

Habitats Regulations Assessment

**Report of Information to Inform an
Appropriate Assessment:**

**718736-3000-R-018 Lough Foyle SPA, Lough
Swilly SPA and Lough Neagh & Lough Beg
SPA**

A5 Western Transport Corridor

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mouchel 
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1 Introduction

1.1 Background

1.1.1 Within Northern Ireland, the A5 Western Transport Corridor (A5 WTC) runs from Londonderry to the border just south of Aughnacloy. The A5 WTC project involves providing a new off line dual carriageway between New Buildings and Aughnacloy with single carriageway bypasses of New Buildings and Aughnacloy tying the scheme into the existing A5 at the northern and southern ends. At the southern end, the scheme ties in just north of the border at County Monaghan. The existing A5 passes through New Buildings, Strabane, Sion Mills, Newtownstewart, Omagh and Aughnacloy.

1.1.2 For the purposes of this report, where the report refers to phased delivery the proposed construction programme is:

- Construction Phase 1: Newbuildings to North of Strabane (Junction 1 to Junction 3) together with south of Omagh to Ballygawley (Junction 13 to Junction 15); and
- Construction Phase 2: North of Strabane to South of Omagh (Junction 3 to Junction 13).

In line with the Public Inquiry Inspector's recommendation, the section of the proposed scheme between Ballygawley (Junction 15) and the border at Aughnacloy (Construction Phase 3) is not being taken forward until details of the link with the N2 at the border with the Irish Republic have been clearly identified. However, this section is included in the assessment in this report as it must take account of the full extents of an overall project.

1.1.3 The currently proposed scheme substantially reflects a proposed A5WTC scheme which was promoted in 2010 and for which an Environmental Statement (A5WTC ES 2010) was prepared and published. The environmental studies undertaken and reported in the A5WTC ES 2010 recognised and assessed likely impacts relative to European Designated Sites in the form of Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). Four SACs and 4 SPAs were identified. They also identified and assessed impacts relative to two Ramsar Sites.

1.1.4 The SACS and SPAs which form part of the collectively named Natura 2000 sites and the two Ramsar Sites, were also subject to consideration in the context of the EC Habitats Directive and EC Birds Directive, as transposed by the Conservation (Natural Habitats, etc) Regulations (Northern Ireland) 1995 as amended by the Conservation (Natural Habitats, etc.) (Amendment) Regulations (Northern Ireland) 2012 in Northern Ireland and the European Communities (Natural Habitats) Regulations 1997 (as amended) in the Republic of Ireland. The sites were screened to determine if the proposed scheme, with its proposed mitigation measures, would be likely to have a significant effect on any of the sites considered. It was concluded they would not be likely to have a significant effect in the context of the Habitats or Birds Directives, a conclusion which was agreed with by Northern Ireland Environment Agency (NIEA), the statutory consultee relative to the designated sites in Northern Ireland and National Parks and Wildlife Service (NPWS) the organisation charged with the implementation of the Habitats and Birds Directives in the ROI.

