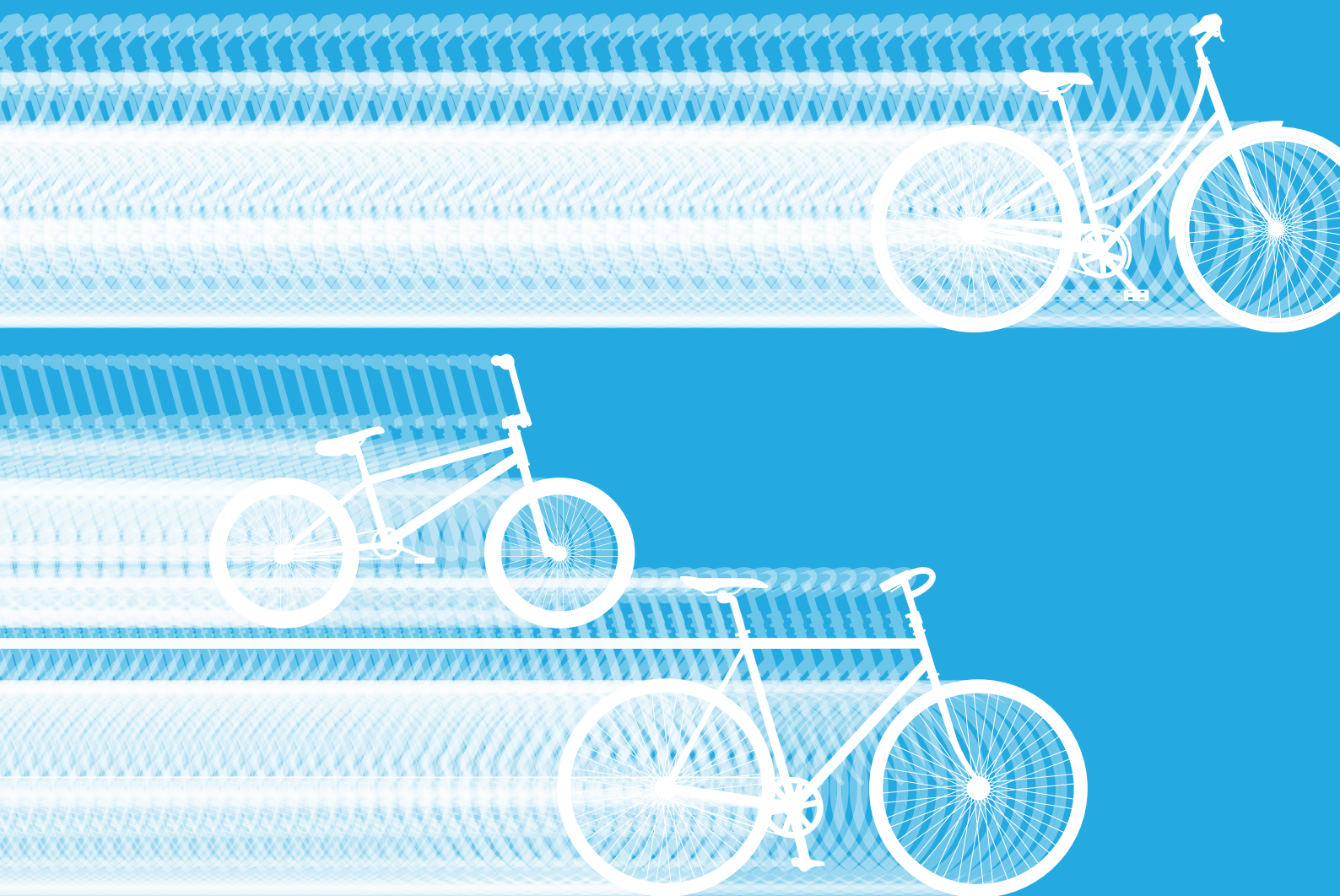


Draft
Greater Dublin Area
**Cycle
Network
Plan**

Appropriate Assessment -
Natura Impact Statement



Greater Dublin Area Cycle Network

Natura Impact Assessment

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Revision	Description	Made	Checked	Approved	Date
01	HDA	MD	SG	SMG	August 2013

Greater Dublin Area Cycle Network

Natura Impact Assessment

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1.0 INTRODUCTION

This Report presents the results of Stage 2 of the Habitats Directive Appropriate Assessment (AA) of the National Transport Authority's (NTA) '*Greater Dublin Area Cycle Network Plan*'.

The aim of Stage 2 of the Appropriate Assessment process, the 'Appropriate Assessment' itself, is to examine the significant negative impacts (identified in the screening report) that a plan or project might have upon Natura 2000 sites; and to propose changes to the Plan that will avoid any such negative impacts, including the implementation of mitigation measures where required.

The Plan should then be amended accordingly, thereby avoiding the need to progress to Stages 3 and 4 of the AA process, which would require the implementation of measures to mitigate or compensate for any residual significant negative impacts on Natura 2000 sites and/or to demonstrate 'Imperative Reasons of Overriding Public Interest' (IROPI) for the Plan to progress.

The Stage 2 assessment process involves the collection of data firstly on the Plan and secondly on the various Natura 2000 sites that might be impacted upon. The resultant information and assessment are presented in this document, the 'Natura Impact Statement' (NIS).

Department of the Environment, Community and Local Government (DoECLG) guidelines (DoECLG, 2009) state that the NIS should fulfil the following requirements:

- Describes the Plan in sufficient detail to make clear its size, scale and objectives;
- Describes the baseline conditions, conservation objectives, and relevant ecological and environmental issues in relation to the relevant Natura 2000 sites;
- Identifies the potential adverse impacts of the Plan on the Natura 2000 sites;
- If possible, explains how the effects will be avoided through mitigation; and
- Sets out a timescale and identifies the mechanisms through which the mitigation measures will be secured and implemented.

The description of the Plan is covered in Section 2 of this NIS. Section 3 of this NIS identifies and discusses the potential significant impacts of the plan on the Natura 2000 sites that have been previously identified at screening report stage and following on from this the mitigation measures that may be required to avoid these impacts.

2.0 DESCRIPTION OF PLAN

2.1 Overview

The proposed Greater Dublin Area Cycle Network Plan is being developed by the National Transport Authority to support strategic planning of transport in the Greater Dublin Area and to promote increased recourse to cycling as a means of transport. The Plan aims to set a framework for the development consent of cycle projects at a strategic level and therefore is subject to a Habitats Directive Assessment.

The Cycle Network Plan comprises the Urban Network, Inter-Urban Network and Green Network and is developed for each of the seven local authorities comprising of the Greater Dublin Area (GDA), namely:

- Dublin City Council (DCC);
- Dun Laoghaire Rathdown County Council (DLRCC);
- Fingal County Council (FCC);
- Kildare County Council (KCC);
- Meath County Council (MCC);
- South Dublin County Council (SDCC);
- Wicklow County Council (WCC).

The Cycle Network Plan identifies in a consistent, clear and logical manner the following cycle networks within the GDA:

- The Urban Cycle Network (as described in 3.2.1 of the NTA Cycle Manual) at the Primary, Secondary and Feeder level;
- The Inter-urban Cycle Network linking the relevant sections of the Urban Network and including the elements of the National Cycle Network within the GDA. It shall also include linkages to key transport locations outside of urban areas such as airports and ports; and
- The Greenway Network being cycle routes developed predominately for tourist, recreational and leisure purposes.

The Cycle Network Plan for each local authority area is consistent with each adjacent plan, with continuity of route networks across administrative boundaries.

2.2 Cycle Routes and Potential Impacts

The **Urban Cycle Network** is made up of primary, secondary and feeder routes and is made up largely of on-road routes that anticipate the requirement for control measures such as speed restriction, signage, traffic management and road markings. It is anticipated that there will be no direct impact as a result of the provision/ upgrade of the urban cycle network. However, consideration is given to indirect impacts as a result of the plan, including increased visitor pressures and disturbance to sensitive habitats and species.

The **Inter-Urban Cycle route** requirements which link towns, city and other facilities largely concerns the provision of new signage, speed restriction, traffic management and road markings. However in situations where existing road infrastructure exhibits constraints for cycling, such as safety, for example, there may occasionally be a requirement for the provision of cycle tracks within the verge of the existing roads and where dangerous bends are present, minor realignment works and therefore both a direct and indirect impact on sensitive habitats and species.

The **Greenway routes** make up a combination of existing and proposed routes that are largely off road. Greenways generally are located in scenic areas, along coastal paths or riverine environments and due to the nature and location of these sites are most likely to come in conflict with sites of conservation interest, occasionally within or adjoining Natura 2000 Sites. Many of the proposed greenways are made up of existing amenity areas but will require upgrades, ranging from minor upgrade works, to the provision of new pedestrian and cycle facilities. Other Greenways may be new routes and will provide an amenity that did not exist prior to the cycleway. There is potential for greenway routes to have a direct impact on Natura 2000 sites, through

construction of pathways within or in proximity to the site or indirectly by providing a new or improved access to sites, that are sometimes highly sensitive to disturbance and visitor pressures.

2.3 Screening Assessment Conclusion

An Article 6 Screening Assessment of the GDA Cycle Network Plan has been undertaken. This screening assessment considered if potential significant effects are likely on the European Sites. The screening assessment concluded that significant effects on the integrity of Natura 2000 sites could potentially occur, and therefore a full Article 6 Assessment was required to be undertaken for each significantly affected site. The assessment process included consultation with the National Parks and Wildlife Service and the outcome of this exercise has informed this NIS.

3.0 POTENTIAL IMPACTS ON NATURA 2000 SITES AND ASSESSMENT OF SIGNIFICANCE

The Screening report for this assessment presented details of all of the Natura 2000 sites within the Cycle Network Plan area (Counties Wicklow, Dublin, Meath and Kildare) or close enough to the boundary of the region that impacts were considered to be a possibility. Tables 4.1 and 4.2 of the Screening Report presented details, including the Qualifying Features, of all Natura 2000 (SACs and SPAs) sites located within 15km of any cycling route proposal.

