Strategy (Section 5.2)	No impact on Natura 2000 network. In general, sustainable settlement and permeable pedestrian, cycling, and transport patterns are likely to result in reduced car based movements and therefore fewer carbon emissions.
SSP19	The triangular field and its hedgerow boundaries located at the south-west corner of the planned Gunny Hill playing pitches shall be retained as a buffer between the Oldcourt Lane and the planned sports pitches and school as a biodiversity feature.	No impact on Natura 2000 network. Retention of existing landscape and biodiversity features will allow for effective operation of wildlife movements and habitat use within the area.
SSP20	The Discount Foodstore Site shall provide the primary location for community floorspace that will serve housing on the western side of the Plan Lands in accordance with the requirements of Section 5.4 of this Local Area Plan.	No impact on Natura 2000 network.
SSP21	Any further applications for development on the Discount Foodstore/Local Centre Site, including the area reserved for 4 retail units, shall address and front surrounding streets in accordance with the Key Principles on Urban Design set out under the *Retail Design Manual* (2012).	No impact on Natura 2000 network.
SSP22	Any revised development proposals on the Discount Foodstore Site shall be	No impact on Natura 2000 network.

	sensitively designed to respond to and incorporate the site's steep topography and elements of heritage value such as the existing hedgerow and any remnants of the former Oldcourt House. Such development shall also incorporate extensive SUDS components.	Retention of existing landscape and biodiversity features will allow for effective operation of wildlife movements and habitat use within the area.
SSP23	Extensions of duration of permission on the Discount Foodstore Site shall only be granted for development that complies with the *Retail Design Manual* (2012) and all relevant policies and standards contained in this LAP.	No impact on Natura 2000 network.
SSP24	Correspond with and follow the diverted (Option A) or existing (Option B) route of the overhead electrical 220kV transmission lines. This wetland area shall be designed to intercept and attenuate surface water emanating from the three drainage ditch systems to the south in addition to any surface water generated from new development for slow release to the surface water sewerage system downstream of the Plan Lands.	No impact on Natura 2000 network. Retention of existing landscape and biodiversity features will allow for effective operation of wildlife movements and habitat use within the area.
SSP25	Retain the existing historic granite gate piers and granite culvert at its western end (eastern side of existing small triangular field – see Photo 3.1 in Section 3) as local features for incorporation into the network of spaces and tracks and trails for the Plan Lands.	No impact on Natura 2000 network.
SSP26	Incorporate tracks and trails that will link the Wetland Area to other open spaces including the planned Oldcourt Park to the east, the Green Corridor and Dublin Mountains to the south and the Oldcourt Stream and tributaries to the north.	No impact on Natura 2000 network. Retention and enhancement of existing landscape and biodiversity features will allow for effective operation of wildlife movements and habitat use within the area.
SSP27	Incorporate a wetland area designed to intercept and attenuate water from the Woodstown Stream tributaries and associated ditch systems to the south in addition to any surface water generated by new development prior to its slow release to the downstream surface water sewerage system.	No impact on Natura 2000 network. Retention and enhancement of existing landscape and biodiversity features will allow for effective operation of

		wildlife movements and habitat use within the area.
SSP28	Include for the enlargement of the existing ditch along the northern boundary with Knocklyon Park to increase its capacity and create a water basin on the western side of the culverted point of confluence between both arms of the Woodtown Stream.	No impact on Natura 2000 network. Retention and enhancement of existing landscape and biodiversity features will allow for effective operation of wildlife movements and habitat use within the area and assist in surface water management on the Plan Lands.
SSP29	Incorporate tracks and trails that will link the green buffer/wetland area with Knocklyon Park to the north-west and the walled garden to the east.	No impact on Natura 2000 network.
SSP30	Incorporate soft landscaped mounding/berms that are suitably designed to absorb and mitigate against excessive noise from the M50 motorway.	No impact on Natura 2000 network.
SSP31	Development of the Knocklyon Park extension shall include for the upgrade of the existing adjacent roundabout junction on Stocking Avenue to a four arm junction with pedestrian and cyclist crossing facilities.	No impact on Natura 2000 network.
SSP32	Development of the lands surrounding the Traveller Accommodation site at the eastern end of the Plan Lands shall include for the incorporation and development of the existing walled garden (formerly of Airpark House) as a local landscape feature set amongst open space. This garden should act as a focal point for tracks and trails and include for the retention of old stone walls and mature trees with the incorporation of footpaths, cycle paths, open space(s), seating and lighting.	No impact on Natura 2000 network. Retention and enhancement of existing landscape and biodiversity features will allow for effective operation of wildlife movements and habitat use within the area.
SSP33	Development of the walled garden shall include for well lit through routes and spaces that provide for passive surveillance into and out of the walled garden. A hedgerow and tree survey should be included with any application for development together with a structural survey, which shall identify mature	No impact on Natura 2000 network. Retention and enhancement of existing landscape and biodiversity features will allow for effective operation of wildlife movements and habitat use within the area.