- 1.1.5 Notwithstanding these confirmations, a challenge to the consent for the proposed scheme that the River Foyle and Tributaries SAC should have been subject to an Appropriate Assessment was upheld. The finding was informed by concerns raised by Loughs Agency in responses to the A5WTC ES 2010 and presented in verbal submissions to the public inquiries held in 2011 concerning the protection of Atlantic salmon, and clarifications through case law relative to the interpretation of likelihood in the context of screening for likely significant effects as referred to in the Habitats Directive and the Regulations.
- 1.1.6 The currently proposed scheme will be the subject of further studies and assessments which will be reported in a project specific Environmental Statement along with relevant information gathered and reported in the A5WTC ES 2010. Appropriate assessments are also to be undertaken for Natura 2000 sites and Ramsar sites where it has been concluded the proposed scheme is either likely to have a significant effect on the sites in the context of the Habitats Directive, or that sufficient uncertainty remains following screening, such that likely significant effects cannot be ruled out.
- 1.1.7 This new document provides information to inform appropriate assessments for the following SPAs which have been identified during screening as ones where it has been concluded the currently proposed scheme will be likely to have a significant effect by virtue of its use by birds identified as primary and/or qualifying species¹ in the citations for the four SPAs..
- Lough Foyle SPA (Northern Ireland);
 - Lough Foyle SPA (Republic of Ireland)
 - Lough Swilly SPA; and
 - Lough Neagh & Lough Beg SPA
- 1.1.8 The information will be submitted to NIEA and NPWS as statutory consultees for the designated sites in Northern Ireland and the Republic of Ireland. The Royal Society for the Protection of Birds, Northern Ireland (RSPB NI) will also be invited to provide responses relating to the information and preliminary findings contained in the report. The information is also to be made publicly available for comment. The information and information received in response to the consultations will then be considered by RS and the Minister along with further information derived during the finalisation of the proposed scheme as appropriate assessments are completed in advance of a decision to proceed or not in accordance with the requirements of the Directive and Regulations. Should the responses or any modifications associated with finalisation of the proposed scheme require further evaluation the resulting information will be subject to further consultation as appropriate prior to the completion of the appropriate assessments.

¹ Some of the whooper swan and geese which use the SPAs, and are therefore qualifying features of the sites are known to use the Foyle floodplain for foraging.

1.1.9 The gathering and presentation of the information has been informed by the guidance provided in Managing Natura 2000 Sites, the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (EC, 2000 & 2001) and Section 4, Part 1 of Volume 11 of the DMRB (HD44/09).

1.2 Natura 2000 sites

1.2.1 Natura 2000 sites consist of Special Areas of Conservation (SACs) designated under European Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna (the 'Habitats Directive') and Special Protection Areas (SPAs) designated under Directive 2009/147/EC, (the codified version of 79/409/EEC as amended) on the conservation of wild birds (the 'Birds Directive').

1.2.2 Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. Originally intended to protect sites of importance, especially as waterfowl habitat, the Convention has broadened its scope over the years to cover all aspects of wetland conservation and wise use, recognising wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. Ramsar sites are not referred to under the Directives or their transposition into UK and ROI Regulations. However, Planning Policy Statement 2 (PPS2) in Northern Ireland applies the same level of consideration and protection to them as to Natura 2000 sites.

1.3 Legislative background

1.3.1 Article 6(3) of the Habitats Directive, as abstracted below, places an obligation on competent authorities of member states charged with determining consent for projects and plans which are not directly connected with or necessary to the management of a Natura 2000 site to undertake an appropriate assessment if such projects or plans are likely to have a significant effect on the site.

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

1.3.2 The obligation, and those of the Habitats Directive more widely, have been transposed into Northern Ireland legislation by way of the Conservation (Natural Habitats, &c) (Northern Ireland) Regulations 1995 as amended (The NI Regulations) and into Republic of Ireland legislation by way of the European Communities (Natural Habitats) Regulations 1997 (as amended) (The ROI Regulations).

1.3.3 The four SPAs under consideration have been subject to a screening exercise for the currently proposed scheme based on the guidance provided in HD 44/09 and using the suggested screening matrix template provided in Annex 4 of the guidance to record the findings of the process. In all three instances it has been concluded:

- the proposed scheme is a project which is not connected with or necessary to the management of the SPAs;
- the likelihood of the proposed scheme having a significant effect on the sites cannot be excluded on the basis of objective information; and
- that appropriate assessments should accordingly be undertaken.

1.3.4 Copies of the screening matrices are provided in Appendix 1.

1.3.5 Paragraph 4 as referred to in Article 6(3) makes provision for further consideration where an appropriate assessment cannot conclude a plan or project will not adversely affect the integrity of a designated site. This will be a matter for further consideration subject to the findings of the appropriate assessments for the four SPAs.