3.1 Sites where impacts are possible

The screening exercise identified 32 sites where direct or indirect impacts could potentially occur. The SAC and SPA sites where potential direct and indirect impacts were identified are listed below in tables 3.1 and 3.2, along with the impact description and qualifying interests:

Table 3.1 Special Areas of Conservation where Direct and Indirect Impacts are Possible

Site code	Site Name	Qualifying interest	Description of plan impacting on the SAC
000199	Baldoyle Bay	Mudflats and sandflats not covered by seawater at low tide <i>Salicornia</i> and other annual colonizing mud and sand Atlantic salt meadows (<i>Glaucopuccinellietalia maritimae</i>) Mediterranean salt meadows (<i>Juncetalia maritima</i>)	Primary/secondary route P1, Radial Route 1A and the Eastern Greenway are all in proximity to or within the SAC. While existing infrastructure is in place for much of the cycle plan there is potential for additional works along the route including the provision of the Greenway. The provision of the Eastern Greenway has the potential to result in increased disturbance to the area, <i>Salicornia</i> habitats are identified as being under pressure from walking, horse-riding and not motorised vehicles. Atlantic salt meadows and Mediterranean salt meadow habitats are identified as under pressure from walking, horse riding and non motorised vehicles along with the provision of paths, tracks and cycling tracks
000202	Howth Head	Vegetated sea cliffs off the Atlantic and Baltic coasts European dry heaths	Provision of a Greenway and on road facilities Route 1A. The route severs the SAC on the southern side of Howth Head only. As the route is within the SAC it cannot be screened out for Appropriate Assessment.
000205	Malahide Estuary	Mudflats and sandflats not covered by seawater at low tide <i>Salicornia</i> and other annuals colonising mud and sand <i>Spartina</i> sward (<i>Spartinion marintiae</i>) Atlantic salt meadows (<i>Glaucopuccinellietalia maritimae</i>) Mediterranean salt meadows (<i>Junctelia maritima</i>) Shifting dunes along shoreline with <i>Ammophila arenaria</i> (white dunes) Fixed coastal dunes with herbaceous vegetation (grey dunes)*	Proposed Greenways P1/F1, FG2, FG4 directly impacting on the SAC, potential for direct loss of habitats and increased disturbance / visitor pressure on sensitive coastal habitats
000206	North Dublin Bay	Mudflats and sandflats not covered by seawater at low tide Annual vegetation of drift lines	Route 1A adjoining or directly impacting the SAC. East coast trail adjoining Dublin Bay, Santry River Greenway within SAC. While much of the infrastructure is in place, the Santry River Greenway is at plan stage only.

Site code	Site Name	Qualifying interest	Description of plan impacting on the SAC
		<p><i>Salicornia</i> and other annuals colonizing mud and sand</p> <p>Atlantic salt meadows (<i>Glaucopuccinellietalia maritimae</i>)</p> <p>Mediterranean salt meadows (<i>Juncetalia maritima</i>)</p> <p>Embryonic shifting dunes</p> <p>Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes)</p> <p>*Fixed coastal dunes with herbaceous vegetation (grey dunes)</p> <p>Humid dune slacks</p> <p><i>Petalophyllum ralfsii</i></p>	The SAC is sensitive to disturbance and increased visitor pressure as well as direct impact from loss of habitat.
000208	Rogerstown Estuary	<p>Estuaries</p> <p>Mudflats and sandflats not covered by seawater at low tide</p> <p>Atlantic salt meadows (<i>Glaucopuccinellietalia maritimae</i>)</p> <p>Mediterranean salt meadows (<i>Juncetalia maritima</i>)</p> <p>Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes)</p> <p>*Fixed coastal dunes with herbaceous vegetation (grey dunes)</p>	Greenway FG1 adjoins and crosses the SAC. Route RU2 joins the SAC to the north. Habitats are potentially directly impacted by works within the site along with the potential to increased visitor pressures on sites in particular Fixed and Shifting dunes.
000210	South Dublin Bay	Mudflats and sandflats not covered by seawater at low tide	Route 13E and Greenway for the East Coast Trail adjoins the length of the south Dublin bay. The site could be directly impacted by the greenway if construction was to occur on mudflats or sand flats and is therefore screened in. The habitat type is not sensitive to visitor pressure and there is no risk to the SAC indirectly.
000396	Pollardstown Fen	*Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion</i>	Greenway K12 is proposed through the centre of fen. Direct impact potential on priority habitats and species. Potential for impact on hydrology and direct

Site code	Site Name	Qualifying interest	Description of plan impacting on the SAC
		<i>davallianae</i> *Petrifying springs with tufa formation (<i>Cratoneurion</i>) Alkaline fens <i>Vertigo geyeri</i> <i>Vertigo angustior</i> <i>Vertigo moulinsiana</i>	loss of habitat.
000713	Ballyman Glen	*Petrifying springs with tufa formation (<i>Cratoneurion</i>) Alkaline fens	Intersected by W2 inter-urban route, existing infrastructure is in place however new infrastructure has potential for impact on SAC
000714	Bray Head	Vegetated sea cliffs of the Atlantic and Baltic coasts European dry heaths	W4 interurban with good cycling facilities already present to the west of SAC. W11 Greenway (East Coast Trail) potentially has a direct impact on the qualifying interests.
000729	Buckroney-Brittas Dunes and Fen	Annual vegetation of drift lines Perennial vegetation of stony banks Embryonic shifting dunes Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) *Fixed coastal dunes with herbaceous vegetation (grey dunes) *Atlantic decalcified fixed dunes (<i>Calluno-Ulicetea</i>) Dunes with <i>Salix repens</i> spp. <i>Argentea</i> (<i>Salix arenariae</i>) Humid dune slacks Alkaline fens	W11 Interurban route (East Coast Way) using existing road infrastructure with no works required, no direct impact predicted. However the completion of an east coast way may increase visitor pressure to sensitive habitat types in particular dune systems resulting in potential impact on the SAC.
000733	Vale of Clara (Rathdrum Wood)	Old sessile oak woods with Ilex and Blechnum in the British Isles	W13 Interurban route intersects SAC, upgrading of paths may be deemed necessary, potential impacts on the SAC cannot be ruled out.
000781	Slaney River Valley	Estuaries Mudflats and sandflats not covered	Interurban routes W17, W15, W14 and Greenway W16 impact on the Slaney Upper Reaches. Potential for direct impact at crossing points at any of these

Site code	Site Name	Qualifying interest	Description of plan impacting on the SAC
		<p>by seawater at low tide</p> <p>Water courses of plain to montane levels with <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation</p> <p>Old Sessile oak woods with Ilex and Blechnum in the British Isles</p> <p>*Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>alnion incanae</i>, <i>Salicion albae</i>)</p> <p>Freshwater Pearl Mussel <i>Margaritifera margaritifera</i></p> <p>Sea Lamprey <i>Petromyzon marinus</i></p> <p>Brook Lamprey <i>Lampetra planeri</i></p> <p>River Lamprey <i>Lampetra fluviatilis</i></p> <p>Twaite Shad <i>Alosa fallax</i></p> <p>Atlantic salmon <i>Salmo salar</i> (only in fresh water)</p> <p>Otter <i>Lutra lutra</i></p> <p>Harbour Seal <i>Phoca vitulina</i></p>	locations to protected species and habitats
001209	Glenasmole Valley	<p>Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco Brometalia</i>) (*important orchid sites)</p> <p><i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>)</p> <p>*Petrifying springs with tufa formation (<i>Cratoneurion</i>)</p>	Dodder Greenway within the valley and increases access to the site, Potential direct impacts on habitats present
001398	Rye Water Valley / Carton	<p>*Petrifying springs with tufa formation (<i>Cratoneurion</i>)</p> <p><i>Vertigo angustior</i></p>	Greenway K1 crosses though SAC, L1 and C7 primary / secondary feeder networks within SAC. Assessment needed at project level to determine impacts.

Site code	Site Name	Qualifying interest	Description of plan impacting on the SAC
		<i>Vertigo moulinsiana</i>	
001742	Kilpatrick Sandhills	Annual vegetation of drift lines Embryonic shifting dunes Shifting dunes along the shorelines with <i>ammophila arenaria</i> (white dunes) *Fixed coastal dunes with herbaceous vegetation (grey dunes) Atlantic decalcified fixed dunes (<i>Calluno-Ulicetea</i>)	Interurban route (spur of W11, on road section of the East Coast Trail) links to site. Increase in visitor pressure potential from East coast Trail
001766	Magherabeg Dunes	Annual vegetation of drift lines Embryonic shifting dunes Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) *Fixed coastal dunes with herbaceous vegetation (grey dunes) *Atlantic decalcified fixed dunes (<i>Calluno- Ulicetera</i>) *Petrifying springs with tufa formation (<i>Cratoneurion</i>)	W11 On road section of the East coast Trail, 100 m from the SAC, site is sensitive to disturbance and visitor pressure.
001957	Boyne Coast and Estuary	Estuaries Mudflats and sandflats not covered by seawater at low tide Salicornia and other annuals colonizing mud and sand Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) Mediterranean salt meadows (<i>Juncetalia maritima</i>) Embryonic shifting dunes Shifting dunes along the shoreline	M1 East Coast Greenway potentially directly impacting on the SAC, potential for increased visitor pressure

Site code	Site Name	Qualifying interest	Description of plan impacting on the SAC
		with <i>Ammophila arenaria</i> (white dunes) *Fixed coastal dunes with herbaceous vegetation (grey dunes)	
002162	River Barrow and River Nore	<p>Estuaries</p> <p>Mudflats and sandflats not covered by seawater at low tide</p> <p><i>Salicornia</i> and other annuals colonizing mud and sand</p> <p>Atlantic salt meadows (<i>Glaucopuccinellietalia maritimae</i>)</p> <p>Mediterranean salt meadows (<i>Juncetalia maritima</i>)</p> <p>Water courses of plain to montane levels with <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation</p> <p>European dry heaths</p> <p>Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels</p> <p>*Petrifying springs with tufa formation (<i>Cratoneurion</i>)</p> <p>Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles 1990</p> <p>*Alluvial forest with <i>Alnus Glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>)</p> <p>Desmoulin's whorl snail <i>Vertigo moulinsiana</i></p> <p>Freshwater pearl mussel <i>Margaritifera margaritifera</i></p>	Directly impacted on SAC with greenways (K11) Barrow Canal Greenway K15 K20 interurban intersect the SAC. Potential impact on riparian habitat, water quality and aquatic environment. Hydrogeology potentially impacted, increased visitor pressure.