	trees and sections of wall for retention.	
SSP34	Applications for development of the walled garden shall be accompanied by a habitat assessment to include a flora and fauna study. Proposals shall avoid the loss of habitats and/or species of high or moderate local value.	No impact on Natura 2000 network. Retention and enhancement of existing landscape and biodiversity features will allow for effective operation of wildlife movements and habitat use within the area.
SSP35	It is an objective of this Local Area Plan to require a through street to be created between Stocking Wood Drive and lands zoned for residential development to the south (in accordance with extant permissions) as part of the development of said lands. This local access street should be carefully designed with emphasis on pedestrian movement, activity and good place making.	No impact on Natura 2000 network.
SSP36	Both of the historic double hedgerow ditches that are located on either side of the first phase of the Stocking Wood Development and correspond with the Woodstown Stream Tributaries shall be sensitively developed for pedestrian permeability. This should comprise a well lit and narrow central pedestrian route(s) of porous light weight material that minimises damage to trees and hedgerows.	No impact on Natura 2000 network. Retention and enhancement of existing landscape and biodiversity features will allow for effective operation of wildlife movements and habitat use within the area.
SSP37	Applications for development of the double ditches or adjacent to the double ditches shall be accompanied by a habitat assessment to include a flora and fauna study and hedgerow and tree survey. Proposals shall avoid the loss of habitats and/or species of high or moderate local value.	No impact on Natura 2000 network. Retention and enhancement of existing landscape and biodiversity features will allow for effective operation of wildlife movements and habitat use within the area.

SSP38	Development of the Plan Lands shall include for a pedestrian link between the planned southern landscape buffer on the eastern side of the Plan Lands and the planned Gunny Hill pitches. This should be provided via Hunters Meadow in the form of a permeability project or alternatively via Ballycullen and Gunny Hill Road in the form of a footpath. In order to protect roadside hedgerows, the latter option would require reduced carriageway widths and a possible revised one way traffic arrangement that would allow for contra flow cyclist movement.	No impact on Natura 2000 network.
SSP39	Any revised applications for development on the lands zoned for residential development along the northern boundary of the land zoned Objective 'F' 'To Preserve and Provide for Open space and Recreational Amenities', located in proximity to St Colmcille's Well (i.e. lands subject to SD06A/0238 and SD07A/1035) shall include for residential frontage onto the zoned open space and/or include for open ended and well lit pedestrian links into this space. All such development shall be sensitive to the conservation and integration of the old townland/parish hedgerow boundaries in the area.	No impact on Natura 2000 network. Retention and enhancement of existing landscape and biodiversity features will allow for effective operation of wildlife movements and habitat use within the area.

Standards and Design Criteria

SDC1	All development is designed in accordance with the qualitative and quantitative standards including urban design criteria set out under this Local Area Plan.	No impact on Natura 2000 network.

Appendix 4

List of County Development Plan objectives and policies that are relevant to water protection in South Dublin County.

Policy LHA 21 River and Stream Management
It is the policy of the Council to implement a strategy (prepared on a regional basis) for the management of rivers and streams throughout the County.

Policy LHA 22 Watercourses
It is the policy of the Council to protect, maintain, improve and enhance the natural and organic character of the watercourses in the County and to promote access, walkways and other recreational uses of their associated public open space, subject to a defined strategy of nature conservation and flood protection.

2.3.4 Strategy: The strategy of the Council for the development of Water Supply and Drainage in the County is as follows:
• *Continue the sustainable development and improvement of the water supply and foul drainage systems throughout the County to meet the anticipated water and drainage requirements of the area.*
• *Protect surface water catchments and manage catchment areas where appropriate to protect the surface water drainage infrastructure of the County.*
• *Implement the provisions of national policy and legislation in the control of water pollution.*
• *Ensure that existing and proposed developments are not subject to undue risk of flooding.*
• *Conserve treated water by active leakage detection, non-domestic metering and development of infrastructure.*
• *Actively pursue and resolve water leakage.*

Policy WD 1 Water Supply and Drainage
It is the policy of the Council to co-operate with adjoining authorities to continue the sustainable development and improvement of the water supply and drainage systems throughout the County to meet the anticipated water and drainage requirements of the area, in accordance with the recommendations set out in the 'Greater Dublin Strategic Water Supply Study' and the 'Greater Dublin Strategic Drainage Study', and the proposed 'Dublin Region Water Services Strategic Plan' when adopted.