1.3.6 The definition for integrity adopted in this report is that provided in Environment & Heritage Service (2002) Habitat Regulations - Guidance Notes For Competent Authorities which defines integrity in the context of a designated site as:-

The coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified.

2 Assessment methodology

2.1 Scope of the information to inform the appropriate assessments.

2.1.1 The scope for the studies and assessments which form the focus of the information provided in this report has been established in light of the findings of the screenings for the designated sites. Likely impacts identified relate to:

- loss of feeding habitat (functional habitat)² at Dunalong/Thorn Hill and Grange Foyle outside of the SPAs and which is used by wintering birds associated with the four SPAs; and
- disturbance of wintering birds associated with the four SPAs during their use of feeding habitat outside of the SPAs at Dunalong/Thorn Hill and Grange Foyle.

Loss of feeding habitat used by wintering birds associated with the four SPAs

2.1.2 The assessment has involved quantification of the extent of available feeding habitat within the Dunalong /Thorn Hill and Grange Foyle areas and comparison with the total extent of such habitat available in the two areas.

Disturbance of wintering birds associated with the four SPAs during their use of feeding habitat at Dunalong/Thorn Hill and Grange Foyle

Data Sources

2.1.3 The following data sources have been relied on:

- data provided in the A5WTC ES 2010, including surveys undertaken at Dunalong/Thorn Hill and Grange Foyle between October 2009 and April 2010;
- data derived from site surveys undertaken at Dunalong/Thorn Hill and Grange Foyle between \October 2013 and April 2014 in 2012 and 2013 by the Mouchel assessment team;
- data for use of the area by whooper swan for 2010-2013 provided by the Irish Whooper Swan Study Group .

Impact assessment

2.1.4 There are no generally accepted thresholds for the loss of functional habitat or the numbers of birds which may be disturbed and displaced in the short-term or long-term from areas of functional habitat. Determination of whether either or both is likely to have a significant effect

² Habitat outside of a designated site which is used / relied on by species associated with the designated site

on the area of functional habitat and the species which use / are reliant on the area with consequent effects on the integrity of a designated site is necessarily context specific.

- 2.1.5 In the case of the four SPAs considered in this report, habitat loss has been quantified and represented as a percentage of the habitat which surveys have indicated are used and the overall extent of potential functional habitat within the area in the vicinity of the proposed scheme.
- 2.1.6 Potential for disturbance of the whooper swan and greylag geese which annually utilise the area has been considered relative to sources of disturbance during construction and operation and identification and consultation with NIEA and RSPB(NI) regarding mitigation measures with a particular focus on construction activities which are likely to involve higher and tonally distinct noise levels and characteristics.

2.2 Determination of adverse impact relative to integrity

- 2.2.1 Once the potential impacts have been identified, they are considered in relation to the potential to have a negative effect on the integrity of the Natura 2000 sites. The assessment determines whether there is likely to be:
- a reduction in the coherence of the ecological structure or function of the site, taking into account the whole area of the site, and supporting habitats which are integral to the structure and function of the site, and
 - whether any such reduction would reduce the ability of the site to sustain the qualifying species for which it was classified.
- 2.2.2 The DMRB guidance (HD 44/09) provides a suitable checklist to identify interactions and potential effects on the integrity of the site. Completed checklists are provided in Appendix 4.