Site code	Site Name	Qualifying interest	Description of plan impacting on the SAC
		<p>While-clawed crayfish <i>Austropotamobius pallipes</i> Sea lamprey <i>Petromyzon marinus</i> Brook lamprey <i>Lampetra planeri</i> River lamprey <i>Lampetra fluviatilis</i> Twaite shad <i>Alosa fallax</i> Atlantic salmon (<i>Salmo salar</i>) (only in freshwater) Otter <i>Lutra lutra</i> Killarney fern <i>Trichomanes speciosum</i> Nore freshwater pearl mussel <i>Margaritifera durrovensis</i></p>	
002249	The Murrough Wetlands	<p>Annual vegetation of drift lines Perennial vegetation of stony banks Atlantic salt meadows (<i>Glaucopuccinellietalia maritimae</i>) Mediterranean salt meadows (<i>Juncetalia maritima</i>) *Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Claricion davallianae</i> Alkaline fens</p>	<p>East Coast Greenway and Greenways that link W4 Interurban to the East Coast Greenway potentially directly impacting on the SAC Potential for direct impact on habitats, increased disturbance, potential for hydrological impacts.</p>
002299	River Boyne and River Blackwater	<p>Alkaline fens *Alluvial forests with <i>Alnus gultinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>alnion incanae</i>, <i>Salicion albae</i>) River lamprey <i>Lampetra fluviatilis</i> Atlantic salmon <i>Salmo salar</i> (in freshwater only) Otter <i>Lutra lutra</i></p>	<p>Proposed Boyne greenway along the banks of the Boyne River with potential to have impact directly on protected habitats, and indirectly though impact on water quality on some species</p>

Site code	Site Name	Qualifying interest	Description of plan impacting on the SAC
002342	Mount Hevey Bog	*Active raised bogs Degraded raised bogs still capable of natural regeneration Depressions on peat substrates of the <i>Rhynchosporion</i>	Adjoining the Dublin – Galway cycleway at the Royal canal, potential impact on hydrology.

Table 3.2 Special Protections Areas where Direct and Indirect Impacts are Possible

Site code	Site Name	Qualifying interest	Description of plan impacting on the SAC
004006	North Bull Island	<i>Branta bernicla hrota</i> <i>Tadorna tadorna</i> <i>Anas crecca</i> <i>Anas acuta</i> <i>Anas clypeata</i> <i>Haematopys ostralegus</i> <i>Pluvialis squatarola</i> <i>Calidris canutus</i> <i>Calidris alba</i> <i>Calidris alpine</i> <i>Limosa limosa</i> <i>Limosa lapponica</i> <i>Numenius arquata</i> <i>Tringa tetanus</i> <i>Arenaria interpres</i> <i>Chroicocephalus ridibundus</i> Wetlands	Adjoining Eastern Greenway along Clontarf with potential disturbance on bird life
004015	Rogerstown Estuary	<i>Anser anser</i> <i>Branta bernicla hrota</i> <i>Tadorna tadorna</i> <i>Anas clypeata</i> <i>Haematopus ostralegus</i>	Eastern Greenway adjoining and within SPA, potential for loss of habitat and disturbance to birds

Site code	Site Name	Qualifying interest	Description of plan impacting on the SAC
		<i>Charadrius hiaticula</i> <i>Pluvialis squatarola</i> <i>Calidris canutus</i> <i>Calidris alpine alpine</i> <i>Limosa limosa</i> <i>Tringa tetanus</i> Wetlands	
004016	Baldoyle Bay	<i>Branta bernicla hrota</i> <i>Tadorna tadorna</i> <i>Charadrius hiaticula</i> <i>Pluvialis apricaia</i> <i>Pluvialis squatarola</i> <i>Limosa lapponica</i> Wetlands	Eastern Greenway adjoining and within SPA, potential for loss of habitat and disturbance to birds
004024	South Dublin Bay and River Tolka Estuary	<i>Branta bernicla hrota</i> <i>Haematopus ostralegus</i> <i>Charadrius hiaticula</i> <i>Calidris alba</i> <i>Calidris alpine</i> <i>Limosa lapponica</i> <i>Tringa tetanus</i> <i>Sterna dougallii</i> <i>Sterna hirundo</i> <i>Sterna paradisaea</i> Wetlands	Eastern Greenway adjoining and within SPA, potential for loss of habitat and disturbance to birds
004025	Malahide Estuary	<i>Podiceps cristatus</i> <i>Branta bernicla hrota</i> <i>Tadorna tadorna</i> <i>Anas acuta</i> <i>Bucephala clangula</i> <i>Mergus serrator</i> <i>Haematopus ostralegus</i> <i>Pluvialis apricaria</i>	Eastern Greenway adjoining and within SPA, potential for loss of habitat and disturbance to birds

Site code	Site Name	Qualifying interest	Description of plan impacting on the SAC
		<i>Pluvialis squatarola</i> <i>Calidris canutus</i> <i>Calidris alpina</i> <i>Limosa limosa</i> <i>Limosa lapponica</i> <i>Tringa tetanus</i> Wetlands	
004040	Wicklow Mountains	<i>Falco columbarius</i> <i>Falco peregrines</i>	No greenways proposed in proximity to SPA, several interurban routes are included within the plan; however there should be minimal increase in visitor numbers within the SAC 002122. The cycle route is considered difficult, thus limited visitor numbers. Qualifying interests with large territories are unlikely to experience disturbance
004063	Poulaphouca Reservoir	<i>Anser anser</i> <i>Larus fuscus</i>	No greenways proposed in proximity to SPA, interurban W10 within the SPA. need for further consideration in terms of disturbance to birds.
004080	Boyne Estuary	<i>Tadorna tadorna</i> <i>Haematopus ostralegus</i> <i>Pluvialis apricaria</i> <i>Pluvialis squatarola</i> <i>Vanellus vanellus</i> <i>Calidris canutus</i> <i>Calidris alba</i> <i>Limosa limosa</i> <i>Tringa tetanus</i> <i>arenaria interpres</i> <i>Sterna albifrons</i> Wetlands	Boyne Greenway adjoins and potentially within SPA, potential or direct impact to habitat and increased disturbance from visitors to birds
004158	River Nanny Estuary and Shore	<i>Haematopus ostralegus</i> <i>Charadrius hiaticula</i> <i>Pluvialis apricaria</i> <i>Calidris canutus</i> <i>Calidris alba</i> <i>Larus argentatus</i> Wetlands	Eastern Greenway adjoining and within SPA, risk of disturbance and destruction of wetlands

Site code	Site Name	Qualifying interest	Description of plan impacting on the SAC
004186	The Murrough	<i>Gavia arctica</i> <i>Anser anser</i> <i>Branta bernicla hrota</i> <i>Anas Penelope</i> <i>Anas Crecca</i> <i>Chroicocephalus ridibundus</i> <i>Larus argentatus</i> <i>Sterna albifrons</i> Wetlands	Eastern Greenway directly adjoins and within the SPA, impact on habitat and disturbance to species
004235	River Boyne and River Blackwater	<i>Alcedo atthis</i>	Boyne Greenway directly and adjoining the SPA, potential impact on habitat and species

4.0 PROPOSED MITIGATION MEASURES

It should be noted, that within the Plan all proposed routes are indicative only and will be subject to even further rigorous assessment as required under the Habitats Directive at the next plan/project level. Screening for AA and where required full AA will be carried out for any plan or project which individually or in combination with other plans or projects is likely to have a significant direct or indirect impact on any Natura 2000 site.

The section that follows presents the proposed mitigation measures for each of the Natura 2000 sites where a likely significant impact has been predicted. These mitigation measures seek to target the likely significant impacts that may occur from an examination of the cycle routes at this strategic level. As stated above further more detailed mitigation will be expected at the next lower plan/project level.

4.1 Proposed Mitigation measures for Natura 2000 Sites

Site Name	Site Code and Designation
Baldoye Bay	000199 – SAC 004016 - SPA

Proposed Cycle Routes

Greenway Routes - Eastern Greenway (P1)
Other Routes - Primary/secondary route P1
Other Routes - Radial Route 1A

Mitigation Measures Proposed for SAC

- Any future development of the proposed cycle routes will include an assessment of any impacts that may arise from increased visitor pressures, in particular, on sensitive Natura 2000 habitats such as Salicornia habitats, Atlantic salt meadows and Mediterranean salt meadow habitats.
- Design should consider the provision of protective measures on sites sensitive to disturbance/visitor pressure e.g. provision of physical barriers, hedgerows, any natural barriers or simply by not facilitating access onto the sensitive habitat.

Mitigation Measures Proposed for SPA

- Consideration of mitigation for the restriction of increased visitor numbers may require further investigation e.g. the provision of cycle facilities may be restricted and provided away from qualifying habitats and species.
- Interrelationships between Natura 2000 sites in particular for bird populations that may use more than one site should be considered in impact assessment. Monitoring of operational phase of the project will be carried out if necessary, which will additionally assist assessment of cumulative impacts
- Signage in the form of information boards could be provided denoting the presence of Natura 2000 sites and the qualifying interests present, to promote respect of the sensitivity of the environs by recreational users.
- Projects should carry out assessment on predicted visitor numbers at sensitive sites to allow for further project level mitigation.

- The timing of any construction works required as part of the development of any proposed route, that may cause disturbance to the qualifying species of the site, shall take place at a time of year that will not have an adverse impact on the bird population using the area (e.g. wintering wildfowl).

Site Name	Site Code and Designation
Howth Head	000202 - SAC

Proposed Cycle Routes

Greenway Routes - 1A

Other Routes - Route 1A (Dublin - Secondary)

Mitigation Measures Proposed for SAC

- Any future development of the proposed cycle route will include an assessment of any impacts that may arise from increased visitor pressures in particular on sensitive habitats and species such as Vegetated sea cliffs off the Atlantic and Baltic coasts and European dry heaths.
- Consideration will be given at project level AA to the provision of ancillary facilities for example the provision of street furniture, cycle parking, car parks, lighting etc. Where it is determined that the provision of such features will result in impact on the qualifying interests of the site then alternatives should be considered prior to the completion of the design.
- Consideration of mitigation for the restriction of increased visitor numbers may require further investigation e.g. the provision of cycle facilities and car parking may be restricted and provided away from qualifying habitats and species.