Policy WD 2 Wastewater Treatment Plants and Wastewater Collection Systems
It is the policy of the Council that development shall be preceded by sufficient capacity in the public wastewater treatment plants and appropriate extensions in the existing public wastewater collection systems.

Policy WD 3 Quality of Surface Water and Groundwater
It is the policy of the Council that the ongoing development of the County shall be undertaken in such a way as not to compromise the quality of surface water (and associated habitats and species) and groundwater.

Policy WD 4 Soil and Groundwater Contamination

It is the policy of the Council to require adequate and appropriate investigations to be carried out into the nature and extent of any soil and groundwater contamination and the risks associated with site development work, where brownfield development is proposed.

Policy WD 5 Water Quality Management Plans
It is the policy of the Council to promote the implementation of water quality management plans for ground and surface waters in the county as part of the implementation of the EU Water Framework Directive, and in accordance with the policies and objectives and programme of measures of the Eastern River Basin Management Plan and any further amendments.

Policy WD 6 Sustainable Urban Drainage Systems (SuDS)
It is the policy of the Council to ensure that all development proposals incorporate Sustainable Urban Drainage Systems (SuDS).

Policy WD 7 *Storm Overflows*
It is the policy of the Council to minimise the number and frequency of storm overflows of sewage to watercourses and to establish, in co-operation with the adjoining local authorities, a consistent approach to the design, improvement and management of these intermittent discharges to ensure that the needs of the Region's receiving waters are met in a cost effective manner.

Policy WD 8 Water Pollution Abatement Measures
It is the policy of the Council to implement the provisions of water pollution abatement measures in accordance with National and EU Directives and legislative requirements in conjunction with other agencies as appropriate.

Policy WD 9 Bohernabreena Reservoirs and Catchment Area
It is the policy of the Council to protect the Bohernabreena Reservoirs and catchment area, cSAC and buffer zone, in the interests of public health and to restrict development in the catchment.

Policy EE 15 Natural Features in Enterprise Priority Areas
It is the policy of the Council where existing streams, watercourses, are located on land zoned for Enterprise Priority One, Enterprise Priority Two and Enterprise Priority Three purposes they should be protected and incorporated within the overall design for the area, thereby contributing to and connecting into the overall green network policy for the County. Riparian corridors should be kept free from development and be used as amenity for workers and visitors on the site, taking due care to protect and enhance the corridor's native biodiversity resource.

Policy EE 33 Sustainable Development of Agricultural Diversification

It is the policy of the Council to support the sustainable development of agriculture and agriculture diversification, such as organic foods, rural tourism and small to medium-sized enterprises subject to the retention of the holding for primarily agricultural use and the proper planning and sustainable development of the area including protecting and maintaining biodiversity, wildlife habitats, water quality, rural landscape character, scenic amenities and nature conservation.

Policy EE 35 Rural Related Enterprises
It is the policy of the Council to facilitate the development of acceptable rural related enterprises, including equine enterprises, in accordance with the terms of Zoning Objective 'B' (to protect and improve rural amenity and to provide for the development of agriculture) and to minimise pollution from agricultural sources by means of development management and water pollution legislation and regulations.

4.1.2 Additional Protection Measures - Planning Conditions

The Planning Authority has not granted permission for any development within the two SACs. However, in order to ensure that there are no direct, indirect, or cumulative impacts on the SACs and that their conservation status of the protected habitats are maintained and that their listed conservation objectives are adhered to, the following measures will be strictly applied for all planning applications within the sensitive areas above and adjacent to the County's two SACs in the Dublin Mountains.

- All planning applications received by the Planning Authority for these areas will be subject to rigorous Appropriate Assessment screening and full AA investigation where required. Where impacts are seen to be likely, or where reasonable doubt exists to potential for impact, no application will be allowed to proceed.

- Appropriate Assessments will be based upon contemporary scientific data regarding hydrology and ecology wherever appropriate.

- For any permitted development, strict conditions will apply regarding the type, installation, monitoring, and servicing of all newly-granted waste water treatment systems in the catchment area of the two SACs.

Policy H33 (see Section 4.1) which refers to one-off rural housing in this area, also reinforces the necessity to have due regard in any application in this sensitive area, to the requirements for assessment as demanded under the Habitats Directive.