3 Description of the proposed scheme

3.1 Alignment and relationship to the functional habitat associated with the 4 SPAs

- 3.1.1 The proposed scheme comprises an 85km dual carriageway running between the existing A5 north of New Buildings and the existing A5 south of Aughnacloy. Its location and relationship to the four SPAs is shown in Figure 1 in Appendix 2.
- 3.1.2 The section of the proposed scheme corridor which is of relevance to the three SPAs is that between Magheramason and the Burn Dennet. Here, the proposed dual carriageway will generally be located between 1.2 and 2km east of the River Foyle. It is an area of mixed arable and agricultural grassland some 40% of which is within the River Foyle floodplain. Parts of the area are used annually by whooper swan and greylag geese associated with the four SPAs for feeding³.
- 3.1.3 Over this section, the proposed scheme follows a north-south alignment which broadly reflects that of the existing A5. Between Magheramason and Bready it will be located some 200-250m west of the existing road and will be on embankment as it crosses Meenagh Road and approaches a proposed bridge over the existing A5, Victoria Road north of its existing junction with Cloghboy Road. South of the new bridge, the alignment will initially encroach onto the lower western-facing slopes of Sollus Hill in deep cutting. As the dual carriageway continues south it will be some 200m east of the existing road. It will emerge from the cutting and follow an alignment roughly parallel with the A5, crossing beneath Donagheady Road. and following a gentle curve to the south-west, passing between Willow Farm and housing on the A5, Victoria Road. It will cross Willow Road in shallow cutting and rise on high embankment to enable it to be bridged over the A5, Victoria Road. The dual carriageway will descend from the bridge to cross Ash Avenue on low embankment before rising again onto high embankment and crossing Drumenny Road via a new bridge before approaching and crossing the Burn Dennet via a new open span bridge.
- 3.1.4 Construction of this section, other than at Sollus Hill, will involve the use of large excavators, dump trucks for transporting excavated materials to areas of fill within the working areas, bulldozers, graders, compaction plant including various rollers and soil stabilisation plant. It is not anticipated there will be a need for blasting, the break out of rock at Sollus Hill being implemented by way of rock breakers.

³ Either regularly during the winter, or during migration to and from the SPAs

4 The Four SPAs

4.1 Introduction

- 4.1.1 The location, extent and relationship of the four SPAs to the proposed scheme is indicated in Figure 1 in Appendix 2. Details relating to the species identified as the primary reason for selection as a Natura 2000 site and qualifying species are described in Table 4.1. A comment on the vulnerability of the site is included. The information has been obtained from the Natura 2000 data forms obtained from the Joint Nature Conservancy Committee (JNCC) website (www.jncc.gov.uk) and the National Parks and Wildlife Service (NPWS) website (www.npws.ie). The Natura 2000 data forms are enclosed in Appendix 3.

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Table 4.1 Site Descriptions

Site Name	Designation & Code	Designated Feature Species		Vulnerability
		Article 4.1 Species	Article 4.2 Species	
Lough Foyle	SPA UK9020031 (Northern Ireland) 004087 (ROI)	<u>Wintering:</u> Whooper swan Bar-tailed godwit	<u>Wintering:</u> Light-bellied brent geese <u>International Wintering Assemblage:</u> Red-throated diver Great crested grebe Mute swan Bewick's swan Greylag geese Shelduck Teal Mallard Wigeon Eider Red-breasted merganser Oystercatcher Golden plover Grey plover Lapwing Knot Dunlin Curlew Redshank Greenshank	<p>Although a control programme has begun, the colonisation and spread of aggressive non-native species such as <i>Spartina</i> spp. is a current problem and poses a potential threat in the future.</p> <p>An existing Conservation Plan for Lough Foyle is now under review. This review will update existing management prescriptions and refine existing conservation objectives.</p>

Site Name	Designation & Code	Designated Feature Species		Vulnerability
		Article 4.1 Species	Article 4.2 Species	
		<u>Other notable species:</u> Slavonian grebe		
Lough Swilly	SPA IE004075	<u>Wintering:</u> Whooper swan Greylag goose Greenland white-fronted goose	<u>Wintering:</u> Great crested grebe Grey heron Shelduck Wigeon Teal Mallard Shoveler Scaup Goldeneye Red-breasted merganser Coot Oystercatcher Knot Dunlin Curlew Redshank Greenshank Common gull Mute swan <u>Breeding:</u> Sandwich tern	The maintenance of the high numbers of geese and swans is dependent on the continuation of favourable land-use practices on the polders. The principal commercial activity within the estuarine part of the site is aquaculture. It is not known if this is causing significant disturbance to the estuarine habitats or the bird populations. Despite the proximity of several towns, water quality is generally satisfactory. Recreational activities occur in several areas of site and could cause some disturbance to the birds if not properly controlled.