Site Name	Site Code and Designation
Malahide Estuary	000205 – SAC 004025 - SPA

Proposed Cycle Routes

Greenway routes - P1/F1, FG2, FG4 (Eastern Greenway)

Mitigation Measures Proposed for SAC

- Any future development of the proposed cycle routes will include assessment of any impacts that may arise from increased visitor pressures in particular on sensitive habitats and species such as Mudflats and Sandflats , Spartina sward Salicornia habitats, Atlantic salt meadows and Mediterranean salt meadow habitats, Grey* (Fixed) and White Dunes (Shifting).
- Consideration will be given at project level AA to the provision of ancillary facilities for example the provision of street furniture, cycle parking, car parks, lighting etc. Where it is determined that the provision of such features will result in impact on the qualifying interests of the site then alternatives should be considered prior to the completion of the design.
- Consideration of mitigation for the restriction of increased visitor numbers may require further investigation e.g. the provision of cycle facilities may be restricted and provided away from qualifying habitats and species.

Mitigation Measures Proposed for SPA

- Consideration of mitigation for the restriction of increased visitor numbers may require further investigation e.g. the provision of cycle facilities may be restricted and provided away from qualifying habitats and species.
- Interrelationships between Natura 2000 sites in particular for bird populations that may use more than one site should be considered in impact assessment. Monitoring of operational phase of the project will be carried out if necessary, which will additionally assist assessment of cumulative impacts.
- Signage in the form of information boards could be provided denoting the presence of Natura 2000 sites and the qualifying interests present, to promote respect of the sensitivity of the environs by recreational users.
- Projects should carry out assessment on predicted visitor numbers at sensitive sites to allow for further project level mitigation.
- The timing of any construction works required as part of the development of any proposed route, that may cause disturbance to the qualifying species of the site, shall take place at a time of year that will not have an adverse impact on the bird population using the area (e.g. wintering wildfowl).

Site Name	Site Code and Designation
North Dublin Bay	000206 - SAC

Proposed Cycle Routes

Greenway Routes – East Coast Trail North and Santry River Greenway
Other Routes - Route 1A (Dublin - Secondary)

Mitigation Measures Proposed for SAC

- Any future development of the proposed cycle routes will include assessment of any impacts that may arise from increased visitor pressures in particular on sensitive habitats and species such as Mudflats and Sandflats, Salicornia habitats, Atlantic salt meadows and Mediterranean salt meadow habitats, Embryonic shifting dunes, Grey* (Fixed) and White Dunes (Shifting) and Humid dune slacks.
- Consideration will be given at project level AA to the provision of ancillary facilities for example the provision of street furniture, cycle parking, car parks, lighting etc. Where it is determined that the provision of such features will result in impact on the qualifying interests of the site then alternatives should be considered prior to the completion of the design.
- Consideration of mitigation for the restriction of increased visitor numbers on the sensitive habitats present may require further investigation e.g. the provision of cycle facilities may be restricted and provided away from qualifying habitats and species.

Site Name	Site Code and Designation
North Bull Island	004006 - SPA

Proposed Cycle Routes

Greenway Routes – East Coast Trail North (1A) and Santry River Greenway
Other Routes - Route 1A (Dublin - Secondary)

Mitigation Measures Proposed for SPA

- Consideration of mitigation for the restriction of increased visitor numbers may require further investigation e.g. the provision of cycle facilities if any on Bull Island may be restricted and provided away from qualifying habitats and species.
- Interrelationships between Natura 2000 sites, in particular for bird populations that may use more than one site should be considered in impact assessment. Monitoring of operational phase of the project will be carried out if necessary, which will additionally assist assessment of cumulative impacts
- Signage in the form of information boards could be provided denoting the presence of Natura 2000 sites and the qualifying interests present, to promote respect of the sensitivity of the environs by recreational users.
- Projects should carry out assessment on predicted visitor numbers at sensitive sites to allow for further project level mitigation.
- The timing of any construction works required as part of the development of any proposed route, that may cause disturbance to the qualifying species of the site, shall take place at a time of year that will not have an adverse impact on the bird population using the area (e.g. wintering wildfowl).

Site Name	Site Code and Designation
Rogerstown Estuary	000208 - SAC 004015 - SPA

Proposed Cycle Routes

Greenway Routes – FG1 – Option A – **Indicative** Cycle route to cross estuary directly north of Donabate
Option B – **Indicative** Cycle route travel north from Portrane, to cross estuary at narrow western point.
Other Routes – RU2 – Rush town route

Overall Mitigation measures for Option A & B – which may have a likely significant effect on both the SAC and SPA

- The viability and likely significant impacts of both options will be examined further at a lower plan tier level/project level. The option chosen will have to demonstrate that there will be no adverse impact on the site integrity of the designated sites. Where this cannot be shown alternatives will have to be considered and where no alternatives are available it must be demonstrated that the project is of overriding public interest.

Mitigation Measures Proposed for SAC

- Any future development of the proposed cycle routes will include assessment of any impacts that may arise from increased visitor pressures, in particular on

sensitive habitats and species such as the Estuary, Mudflats and Sandflats, Atlantic salt meadows and Mediterranean salt meadow habitats, Grey* (Fixed) and White Dunes (Shifting).

- Consideration will be given at project level AA to the provision of ancillary facilities for example the provision of street furniture, cycle parking, car parks, lighting etc. Where it is determined that the provision of such features will result in impact on the qualifying interests of the site then alternatives should be considered prior to the completion of the design.
- Consideration of mitigation for the restriction of increased visitor numbers on the sensitive habitats present may require further investigation e.g. the provision of cycle facilities may be restricted and provided away from qualifying habitats and species.

Mitigation Measures Proposed for SPA

- Consideration of mitigation for the restriction of increased visitor numbers may require further investigation e.g. the provision of cycle facilities may be restricted and provided away from qualifying habitats and species.
- Interrelationships between Natura 2000 sites, in particular for bird populations that may use more than one site should be considered in impact assessment. Monitoring of operational phase of the project will be carried out if necessary, which will additionally assist assessment of cumulative impacts.
- Signage in the form of information boards could be provided denoting the presence of Natura 2000 sites and the qualifying interests present, to promote respect of the sensitivity of the environs by recreational users.
- Projects should carry out assessment on predicted visitor numbers at sensitive sites to allow for further project level mitigation.
- The timing of any construction works required as part of the development of any proposed route, that may cause disturbance to the qualifying species of the site, shall take place at a time of year that will not have an adverse impact on the bird population using the area (e.g. wintering wildfowl).

Site Name	Site Code and Designation
South Dublin Bay	000210 - SAC

Proposed Cycle Routes

Greenway Routes – 13E and 14 (East Coast Trail South)

Other Routes – 13E (Dublin - Secondary)

Mitigation Measures Proposed for SAC

- Any future development of the proposed cycle routes will include assessment of any impacts that may arise from construction on or close to the Mudflats and Sandflats Habitats not covered by seawater at low tide.
- Alternative options such as diverting the cycle route onto existing routeways (e.g. roadways) in the vicinity should be considered if it is shown that there will be an adverse impact on site integrity.

Site Name	Site Code and Designation
South Dublin Bay and River Tolka Estuary	004024 - SPA

Proposed Cycle Routes

Greenway Routes – 13E and 14 (East Coast Trail South)

Other Routes – 13E (Dublin - Secondary)

Mitigation Measures Proposed for SPA

- Consideration of mitigation for the restriction of increased visitor numbers may require further investigation e.g. the provision of cycle facilities may be restricted and provided away from qualifying species.
- Interrelationships between Natura 2000 sites, in particular for bird populations that may use more than one site should be considered in impact assessment. Monitoring of operational phase of the project will be carried out if necessary, which will additionally assist assessment of cumulative impacts.
- Signage in the form of information boards could be provided denoting the presence of Natura 2000 sites and the qualifying interests present, to promote respect of the sensitivity of the environs by recreational users.
- The timing of any construction works required as part of the development of any proposed route, that may cause disturbance to the qualifying species of the site, shall take place at a time of year that will not have an adverse impact on the bird population using the area (e.g. wintering wildfowl).

Site Name	Site Code and Designation
Pollardstown Fen	000396 - SAC

Proposed Cycle Routes

Greenway Routes – K12

Background to site

The proposed K12 route initially was to run along a small path which travelled through the designated site. However following an assessment of the impacts at AA screening report stage, it was identified that there would be potential direct impact on priority habitats and species and also potential for impact on hydrology and direct loss of habitat. Following these considerations it was decided to remove this section of Greenway route from the fen and realign the route so that no direct impact would be had on the fen, which contains both priority* and non-priority habitats (*Calcareous fens, *Petrifying springs, Alkaline fens) and protected snail species (*Vertigo geyeri*, *Vertigo angustior*, *Vertigo moulinsiana*).

Resultant Amendment to Plan

The K12 Greenway route now ends just north of Pollardstown Fen, where it is proposed to join the regional and local roads to Newbridge and Kildare (K12 – Inter Urban Route).

Site Name	Site Code and Designation
Ballyman Glen	000713 - SAC

Proposed Cycle Routes

Route – W2 Inter-Urban

Mitigation Measures Proposed for SAC

- Any future development of the proposed cycle routes (widening of existing road or road edge works) will include assessment of any impacts that may arise from increased visitor pressures, in particular on sensitive habitats and species including priority habitats type *Petrifying springs and also separate habitat type Alkaline fens.
- Consideration of mitigation for the restriction of increased visitor numbers on the sensitive habitats present may require further investigation e.g. the provision of cycle facilities may be restricted and provided away from qualifying habitats and species.

Site Name	Site Code and Designation
Bray Head	000714 - SAC

Proposed Cycle Routes

Greenway Routes – W11

Route – W4 Inter-Urban

Mitigation Measures Proposed for SAC

- Any future development of the proposed cycle route W11 will include assessment of any impacts that may arise as a direct impact of the route on the sensitive habitats of Vegetated sea cliffs of the Atlantic coasts and European heath. Where construction of this route would lead to adverse impacts on the sites integrity alternative options must be considered and where no alternatives are available it must be demonstrated that the project is of overriding public interest.
- Consideration of mitigation for the restriction of increased visitor numbers on the sensitive habitats present may require further investigation e.g. the provision of cycle facilities may be restricted and provided away from qualifying habitats.

Site Name	Site Code and Designation
Buckroney-Brittas Dunes and Fen	000729 - SAC

Proposed Cycle Routes

Route - W11 Inter-Urban (East Coast Way)

Mitigation Measures Proposed for SAC

- Any future development of the proposed cycle route will include assessment of any impacts that may arise from increased visitor pressures, in particular on sensitive habitats and species such as the Annual vegetation of drift lines, Perennial vegetation of stony banks, Embryonic shifting dunes, White dunes, *Fixed coastal dunes with herbaceous vegetation (grey dunes), *Atlantic

decalcified fixed dunes, Dunes with *Salix repens* spp. *Argentea*, Humid dune slacks and Alkaline fens.

- Consideration will be given at project level AA to the provision of ancillary facilities for example the provision of cycle parking, car parks etc. Where it is determined that the provision of such features will result in impact on the qualifying interests of the site then alternatives should be considered prior to the completion of the design.
- Consideration of mitigation for the restriction of increased visitor numbers on the sensitive habitats present may require further investigation e.g. the provision of cycle facilities may be restricted and provided away from qualifying habitats and species.

Site Name	Site Code and Designation
Vale of Clara (Rathdrum Wood)	000733 - SAC

Proposed Cycle Routes

Route - W13 Inter-Urban

Mitigation Measures Proposed for SAC

- Any future development of the proposed cycle route W11 including works on the existing pathway through the woodland area should include assessment of any impacts that may arise as a direct impact of the route on the sensitive habitat of Old sessile oak woods. Where construction of this route would lead to adverse impacts on the sites integrity alternative options must be considered and where no alternatives are available it must be demonstrated that the project is of overriding public interest.

Site Name	Site Code and Designation
Slaney River Valley	000781 - SAC

Proposed Cycle Routes

Greenway Route – W16

Routes - Inter-Urban W17, W15, W14

Mitigation Measures Proposed for SAC

- Any future development of the proposed cycle routes including works on the existing roadways should include assessment of any impacts that may arise as a direct (habitat or species destruction) and indirect (increased recreational pressure) impacts of the route on the sensitive habitats which include, Water courses of plain to montane levels with *Ranunculus fluitantis* and *Callitriche-Batrachion* vegetation, Old Sessile oak woods with Ilex and Blechnum in the British Isles, *Alluvial forests with *Alnus glutinosa* and Fraxinus excelsior, Freshwater Pearl Mussel, Brook Lamprey, River Lamprey, Twaite Shad, Atlantic salmon and Otters.
- Appropriate surveys should be carried out prior to any development of cycle routes to identify if invasive alien species are present. If so an action plan will be drawn up to manage this issue.
- In the event of lighting being proposed along river corridors an Ecological Impact Assessment (and where necessary an Appropriate Assessment) including bat and otter survey shall be conducted by specialists. The

recommendations of the specialist studies shall be implemented. No lighting will be installed without prior consultation with NPWS and shall be in line with advances in knowledge into the impact of lighting on bats and other species and also to reflect advances in technology in the lighting industry

- A detailed hydrological assessment shall inform the design of bridges or works on bridges required at crossing points of the river, such that the habitats within 000781 SAC are protected.
- The design and construction of these cycle routes shall comply with all relevant best practice guidelines for the protection of fish, otter and water quality.

The following Best Practice Guidance documents will, where applicable, be adhered to during the design and construction of route nos. W14, W15, W16 and W17.

- Fishery Guidelines for Local Authority Works (DCENR, 2008), Regional Fishery Boards;
- Eastern Regional Fisheries Board Guidance Notes 'Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites' (Eastern Regional Fisheries Board, 2006);
- Maintenance and Protection of the Inland Fisheries Resource during Road Construction and Improvement Works - Requirements of the Southern Regional Fisheries Board (Southern Regional Fisheries Board, 2007);
- Control of Water Pollution from Construction sites – Guidance for Consultants and Contactors published by CIRIA (2001);
- Control of Water Pollution from Linear Construction Projects: Site Guide published by CIRIA (2006);
- NRA Guidelines (2006) NRA Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes; and
- NRA Guidelines (2007) Guidelines for the Treatment of Otters Prior to the Construction of National Road Schemes).

Site Name	Site Code and Designation
Glenasmole Valley	001209 - SAC

Proposed Cycle Routes

Greenway Route – Dodder Greenway
Routes - Inter-Urban D3

Mitigation Measures Proposed for SAC

- Any future development of the proposed cycle routes including works on the existing roadways should include assessment of any impacts that may arise as a direct (habitat or species destruction) and indirect (increased recreational pressure) impacts of the route on the sensitive habitats which include, Semi-natural dry grasslands and scrubland facies on calcareous substrates, *important orchid sites, *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils and *Petrifying springs with tufa formation.
- Appropriate surveys should be carried out prior to any development of cycle routes to identify if invasive alien species are present. If so an action plan will be drawn up to manage this issue.
- In the event of lighting being proposed along river corridors an Ecological Impact Assessment (and where necessary an Appropriate Assessment) including bat and otter survey shall be conducted by specialists. The

recommendations of the specialist studies shall be implemented. No lighting will be installed without prior consultation with NPWS and shall be in line with advances in knowledge into the impact of lighting on bats and other species and also to reflect advances in technology in the lighting industry

- The design and construction of these cycle routes shall comply with all relevant best practice guidelines for the protection of fish, otter and water quality.

The following Best Practice Guidance documents will, where applicable, be adhered to during the design and construction:

- Fishery Guidelines for Local Authority Works (DCENR, 2008), Regional Fishery Boards;
- Eastern Regional Fisheries Board Guidance Notes 'Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites' (Eastern Regional Fisheries Board, 2006);
- Maintenance and Protection of the Inland Fisheries Resource during Road Construction and Improvement Works - Requirements of the Southern Regional Fisheries Board (Southern Regional Fisheries Board, 2007);
- Control of Water Pollution from Construction sites – Guidance for Consultants and Contactors published by CIRIA (2001);
- Control of Water Pollution from Linear Construction Projects: Site Guide published by CIRIA (2006);
- NRA Guidelines (2006) NRA Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes; and
- NRA Guidelines (2007) Guidelines for the Treatment of Otters Prior to the Construction of National Road Schemes).

Site Name	Site Code and Designation
Rye Water Valley / Carton	001398 - SAC

Proposed Cycle Routes

Greenway Route – K1

Routes - L1 and C7 primary / secondary feeder

Mitigation Measures Proposed for SAC

- Any future development of the proposed cycle routes including works on the existing roadways should include assessment of any impacts that may arise as a direct (habitat or species destruction) and indirect (increased recreational pressure) impacts of the route on the sensitive habitats and species which include, *Petrifying springs with tufa formation (*Cratoneurion*) and snail species *Vertigo angustior*, *Vertigo moulinsiana*.
- Appropriate surveys should be carried out prior to any development of cycle routes to identify if invasive alien species are present. If so an action plan will be drawn up to manage this issue.
- In the event of lighting being proposed along river corridors an Ecological Impact Assessment (and where necessary an Appropriate Assessment) including bat and otter survey shall be conducted by specialists. The recommendations of the specialist studies shall be implemented. No lighting will be installed without prior consultation with NPWS and shall be in line with advances in knowledge into the impact of lighting on bats and other species and also to reflect advances in technology in the lighting industry

- Design should consider the provision of protective measures on sites sensitive to disturbance/visitor pressure e.g. provision of physical barriers, hedgerows, any natural barriers or simply by not facilitating access onto the sensitive habitat.
- The design and construction of cycle routes shall comply with all relevant best practice guidelines for the protection of fish, otter and water quality.

The following Best Practice Guidance documents will, where applicable, be adhered to during the design and construction:

- Fishery Guidelines for Local Authority Works (DCENR, 2008), Regional Fishery Boards;
- Eastern Regional Fisheries Board Guidance Notes 'Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites' (Eastern Regional Fisheries Board, 2006);
- Maintenance and Protection of the Inland Fisheries Resource during Road Construction and Improvement Works - Requirements of the Southern Regional Fisheries Board (Southern Regional Fisheries Board, 2007);
- Control of Water Pollution from Construction sites – Guidance for Consultants and Contactors published by CIRIA (2001);
- Control of Water Pollution from Linear Construction Projects: Site Guide published by CIRIA (2006);
- NRA Guidelines (2006) NRA Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes; and
- NRA Guidelines (2007) Guidelines for the Treatment of Otters Prior to the Construction of National Road Schemes).

Site Name	Site Code and Designation
Kilpatrick Sandhills	001742 - SAC

Proposed Cycle Routes

Routes - Inter-Urban W11 (East Coast Trail – on road section)

Mitigation Measures Proposed for SAC

- Any future development of the proposed cycle route including works on the existing roadway should include assessment of any impacts that may arise as a direct (habitat or species destruction) and indirect (increased recreational/tourism pressure) impacts of the route on the sensitive habitats which include, Annual vegetation of drift lines, Embryonic shifting dunes Shifting dunes (white dunes), *Fixed coastal dunes with herbaceous vegetation (grey dunes) and Atlantic decalcified fixed dunes.
- Consideration will be given at project level AA to the provision of ancillary facilities for example the provision of street furniture, cycle parking, car parks, lighting etc. Where it is determined that the provision of such features will result in impact on the qualifying interests of the site then alternatives should be considered prior to the completion of the design.
- Consideration of mitigation for the restriction of increased visitor numbers on the sensitive habitats present may require further investigation e.g. the provision of cycle facilities may be restricted and provided away from qualifying habitats and species.

Site Name	Site Code and Designation
Magherabeg Dunes	001766 - SAC

Proposed Cycle Routes

Routes - Inter-Urban W11 (East Coast Trail – on road section)

Mitigation Measures Proposed for SAC

- Any future development of the proposed cycle route will include assessment of any impacts that may arise from increased visitor pressures in particular on the sensitive habitats and species for which the nearby site has been designated including, Annual vegetation of drift lines, Embryonic shifting dunes, Shifting dunes (white dunes), *Fixed coastal dunes with herbaceous vegetation (grey dunes), *Atlantic decalcified fixed dunes (*Calluno- Ulicetera*) and *Petrifying springs with tufa formation (*Cratoneurion*).
- Consideration will be given at project level AA to the provision of ancillary facilities for example the provision of street furniture (seating), cycle parking, car parks, lighting etc. Where it is determined that the provision of such features will result in impact on the qualifying interests of the site then alternatives should be considered prior to the completion of the design.
- Consideration of mitigation for the restriction of increased visitor numbers may require further investigation e.g. the provision of cycle facilities and car parking may be restricted and provided away from the qualifying habitats.