Site Name	Designation & Code	Designated Feature Species		Vulnerability
		Article 4.1 Species	Article 4.2 Species	
			Common tern Black-headed gull	
		<u>Other Species of Note:</u> Light-bellied brent goose Pochard Golden plover Lapwing Ringed plover Grey plover Bar-tailed godwit Turnstone Great northern diver Slavonian grebe Pink-footed goose Herring gull Little grebe Irish hare		

Site Name	Designation & Code	Designated Feature Species		Vulnerability
		Article 4.1 Species	Article 4.2 Species	
Lough Neagh & Lough Beg	SPA UK9020091	<u>Wintering:</u> Bewick's swan Whooper swan <u>Breeding:</u> Common tern	<u>Wintering:</u> Pochard Tufted duck Goldeneye <u>Breeding:</u> Great crested grebe Gadwall Tufted duck Snipe Redshank Common gull Lesser black-backed gull Black-headed gull	<p>The Lough drains some 40% of Northern Ireland and has been subject to severe eutrophication as a result of increased nutrient inputs from agricultural run-off and general domestic sewage from catchment housing and other developments.</p> <p>Historically, increased eutrophication may have enhanced wildfowl populations but the effect of eutrophication on such populations is little understood although it may have had a positive impact on wintering diving duck.</p> <p>Although some species e.g. swans, use improved fields, recent changes in agricultural land-use i.e. agricultural intensification (land improvements/high grazing levels) and, in some cases, insufficient grazing and tree/scrub management resulting in vegetation succession, may adversely affect feeding/roosting areas for overwintering and breeding waterfowl.</p> <p>Introduction of/invasion by non-native species such</p>

Site Name	Designation & Code	Designated Feature Species		Vulnerability
		Article 4.1 Species	Article 4.2 Species	
		<p><u>Other Species of Note:</u></p> <p>Breeding:</p> <p>Shelduck</p> <p>Teal</p> <p>Shoveler</p> <p>Lapwing</p> <p>Curlew</p>		<p>as Roach and potentially Zebra Mussels could have a deleterious effect on some species e.g. diving duck, but may be beneficial to others e.g. Great-crested Grebe.</p> <p>Sand dredging is widespread throughout the Lough but the impact is largely unknown.</p> <p>An existing Conservation Plan for Lough Neagh and Lough Beg is currently under review. This review will up-date existing management prescriptions and refine existing conservation objectives.</p> <p>A total of 15 management agreements (NNR/ASSI) mainly for agricultural issues, are established on the site.</p> <p>Phosphate stripping at appropriate STW has begun to address the issue of eutrophication. Other measures such as agri-improvement schemes and Water Quality Management Plans to further address this issue are being considered.</p>