Site Name	Site Code and Designation
Boyne Coast and Estuary	001957 - SAC

Proposed Cycle Routes

Greenway Route – M1 (East Coast Trail)

Mitigation Measures Proposed for SAC

- Any future development of the proposed cycle route including works on the existing roadway should include assessment of any impacts that may arise as a direct (habitat or species destruction) and indirect (increased recreational/tourism pressure) impacts of the route on the sensitive habitats which include; Annual vegetation of drift lines, Embryonic shifting dunes, Shifting dunes (white dunes), *Fixed coastal dunes with herbaceous vegetation (grey dunes), *Atlantic decalcified fixed dunes (*Calluno- Ulicetera*) and *Petrifying springs with tufa formation (*Cratoneurion*).
- Consideration will be given at project level AA to the provision of ancillary facilities for example the provision of street furniture (seating), cycle parking, car parks, lighting etc. Where it is determined that the provision of such features will result in impact on the qualifying interests of the site then alternatives should be considered prior to the completion of the design.
- In the event of lighting being proposed along river corridors an Ecological Impact Assessment (and where necessary an Appropriate Assessment) including bat and otter survey shall be conducted by specialists. The recommendations of the specialist studies shall be implemented. No lighting will be installed without prior consultation with NPWS and shall be in line with advances in knowledge into the impact of lighting on bats and other species and also to reflect advances in technology in the lighting industry.

- Consideration of mitigation for the restriction of increased visitor numbers may require further investigation e.g. the provision of cycle facilities and car parking may be restricted and provided away from the qualifying habitats.

Site Name	Site Code and Designation
Boyne Estuary	004080 - SPA

Proposed Cycle Routes

Greenway Route – Boyne Greenway and M1 Greenway

Mitigation Measures Proposed for SPA

- Consideration of mitigation for the restriction of increased visitor numbers may require further investigation e.g. the provision of cycle facilities may be restricted and provided away from qualifying species that use certain areas within the estuary.
- Interrelationships between Natura 2000 sites, in particular for bird populations that may use more than one site should be considered in impact assessment. Monitoring of operational phase of the project will be carried out if necessary, which will additionally assist assessment of cumulative impacts.
- Signage in the form of information boards could be provided denoting the presence of Natura 2000 sites and the qualifying interests present, to promote respect of the sensitivity of the environs by recreational users.
- The timing of any construction works required as part of the development of any proposed route, that may cause disturbance to the qualifying species of the site, shall take place at a time of year that will not have an adverse impact on the bird population using the area (e.g. wintering wildfowl).

Site Name	Site Code and Designation
River Boyne and River Blackwater	002299 - SAC 004235 - SPA

Proposed Cycle Routes

Greenway Route – Boyne Greenway

Mitigation Measures Proposed for SAC

- Any future development of the proposed cycle route should include assessment of any impacts that may arise as a direct (habitat or species destruction) and indirect (increased recreational/tourism pressure) impacts of the route on the sensitive habitats which include; Alkaline fens, *Alluvial forests with *Alnus gultinosa* and *Fraxinus excelsior*, River lamprey, Atlantic salmon and Otter.
- Consideration will be given at project level AA to the provision of ancillary facilities for example the provision of street furniture (seating), cycle parking, car parks, lighting etc. Where it is determined that the provision of such features will result in impact on the qualifying interests of the site then alternatives should be considered prior to the completion of the design.
- In the event of lighting being proposed along river corridors an Ecological Impact Assessment (and where necessary an Appropriate Assessment) including bat and otter survey shall be conducted by specialists. The recommendations of the specialist studies shall be implemented. No lighting

will be installed without prior consultation with NPWS and shall be in line with advances in knowledge into the impact of lighting on bats and other species and also to reflect advances in technology in the lighting industry.

- Consideration of mitigation for the restriction of increased visitor numbers may require further investigation e.g. the provision of cycle facilities and car parking may be restricted and provided away from the qualifying habitats.
- Appropriate surveys should be carried out prior to any development of cycle routes to identify if invasive alien species are present. If so an action plan will be drawn up to manage this issue.

Mitigation Measures Proposed for SPA

- Consideration of mitigation for the restriction of increased visitor numbers may require further investigation e.g. the provision of cycle facilities may be restricted and provided away from qualifying species (Kingfisher) that use certain areas along the river.

Site Name	Site Code and Designation
River Barrow and River Nore	002162 - SAC

Proposed Cycle Routes

Greenway Route – K11 (Barrow Canal Greenway)

Routes – K15 and K20 Inter - Urban Routes

Mitigation Measures Proposed for SAC

- Any future development of the proposed cycle route including works existing roadways should include assessment of any impacts that may arise as a direct (habitat or species destruction) and indirect (increased recreational/tourism pressure) impacts of the route on the sensitive habitats which include; Water courses of plain to montane levels with *Ranunculus fluitantis* and *Callitriche-Batrachion* vegetation, European dry heaths, Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels, *Petrifying springs with tufa formation (*Cratoneurion*), Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles, *Alluvial forest with *Alnus Glutinosa* and *Fraxinus excelsior* and species which include; Desmoulin's whorl snail, Freshwater pearl mussel, White-clawed crayfish, Brook lamprey, River lamprey, Twaité shad, Atlantic salmon, Otter, Killarney fern and Nore freshwater pearl mussel.
- Consideration will be given at project level AA to the provision of ancillary facilities for example the provision of street furniture (seating), cycle parking, car parks, lighting etc. Where it is determined that the provision of such features will result in impact on the qualifying interests of the site then alternatives should be considered prior to the completion of the design.
- In the event of lighting being proposed along river corridors an Ecological Impact Assessment (and where necessary an Appropriate Assessment) including bat and otter survey shall be conducted by specialists. The recommendations of the specialist studies shall be implemented. No lighting will be installed without prior consultation with NPWS and shall be in line with advances in knowledge into the impact of lighting on bats and other species and also to reflect advances in technology in the lighting industry.
- Consideration of mitigation for the restriction of increased visitor numbers may require further investigation e.g. the provision of cycle facilities and car parking may be restricted and provided away from the qualifying habitats.

- Appropriate surveys should be carried out prior to any development of cycle routes to identify if invasive alien species are present. If so an action plan will be drawn up to manage this issue.
- Design should consider the provision of protective measures on sites sensitive to disturbance/visitor pressure e.g. provision of physical barriers, hedgerows, any natural barriers or simply by not facilitating access onto the sensitive habitat.
- The design and construction of cycle routes shall comply with all relevant best practice guidelines for the protection of fish, otter and water quality.

The following Best Practice Guidance documents will, where applicable, be adhered to during the design and construction:

- Fishery Guidelines for Local Authority Works (DCENR, 2008), Regional Fishery Boards;
- Eastern Regional Fisheries Board Guidance Notes 'Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites' (Eastern Regional Fisheries Board, 2006);
- Maintenance and Protection of the Inland Fisheries Resource during Road Construction and Improvement Works - Requirements of the Southern Regional Fisheries Board (Southern Regional Fisheries Board, 2007);
- Control of Water Pollution from Construction sites – Guidance for Consultants and Contactors published by CIRIA (2001);
- Control of Water Pollution from Linear Construction Projects: Site Guide published by CIRIA (2006);
- NRA Guidelines (2006) NRA Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes; and
- NRA Guidelines (2007) Guidelines for the Treatment of Otters Prior to the Construction of National Road Schemes).
- Detailed hydrological assessment shall inform the design of the cycle ways such that the habitats within the SAC are protected.

Site Name	Site Code and Designation
The Murrough Wetlands	002249 - SAC

Proposed Cycle Routes

Greenway Route – **Indicative** section of the East Coast Greenway (W11) – this section may have to use alternative routes such as diversion to existing roadways where adverse impacts are demonstrated on site integrity.

Mitigation Measures Proposed for SAC

- Any future development of the proposed cycle route including works on existing roadways should include assessment of any impacts that may arise as a direct (habitat or species destruction) and indirect (increased recreational/tourism pressure) impacts of the route on the sensitive habitats which include; Annual vegetation of drift lines, Perennial vegetation of stony banks, Atlantic salt meadows, Mediterranean salt meadows (*Juncetalia maritime*), *Calcareous fens with *Cladium mariscus* and species of the *Claricion davallianae* and Alkaline fens.
- Detailed hydrological assessment shall inform the design of the cycle routes such that the habitats within the SAC are protected.

- Design should consider the provision of protective measures on sites sensitive to disturbance/visitor pressure e.g. provision of physical barriers, hedgerows, any natural barriers or simply by not facilitating access onto the sensitive habitat.
- Signage in the form of information boards could be provided denoting the presence of Natura 2000 sites and the qualifying interests present, to promote respect of the sensitivity of the environs by recreational users.

Site Name	Site Code and Designation
The Murrough	004186 - SPA

Proposed Cycle Routes

Greenway Route – **Indicative** section of the East Coast Greenway (W11) – this section may have to use alternative routes such as diversion to existing roadways where adverse impacts are demonstrated on site integrity.

Mitigation Measures Proposed for SPA

- Any future development of the proposed cycle route including works on existing roadways should include assessment of any impacts that may arise as a direct (habitat or species destruction) and indirect (increased recreational/tourism pressure) impacts of the route on the sensitive bird species that use the site.
- Design should consider the provision of protective measures on sites sensitive to disturbance/visitor pressure e.g. provision of physical barriers, hedgerows, any natural barriers or simply by not facilitating access onto the sensitive habitat.
- Signage in the form of information boards could be provided denoting the presence of Natura 2000 sites and the qualifying interests present, to promote respect of the sensitivity of the environs by recreational users.
- The timing of any construction works required as part of the development of any proposed route, that may cause disturbance to the qualifying species of the site, shall take place at a time of year that will not have an adverse impact on the bird population using the area (e.g. wintering wildfowl).

Site Name	Site Code and Designation
Mount Hevey Bog	002342 - SAC

Proposed Cycle Routes

Greenway Route – K1 (Part of proposed Dublin to Galway Greenway)

Mitigation Measures Proposed for SAC

- Detailed hydrological assessment shall inform the design of the cycle routes such that the habitats within the SAC are protected.
- Any future development of the proposed cycle route should include assessment of any impacts that may arise as a direct (habitat or species destruction) and indirect (increased recreational/tourism pressure) impacts of the route on the sensitive habitats which include; *Active raised bogs, Degraded raised bogs still capable of natural regeneration and Depressions on peat substrates of the *Rhynchosporion*.

- Signage in the form of information boards could be provided denoting the presence of Natura 2000 sites and the qualifying interests present, to promote respect of the sensitivity of the environs by recreational users.