5 Potential impacts and mitigation

5.1 Loss of feeding habitat used by wintering birds associated with the three SPAs

- 5.1.1 The area of the Foyle floodplain between Magheramason in the north and the Burn Dennett in the south has been identified by RSPB and the Irish Whooper Swan Study group as the area of functional habitat for which there is an interaction between the proposed scheme and the qualifying species of the SPAs, due to the use of the area by birds associated with the SPAs for foraging, either as a regular winter foraging area, or during migration to and from the SPAs. Significant numbers of birds associated with the SPAs have been recorded within the Foyle floodplain, thus the potential impact of the scheme is significant in terms of the sites' integrity.
- 5.1.2 There is approximately 1200 ha of potential foraging habitat within the area.
- 5.1.3 Figures 2 and 3 in Appendix 2 provide peak count numbers and locations of all recorded qualifying bird species for the surveys undertaken in 2009-2010 and 2013-2014 respectively. The numbers demonstrate that the area is used by two species, whooper swan and greylag goose. They also demonstrate that numbers for 2013-2014 have been significantly lower than the numbers recorded in 2009-2010 and that fewer parts of the area have been used. This is most likely due to the mild winter experienced in 2013-2014, which meant birds did not need the functional habitat of the Foyle floodplain as much as in 2009-2010. For the purposes of this assessment it has been assumed the higher numbers and more dispersed pattern recorded in 2009-2010 is more representative of the use of the area by birds associated with the functional habitat.
- 5.1.4 During 2009-2010 an area of approximately 330 ha was used by up to 430 whooper swan, and an area of approximately 150 ha was used by up to 350 greylag geese. During 2013-2014 an area of approximately 130 ha was used by up to 205 whooper swan, and an area of approximately 117 ha was used by up to 65 greylag geese.
- 5.1.5 The proposed scheme will involve the loss of approximately 40 ha of land within the area of potential functional habitat representing some 3% of the total area of potential habitat. None of the land take will affect parts of the area where use by either species has been recorded in the two surveys periods, in addition, there are alternative feeding sites located elsewhere along the river.
- 5.1.6 In light of the small percentage of potential loss and absence of loss in areas where use has been demonstrated, it has been concluded there will be no need for mitigation in the form of provision of compensatory habitat.

5.2 Disturbance of wintering birds associated with the four SPAs during their use of feeding habitat at Dunnalong/Thorn Hill and Grange Foyle

Construction disturbance

- 5.2.1 With regard to disturbance of the two species associated with construction of the proposed scheme, studies reported by Rees et al (2005) - *Factors affecting the behavioural responses*

of whooper swans (*Cygnus c. cygnus*) to various human activities noted that pedestrian presence disturbed whooper swan when within 250-400m, and that construction vehicles disturbed whooper swan when within 250m, in contrast to tractors which caused disturbance when within 150m and other farm vehicles which caused disturbance when within 250m.

5.2.2 The proposed scheme will generally involve construction significantly more than 250m from those parts of the area of functional habitat where the presence of the species has been recorded during the surveys. Locations closest to parts of the area where presence has been recorded are:

- where the realignment of Donagheady Road will bring the works within 50m of an area of recorded use, although the works will be separated from the swans by the existing A5 with its current levels of traffic; and .
- where the proposed introduction of a new link road between Ash Road and Drumenny Road will involve work within 100m of a part of the area where a maximum of 9 swans were recorded in 2009-2010.

5.2.3 There are two locations where construction will involve noise levels above those associated with the general activities associated with movement and activity of plant and vehicles; where the deep cutting at Bready will involve breaking out of rock at Sollus Hill and where piling will be required for the bridge abutments at the Burn Dennet. The Bready cutting is some 400m from the closest recorded whooper swan and over 1km from the closest recorded greylag geese. The Burn Dennet crossing is some 500m from the closest recorded whooper swan and over 2.5km from the closest recorded greylag geese.

5.2.4 Following discussion with the geotechnical advisors and contractor advisors for the project it has been confirmed that blasting is not likely to be required. Should further information come to light as the proposed scheme design is finalised which demonstrates a need for blasting, there will be a limitation placed on the timing of the activity to exclude the period between October and March when the birds are present.

5.2.5 There will also be a requirement under the contract that should it be the intention to undertake breaking out of rock at Bready and piling at the Burn Dennet within the period when the birds are present, trial breaking out and piling must be undertaken with monitoring by an appropriately qualified ecologist. . The trials will involve short periods of breaking out and piling at prescribed intervals to establish if the activity results in disturbance which could prove detrimental should the more prolonged periods of the activities which will be required to complete the cutting and bridge abutments be progressed. Should the trials indicate this will be likely to the case, the activities will be suspended until the birds have left the area.