Site Name	Site Code and Designation
River Nanny Estuary and Shore	004158 - SPA

Proposed Cycle Routes

Greenway Route – M1 (Eastern Greenway Route)

Routes – M2 and M4 Inter - Urban Routes

Mitigation Measures Proposed for SPA

- Any future development of the proposed cycle route including works on existing roadways should include assessment of any impacts that may arise as a direct (habitat or species destruction) and indirect (increased recreational/tourism pressure) impacts of the route on the sensitive bird species that use the wetland site.
- Design should consider the provision of protective measures on sites sensitive to disturbance/visitor pressure e.g. provision of physical barriers, hedgerows, any natural barriers or simply by not facilitating access onto the habitat, that the bird species use.
- Signage in the form of information boards could be provided denoting the presence of Natura 2000 sites and the qualifying interests present, to promote respect of the sensitivity of the environs by recreational users.
- The timing of any construction works required as part of the development of any proposed route, that may cause disturbance to the qualifying species of the site, shall take place at a time of year that will not have an adverse impact on the bird population using the area (e.g. wintering wildfowl).

Site Name	Site Code and Designation
Wicklow Mountains	004040 – SPA

Proposed Cycle Routes

Routes – W2, W6, W7, W8 , W10 and W14 Inter - Urban Routes

Mitigation Measures Proposed for SPA

- Any future development of the proposed cycle route including works on existing roadways should include assessment of any impacts that may arise as a direct (habitat or species destruction) and indirect (increased recreational/tourism pressure) impacts of the route on the sensitive bird species that use the mountainous site.
- Design should consider the provision of protective measures on sites sensitive to disturbance/visitor pressure e.g. provision of physical barriers, hedgerows, any natural barriers or simply by not facilitating access onto the habitats that the bird species use.
- Signage in the form of information boards could be provided denoting the presence of Natura 2000 sites and the qualifying interests present, to promote respect of the sensitivity of the environs by recreational users.

Site Name	Site Code and Designation
Poulaphouca Reservoir	004063 – SPA

Proposed Cycle Routes

Routes – W10 Inter - Urban Routes

Mitigation Measures Proposed for SPA

- Any future development of the proposed cycle route including works on existing roadways should include assessment of any impacts that may arise as a direct (habitat or species destruction) and indirect (increased recreational/tourism pressure) impacts of the route on the sensitive bird species that use the site.
- Design should consider the provision of protective measures on sites sensitive to disturbance/visitor pressure e.g. provision of physical barriers, hedgerows, any natural barriers or simply by not facilitating access onto the habitats that the bird species use.
- Signage in the form of information boards could be provided denoting the presence of Natura 2000 sites and the qualifying interests present, to promote respect of the sensitivity of the environs by recreational users.

5.0 IN-COMBINATION EFFECTS

Under the provisions of Article 6 of the Habitats Directive, the potential for in-combination effects of the Cycle Network Plan with other plans and projects must be assessed. This is required to identify situations where effects of the plan, that in themselves may not be significant, may, in combination with effects from other plans and projects, become significant. The potential for the plan to result in such in-combination effects with other plans and projects is therefore limited to locations where effects of the plan have been identified.

Tables 3.1 and 3.2 of this Assessment identify the Natura 2000 sites where potential impacts (significant or otherwise) may occur as a result of implementation of the Cycle Network Plan. Other plans and projects that might have impacts on these sites have been examined in order to identify any possible in-combination effects. Relevant plans would include the Draft Integrated Implementation Plan for the Greater Dublin Area, all of the County Development Plans within the Greater Dublin Area and certain Local Area Plans which apply to locations where impacts from the Cycle Network Plan have been identified. Where available, Strategic Environmental Assessment Environmental Reports and Natura Impact Statements for these plans have also been reviewed.

5.1 Sites where Potential In-Combination Effects have been Identified and associated Plans

Site	Plan
Baldoye Bay	Baldoye Stapolin Local Area Plan (LAP)
Malahide Estuary	Draft Integrated Implementation Plan and Fingal County Development Plan
Rogerstown Estuary	Draft Integrated Implementation Plan and Fingal County Development Plan
South Dublin Bay cSAC, SPA and Tolka Estuary SPA	Dún Laoghaire Rathdown County Development Plan Dublin City Development Plan
Boyne Coast and Estuary	Meath County Development Plan
River Boyne SAC	Meath County Development Plan
Rye Water Valley / Carton SAC	Leixlip Local Area Plan

Baldoye Bay SPA and SAC

Route FG1 has been identified in the Natura Impact Statement as having the potential to lead to increased recreational pressure which may cause harm to habitats and species protected in the Baldoye SAC and SPA. The Baldoye Stapolin LAP, which also incorporates this site, provides for up to 10,000 new homes in this area as well as new retail and commercial developments. Potential, therefore exists for these two plans to have an in-combination effect on this SAC.

In addition to the mitigation policies which will be incorporated into the Cycle Network Plan, the Baldoye-Stapolin LAP contains the following objectives:

Objective GI 8

Maintain or restore the favourable conservation condition of Annex 1 habitat(s) and/or the Annex II species for which the Baldoye SAC has been selected:

[1140] Mudflats and sandflats not covered by seawater at low tide

[1310] Salicornia and other annuals colonising mud and sand

- [1330] Atlantic salt meadows (*Glauco-Puccinellietalia maritima*)
[1410] Mediterranean salt meadows (*Juncetalia maritimi*)

Objective GI 9

Maintain qualifying interest habitats and species within the Baldoyle Bay SPA and SAC at favourable conservation condition to ensure the ecological integrity of Baldoyle Bay and further ensure that the LAP lands continue to provide supporting function for the Qualifying Interest species.

As such, it is reasonable to conclude that the implementation of the Cycle Network Plan in combination with the Baldoyle-Stapolin LAP will have no adverse impacts on the integrity of the Baldoyle Bay SPA and SAC.

Malahide Estuary SAC and SPA and Rogerstown Estuary SAC and SPA

These two locations are taken together as both relate to the greenway route FG1. Additionally, potential in-combination effects, when viewed in the context of NTA proposals for the Northern DART line in the Draft Integrated Implementation Plan and the policies of Fingal County Council as expressed in the County Development plan, apply equally to both.

The NTA's Draft Integrated Implementation Plan states the following:

“Planning and design work will be progressed on certain rail projects with a view to those projects being available for commencement should additional funding become available for such schemes.

The relevant projects are:

- *Electrification and Resignalling from Malahide to Balbriggan; and*
- *Maynooth Line Electrification and Resignalling.”*

The former was identified as having potential adverse impacts on both Malahide and Rogerstown Estuaries. As such, a Stage 2 Appropriate Assessment was carried out and it concluded that:

“Mitigation, including looking at alternative methods of electrification, is available and evidence indicates that these can be effective in reducing impacts to below significant levels.

As a consequence the proposal for electrification of the Northern railway line should be included within the strategic plan as, with the application of mitigation, it is reasonable to assume significant adverse effects on site integrity can be avoided. “

The Fingal Development Plan effectively gives expression to Route FG1 under the following Objectives:

TO12

“Prepare and implement on a progressive basis a programme for the development of the Fingal Coastal Way for pedestrians and cyclists, extending from the County boundary with Dublin City to the County boundary with County Meath.”

Local Objective 229:

“Create a walkway and cycleway alongside the existing railway line across Rogerstown Estuary in consultation with Iarnród Éireann within the duration of the 2011-2017 Development Plan.”

Local Objective 307:

“Facilitate the provision of a Malahide/Donabate cycle/walkway”

In relation to Natura 2000 sites in the County, the Development Plan incorporates the following relevant objectives:

Objective BD12

Strictly protect areas designated or proposed to be designated as Natura 2000 sites (also known as European sites) including any areas that may be proposed for designation or designated during the period of this Plan. These include Special Areas of Conservation (SACs) designated pursuant to the Habitats Directive and Special Protection Areas (SPAs) designated pursuant to the Birds Directive, a number of which have also been designated under the Ramsar Convention.

Objective BD13

Ensure Appropriate Assessment Screening and, where required, full Appropriate Assessment is carried out for any plan or project which, individually, or in combination with other plans and projects, is likely to have a significant direct or indirect impact on any Natura 2000 site or sites.

Objective BD14

Ensure planning applications for proposed developments likely to have significant direct or indirect impacts on any Natura 2000 site or sites are accompanied by a Natura Impact Statement prepared in accordance with the Guidance issued by the Department of the Environment, Heritage and Local Government (Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities, 2009).

In this manner, the Cycle Network Plan, the Implementation Plan and the Fingal County Development Plan either avoid significant impacts on these sites or clearly set out policies aimed at protecting them. As a consequence, it can be reasonably concluded that by seeking appropriate alternatives and/or applying appropriate mitigation measures when implementing these three plans, no adverse in-combination effects on the integrity of these two sites will occur.

South Dublin Bay cSAC, SPA and Tolka Estuary SPA

Route 13E and the Greenway for the East Coast Trail were identified as having potential impacts on these sites. The potential for in-combination impacts with the policies of the two prevailing development plans for the area in question also requires examination, as it relates to development impacts arising from local objectives.

The Dublin City Development Plan 2011-2017 contains the following objectives:

“GCO2

To achieve the following critical linkages within the lifetime of the development plan;

- (i) To promote the development of the Sutton to Sandycove Cycletrack scheme (S2S) as a key objective in both ‘Smarter Travel’ and in the ‘National Cycle Policy Framework’ subject to the appropriate environmental assessments, including any assessment required under 6(3) of the Habitats Directive. Subject to compliance with environmental regulations and statutory approvals, completion of this project is recognised as a significant development of Dublin Bay with potential recreational and tourism benefits, as well as providing a tram-free cycleway for both recreation and commuter cyclists.

GC26

To protect flora, fauna and habitats, which have been identified by the Habitats Directive, Birds Directive, Wildlife Act 1976 (as amended), the Flora Protection Order (S.I. no. 84 of 1999), and the European Communities (Natural Habitats) Regulations 1997 (S.I. no. 94 of 1997).

GC27

To conserve and manage all Natural Heritage Areas, Special Areas of Conservation and Special Protection Areas identified and designated, or proposed to be designated, by the Department of Environment, Heritage and Local Government. These designations will allow for protection in the event of any approved boundary changes by the Department of Environment, Heritage and Local Government.”

The Dún Laoghaire Rathdown Development Plan 2010-2016 contains the following specific local objectives:

“84 – To protect and conserve South Dublin Bay and proposed candidate Special Area of Conservation.

93 – To promote the development of the Sutton to Sandycove (S2S) Promenade and Cycleway. (It should be noted the alignment shown on Maps 2, 3 and 4 is not absolute but indicative only). The necessary EIS will commence during the term of this Plan.”

It also incorporates the following policy:

“Policy LHB8: Special Protection Area (Birds), Proposed Natural Heritage Areas and Candidate Special Areas of Conservation.

It is Council policy to protect and preserve areas designated as Proposed Natural Heritage Areas, proposed Candidate Special Areas of Conservation, and Special Protection Areas.”

As there are no specific policies within the two development plans which may further impact on these sites, and as both plans contain specific objectives to protect them, no effects are predicted as a result of the implementation of the Cycle Network Plan in-combination with the Dún Laoghaire Rathdown County and Dublin City Development Plans.

Boyne Coast and Estuary SPA and SAC and River Boyne and River Blackwater SPA and SAC

These sites have been examined in this section due to the potential in-combination effects of ongoing urban development at south Drogheda and other settlements along the Boyne and Blackwater rivers. Such development would be controlled by the Meath County Development Plan, which contains the following objectives:

***NH OBJ 2** – To ensure an Appropriate Assessment in accordance with Article 6(3) and Article 6(4) of the Habitats Directive, and in accordance with the Department of Environment, Heritage and Local Government Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities, 2009 and relevant EPA and European Commission guidance documents, is carried out in respect of any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect on a Natura 2000 site(s), either individually or in combination with other plans or projects, in view of the site's conservation objectives.*

***NH OBJ 3** – To protect and conserve the conservation value of candidate Special Areas of Conservation, Special Protection Areas, National Heritage Areas and proposed Natural Heritage Areas as identified by the Minister for the Department of Arts, Heritage and the Gaeltacht and any other sites that may be proposed for designation during the lifetime of this Plan.”*

The accompanying Natura Impact Statement for the Meath County Development plan determines that:

“Assuming the successful implementation of the Policies and Objectives, there will be no likely significant effects on Natura 2000 sites in County Meath and its environs by the adopted Plan in isolation or in combination with other Plans and Projects acting in the same area.”

The Natura Impact Statement also refers to the Louth County Development Plan, as follows:

“The Boyne Estuary SPA, River Boyne and Blackwater cSAC and SPA are all shared by Louth and Meath. Policies have been assessed as part of a comprehensive appropriate assessment and changes made to protect these specific sites. As a result there are no predicted cumulative impacts from the implementation of this Plan.”

As such, no potential effects were identified arising from the implementation of the Cycle Network Plan in combination with the Meath County Development Plan at these locations.

Rye Water Valley / Carton SAC

There are potential impacts identified as a result of the ongoing expansion of Leixlip, as provided for in the Leixlip and Collinstown Local Area Plans 2010-2016, in-combination with the development of routes K1, L1 and C7 of the Cycle Network Plan. The Appropriate Assessment process for that plan states the following:

“Following initial screening and consultation with the relevant nature conservation bodies, the recommendations in Section 3.0 overleaf were incorporated by Kildare County Council into the Natural Heritage Objectives of the 2010 Leixlip and Collinstown Local Area Plans. As a result of their incorporation, it is anticipated that

no significant effects on the SAC will arise from elements of the Leixlip and Collinstown Local Area Plans 2010.

To conserve and protect Riparian (beside rivers) Corridors: New development will not be permitted within a minimum of 10m from either side of all watercourses measured from the top of the bank, apart from in exceptional circumstances, to provide:

- *Visual amenity of the river;*
- *Public space and access;*
- *Public walkway/cycle ways/lighting;*
- *Spaces to allow for the conservation and enhancement of landscape features, such as tree coverage;*
- *Spaces to conserve and enhance biodiversity capacity.*

In all instances a buffer of 2.5m of vegetation shall be retained along the river bank to mitigate against pollution risks, reduce flooding potential and maintain habitat. Redevelopment shall seek to create riparian buffer strips of at least 2.5m, along either side of all watercourses measured from the top of the bank. Riparian buffers have the greatest potential to control environmental damage, reduce flooding potential and maintain habitats.

In the event of lighting being proposed along river corridors an Ecological Impact Assessment (and where necessary an Appropriate Assessment) including bat and otter survey shall be conducted by specialists. The recommendations of the specialist studies shall be implemented. No lighting will be installed without prior consultation with NPWS and shall be in line with advances in knowledge into the impact of lighting on bats and other species and also to reflect advances in technology in the lighting industry.”

In addition to the provisions of the Leixlip and Collinstown Local Area Plans, the overarching County Development Plan for Kildare states that it is the policy of the Council:

“DS 1: To maintain, protect and where possible enhance the conservation value of existing European and national designated sites (NHA, SAC and SPA) in the county and any additional sites that may be proposed for designation during the period of this Plan.

DS 2: To have regard to the policies and guidance of the National Parks and Wildlife Service of the DoEHLG in respect of proposed development where it is possible that such development may impact on a designated European or national site or a site proposed for designation.”

With such policies in place, it can be concluded that no significant in-combination effects will arise in this case.

5.2 Sites where Potential In-Combination Effects have been Identified as a result of increased Visitor Usage

Implementation of the Plan is likely to increase overall mobility of both the population of the Greater Dublin Area and of visitors to the area. Increased mobility is likely to increase the number of people visiting locations that are designated as Natura 2000 sites, particularly those locations which are perceived as or promoted as leisure destinations, and possible negative impacts resulting from increased visitor numbers has been identified as a potential threat to many of the regions Natura 2000 sites.

Whether or not Natura 2000 sites are particularly likely to experience negative impacts, as a result of in-combination effects is difficult to quantify. Increased visitor pressure as a result of increased accessibility from improved cycling facilities and of their attractiveness to people as a leisure destination may have the potential to cause in-combination effects.

The Natura Impact Report for the Dublin City Development Plan 2011 – 2017 notes that increased visitor pressure on the *Baldoye Bay* SAC should be an issue to consider in any future development of the area. Because the area surrounding Baldoye Bay is densely populated, the main threats to the site include visitor pressure, disturbance to wildfowl and dumping. In particular, the dumping of spoil onto the foreshore presents a threat to the value of the site. The introduction of cycling route FG1 within close proximity to the SAC may encourage more visitors and residents to use the area which could result in some in-combination impacts on this site.

Some potential for increased visitor pressure at *Bray Head* cSAC has been identified in the AA for Wicklow County Development Plan 2010 - 2016, and it is considered that possible impacts resulting from the development of a cycle route W11 could result in some in-combination impact on this site.

An analysis of Natura 2000 sites where impacts are considered most likely has also identified other Natura 2000 sites where this is likely to result in significant negative impacts. The plan is considered likely, for example, to greatly increase the number of visitors to the sensitive coastal Natura 2000 sites such as the area of The Murrough, Malahide Estuary and Rogerstown Estuary, as well as the riverine habitats of the River Boyne and River Blackwater SAC.

However, it is important to highlight that in the cases of the in-combination effects listed above it is expected that the mitigation measures previously discussed in Section 4 of this report should provide adequate protection to the Natura sites involved and also present mechanisms for diverting visitor numbers away from the more sensitive areas of the site to areas that are capable of dealing with the visitor pressure.

5.3 Summary of In-Combination Effects

This section of the report has set out those cases where the policies and objectives of other plans may interact with those of the Cycle Network Plan to give rise to potential significant impacts on the integrity of Natura 2000 sites. It has focussed on those areas where planning policy may most likely affect those SPAs and SACs identified as being potentially affected by the Cycle Network Plan, i.e. development plans and transport plans. In the main, this relates to urban development adjacent to Natura 2000 sites and in all of these cases, statutory policies exist which safeguard the protection of these sites.

In relation to transport plans, the NTA Draft Integrated Implementation Plan identified one scheme which had potential adverse impacts. It is likely that the Cycle Network Plan's FG1 route would be located alongside this scheme, but as it is likely the impacts of the rail project would not be significant, no in-combination effects have been identified in this case.

It is therefore concluded, notwithstanding the direct and indirect impacts identified in Sections 3 and 4 of this Natura Impact Statement, that there would be no significant

adverse impacts arising from the implementation of the Cycle Network Plan in combination with other plans pertaining to the Greater Dublin Area.

6.0 CONCLUSION

This NIS has identified a number of projects that are included in the Plan which have the potential to result in significant negative impacts on Natura 2000 sites (see Section 3). It is considered that in all cases, avoidance of such impacts should be achievable, and details of the measures required to achieve this are given in Section 4 of this report. More detailed mitigation measures will be developed through the process of project-level Environmental Impact Assessment and Appropriate Assessment.

As a result of this Appropriate Assessment process, one of the proposed greenways has been removed from the Plan. This was the proposed Greenway K12, which originally was to use an access path through a section of the Pollardstown Fen SAC 000396. This greenway has been removed and the route has been realigned to ensure that there will be no adverse impact on site integrity. This was the only case in the plan where removal of a greenway was considered necessary. Other greenways where significant impacts are considered likely have been addressed through mitigation measures or in the case of certain routes, including the W11 and FG1, specific Indicative Greenways (denoted on maps by broken green line) have been included in the plan with the option to move to alternative routes if this is deemed necessary at lower tier plan or project level.

In all other cases where a potential significant impact has been identified in the plan, the Authority will seek to avoid the impact by means of mitigation. The mitigation measures are included in Section 4 of this NIS and these will be incorporated into the final plan prior to adoption. In this way, the final version of the GDA Cycle Network Plan will therefore be considered to be compliant with the requirements of Article 6 of the EU Habitats Directive. Where it is determined at a lower tier plan level that certain schemes impacts cannot be mitigated, the Authority will seek alternative ways to meet the strategic objectives of the plan.

It is currently unknown whether or not impacts on any of these sites may be of significance in terms of the integrity of their structure and function. This will be determined through project level Appropriate Assessment at a time when design proposals become available. At the EIA and planning application stage, Appropriate Assessment will be required based on site specific survey information and consultation, and should incorporate where possible the mitigation measures provided in this NIS. If at project-level Appropriate Assessment it is deemed that there may be adverse impacts on the integrity of any of these sites that cannot be mitigated, then in order for the project to proceed, alternative solutions must be examined and Imperative Reasons of Over-riding Public Interest (IROPI) will need to be demonstrated and suitable compensatory measures, probably in the form of the provision of compensatory habitat, will need to be devised.

In conclusion, the Authority, in conjunction with other agencies and the local authorities will not pursue any schemes arising out of this plan, or in-combination with other plans or projects, which will adversely affect the integrity of a Natura 2000 site, unless there are no alternative solutions and that it has been demonstrated that the project is of overriding public interest.