Operational disturbance

5.2.6 The operation of the proposed scheme also has potential to cause disturbance to bird species, with the noise generated from increased traffic volume and speeds potentially causing the displacement of whooper swan through increased disturbance. However, behavioural impacts such as disturbance from feeding grounds as a result of construction or operation phases are always context-dependant, with responses to disturbance depending

upon the trade-offs experienced by individual birds (Gill, 2007). For example, the decision to stay or to leave an area in response to disturbance will be influenced by the quality of the area, availability and relative quality of alternative areas, and relative predation risk on current and alternative sites among others (Gill, 2007). Habituation, that is 'the relatively persistent waning of a response as a result of repeated stimulation which is not followed by any kind of reinforcement' (Hinde, 1970), has been demonstrated in the short-term in some studies on disturbance to whooper swan, however an increased tolerance did not appear to be maintained over longer periods with the behavioural patterns on a day to day basis providing additional support to this (Rees et al., 2005).

- 5.2.7 The Rees *et al* (2005) study was in relation to disturbance 'events' rather than exposure to constant stimuli. Whooper swan have been shown to quickly habituate to continuous traffic movements, for example at the Toome Bypass.
- 5.2.8 To determine the potential for disturbance of greylag geese it is important to understand the distances over which they will be disturbed. Keller (1989) identified greylag geese avoid roads in agricultural land in Scotland, with avoidance behaviour recorded for distances of 100m from roads. The closest recorded greylag geese in any of the studies undertaken was over 500m, thus operational disturbance is unlikely to occur.

6 Summary

- 6.1.1 The Lough Foyle SPAs, Lough Swilly SPA and Lough Neagh & Lough Beg SPA have been identified as Natura 2000 sites with a relationship to the proposed A5WTC which requires that they should be considered in the context of the EC Birds Directive, as transposed by the Conservation (Natural Habitats, &c) Regulations (Northern Ireland) 1995 as amended by the Conservation (Natural Habitats, etc.) (Amendment) Regulations (Northern Ireland) 2012 in Northern Ireland and the European Communities (Natural Habitats) Regulations 1997 (as amended) in the Republic of Ireland
- 6.1.2 All four SPAs have been subject to a process of screening based on the guidance provided in HD 44/09 of Volume 11 of the Design Manual for Roads and Bridges. In all three instances it has been concluded:
- the proposed scheme is a project which is not connected with or necessary to the management of the SACs;
 - the likelihood of the proposed scheme having a significant effect on the sites cannot be excluded on the basis of objective information; and
 - that appropriate assessments required under Article 6(3) of the Habitats Directive should accordingly be undertaken.
- 6.1.3 This document provides information to inform appropriate assessments for the four SPAs. The information is being made available to statutory consultees and for wider public consultation. The information in this report and information received in response to the consultations will be considered by Roads Service and the Minister along with further information derived during the finalisation of the proposed scheme as appropriate assessments are completed in advance of a decision to proceed or not in accordance with the requirements of the Directive and Regulations.
- 6.1.4 Should the responses or any modifications associated with finalisation of the proposed scheme require further evaluation, the resulting information will be subject to further consultation prior to the completion of the appropriate assessments.
- 6.1.5 The information provided in this report indicates that with proposed mitigation relative to timing of construction activities, and specifically relative to the formation of the cutting at Bready and the bridge abutments at the Burn Dennet, the proposed scheme will not have an impact on the functional habitat in the vicinity of the proposed scheme or the whooper swan and greylag geese using the area which will have a consequent adverse impact on the integrity of the four SPAs i.e. the works are unlikely to affect the population size of either species. A final view, however, cannot be concluded until further evaluation is undertaken in light of responses to the consultations or any modifications referred to above are completed.

References

- Alabaster, J.S. and Lloyd, R. (1982) Water quality criteria for freshwater fish. Butterworths, 297pp.
- BirdLife International (2010) IUCN Red list for birds. Downloaded from <http://www.birdlife.org> on 20/12/2010.
- BirdLife International (2010) Species factsheet: Anser anser. Downloaded from <http://www.birdlife.org> on 22/12/2010.
- Colhoun, K. (2001). The Irish Wetland Bird Survey 1998 – 99: results from the fifth winter of the Irish Wetland Bird Survey. BWI/NPW/WWT, Dublin.
- Crowe, O., McElwaine, J.G., Worden, J., Watson, G.A., Walsh, A., & Boland, H. (2005). Whooper *Cygnus cygnus* and Bewick's *C. columbianus bewickii* Swans in Ireland: results of the International Swan Census, January 2005. Irish Birds 7 (2005).
- Design Manual for Roads and Bridges (2008a) Volume 11 Section 2, Part 1– HA 201/08 Environmental Impact Assessment.
- Design Manual for Roads and Bridges (2008b) Volume 11 Section 2, Part 5 – HA 205/08 Assessment and Management of Environmental Effects.
- Environment & Heritage Service (2002) Habitat Regulations - Guidance Notes For Competent Authorities
- European Commission (2000) Managing Natura 2000 Sites, The provisions of Article 6 of the 'Habitats' Directive 92/43/CEE.
- European Commission (2001) Assessment of plans and projects significantly affecting Natura 2000 sites; Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC.
- European Council (1992) Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (OJ L 206, 22.7.1992, p. 7).
- European Court of Justice (2004) Landelijke Vereniging tot Behoud van de Waddenzee and Nederlandse Vereniging tot Bescherming van Vogels v Staatssecretaris van Landbouw, Natuurbeheer en Visserij. Case C-127/02. European Court reports 2004 Page 00000
- Forman, R.T.T & Alexander, L.E. (1998) Roads and their Major Ecological Effects. Annu. Rev. Ecol. Syst. 29 207-31.
- Gill, J. A. (2007). Approaches to measuring the effects of human disturbance on birds. Ibis 149 (Suppl. 1) pp 9 – 14.

Hearn, R.D. & Mitchell, C.R. (2004). Greylag Goose *Anser anser* (Iceland population) in Britain and Ireland 1960/61 – 1999/2000. Waterbird Review Series, The Wildfowl and Wetlands Trust/Joint Nature Conservation Committee, Slimbridge.

HMSO (1995) The Conservation (Natural Habitats, &c.) Regulations (Northern Ireland) 1995.

Keller V.E. (1989) The effect of disturbance from roads on the distribution of feeding sites of geese (*Anser brachyrhynchus*, *A. anser*), wintering in north-east Scotland. *Ardea*. 79, 229-232.

McElwaine, G. & Spouncer, C. (2006). A6 Road Improvements- Toome to Castledawson: Whooper Swan (*Cygnus cygnus*) Survey 2005/2006 and Impact Assessment.

Mouchel (2010) A5 Western Transport Corridor Environmental Statement Volumes 1 to 3. Document Ref 718736-3000-R-008

Mullarney, K., Svensson, L., Zetterström, D. and Grant, P. J. (1999) Bird Guide. HarperCollins Publishers, London.

Office of the Attorney General (ROI) (1997) S.I. No. 94/1997 European Communities (Natural Habitats) Regulations 1997 (as amended).

Rees, E.C., Bruce, J.H. & White, G.T. (2005). Factors affecting the behavioural responses of whooper swans (*Cygnus c. cygnus*) to various human activities. *Biological Conservation*, 121 (pgs 369-382).

Reijnen, R. Foppen, R. ter Braak, C. and Thissen, J. 1995. The effects of car traffic on breeding bird populations in woodland. III. Reduction of density in relation to the proximity of main roads. *Journal of Applied Ecology* 32 pp187-202.

Reijnen R, Foppen R, Meeuwsen H. 1996; The effects of traffic on the density of breeding birds in Dutch agricultural grasslands. *Biological Conservation* 75 255-260.

Robinson, J.A., Colhoun, K., McElwaine, J.G. & Rees, E.C. (2004). Whooper Swan *Cygnus cygnus* (Iceland population) in Britain and Ireland 1960/61 – 1999/2000. Waterbird Review Series, The Wildfowl and Wetlands Trust/Joint Nature Conservation Committee, Slimbridge.

Websites

www.jncc.gov.uk

www.npws.ie

www.birdwatchireland.ie