Provision of Information for Appropriate Assessment Screening

N16 Lugatober (Drumkilsellagh to Lugnagall) Road Project



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1 INTRODUCTION

McCarthy Keville O'Sullivan Ltd. (MKO) has been appointed to prepare a report to provide the information necessary to allow the competent authority to conduct an Article 6(3) Screening for Appropriate Assessment of the proposed N16 Lugatober (Drumkilsellagh to Lugnagall) Road Project, Co, Sligo.

The current project is not directly connected with, or necessary for, the management of any European Site, consequently the project has been subject to the Appropriate Assessment Screening process.

The assessment in this report is based on a desk study and field surveys undertaken in 2017 and 2018. It specifically assesses the potential for the proposed development to impact on European sites.

This Report has been prepared in accordance with the European Commission guidance document 'Assessment of Plans and Projects Significantly affecting Natura 2000 Sites: Methodological Guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC' (EC, 2001) and the Department of the Environment's Guidance on the Appropriate Assessment of Plans and Projects in Ireland (December 2009, amended February 2010).

In addition to the guidelines referenced above, the following relevant guidance was considered in preparation of this report:

- 1. DoEHLG (2010) Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government,
- 2. European Communities (2018) Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg. European Commission,
- 3. European Communities (2000) Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg. European Commission,
- 4. Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg. European Commission,
- 5. EC (2007) Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission. European Commission,
- 6. EC (2013) Interpretation Manual of European Union Habitats. Version EUR 28. European Commission,
- 7. CIEEM (2016) Institute of Ecology and Environmental Management Guidelines for Ecological Impact Assessment.

1.1 Appropriate Assessment

1.1.1 Screening for Appropriate Assessment

Screening is the process of determining whether an Appropriate Assessment is required for a plan or project. Under Part XAB of the Planning and Development Act, 2000, as amended, screening must be carried out by the Competent Authority to assess, in view of best scientific knowledge, if a land-use plan or proposed development, individually or in combination with another plan or project, is likely to have a significant effect on a European site. The Competent Authority's determination as to whether an Appropriate Assessment is required must be made on the basis of objective information and should be recorded and made publicly

available. The competent authority may request information to be supplied to enable it to carry out screening.

Consultants or project proponents may undertake a form of screening to establish if an Appropriate Assessment is required and provide advice or may submit the information necessary to allow the Competent Authority to conduct a screening with an application for consent.

Where it cannot be excluded, on the basis of objective information, if that plan or project, individually or in combination with other plans or projects will have a significant effect on a European site, an Appropriate Assessment of the plan or project is required. The screening for appropriate assessment must be completed in view of best scientific knowledge.

1.1.2 Appropriate Assessment (Natura Impact Statement)

The term Natura Impact Statement (NIS) is defined in legislation¹. An NIS, where required, should present the data, information and analysis necessary to reach a definitive determination as to 1) the implications of the plan or project, alone or in combination with other plans and projects, for a European site in view of its conservation objectives, and 2) whether there will be adverse effects on the integrity of a European site. The NIS should be underpinned by best scientific knowledge, objective information and by the precautionary principle.

¹ As defined in Section 177T of the Planning and Development Act, 2000 as amended, an NIS means a statement, for the purposes of Article 6 of the Habitats Directive, of the implications of a proposed development, on its own and in combination with other plans and projects, for a European site in view of its conservation objectives. It is required to include a report of a scientific examination of evidence and data, carried out by competent persons to identify and classify any implications for the European site in view of its conservation objectives

2 DESCRIPTION OF THE PROPOSED DEVELOPMENT

2.1 Site Location

Sligo County Council is currently planning a 2.5km upgrade of the N16 National Primary Route, between the townlands of Drumkilsellagh and Lugnagall and occurring predominately within the townland of Lugatober. The project location is depicted on Figure 2.1. The project will remove a number of substantially deficient bends on this section of the route and in so doing, will improve aspects such as safety, sight distance, cross sectional width and drainage.

2.2 Characteristics of the Proposed Development

The Physical Characteristics of the Proposed Road Development are contained within the townlands of Drumkilsellagh, Doonally (ED Drumcliff East), Castlegal (ED Glencar), Drum East, Lugatober (occurring predominately within), Collinsford and Lugnagall. The detailed description of the proposed road development will be provided as an appendix to the Natura Impact Statement . The outline description of the proposed road development is as follows:

- Circa 2.54km of Realignment to the existing N16 National Primary Route (c. 790m online and c. 1,750m offline);
- Junction Improvements including:
 - One At Grade Roundabout;
 - Six Simple T Junctions, including two Right/Left Staggered T Junctions;
- Circa 1,340km of realignment to the existing local road network (tie-in works);
- Three Direct Access connections to the National Primary network (including two agricultural and one Local Authority maintenance connections);
- Circa 1,920m of Vulnerable Road Users (Unsegregated cycle and pedestrian) tracks located predominately with the mainline verge space, interlinking as necessary with alternative offline routes;
- One Vulnerable Road Users Subway underpass;
- One River/Stream Clear Span Structure;
- Culverts and associated diversions of existing minor watercourses and drainage ditches;
- All the necessary drainage works associated with the Proposed Road Development;
- The diversion of services and utilities;
- Earthworks operations;
- Soil Nailed cut Side Slope in the townland of Lugatober;
- One no. Soil Repository/Borrow Pit;
- Environmental mitigation works;
- The other consequential construction works necessary in order to complete the project.

3 IDENTIFICATION OF RELEVANT EUROPEAN SITES

3.1 Background to European Sites

The Habitats Directive (92/43/EEC) (together with the Birds Directive (2009/147/EC)) forms the cornerstone of Europe's nature conservation policy. It is built around two pillars: the Natura 2000 network of protected sites and the strict system of species protection. All in all the directive protects over 1,000 animal and plant species and over 200 "habitat types" (e.g. special types of forests, meadows, wetlands, etc.), which are of European importance.

With the introduction of the EU Habitats Directive and Birds Directive which were transposed into Irish law as S.I. No. 94/1997 European Communities (Birds and Natural Habitats) Regulations 1997, the European Union formally recognised the significance of protecting rare and endangered species of flora and fauna, and also, more importantly, their habitats. The 1997 Regulations and their amendments were subsequently revised and consolidated in S.I. No. 477/2011- European Communities (Birds and Natural Habitats) Regulations 2011. This legislation requires the establishment and conservation of a network of sites of particular conservation value that are to be termed 'European Sites'.

Habitats Directive/Special Areas of Conservation

Articles 3 – 9 of the EU Habitats Directive (92/43/EEC) provide the EU legislative framework of protecting rare and endangered species of flora and fauna, and habitats. Annex I of the Directive lists habitat types whose conservation requires the designation of Special Areas of Conservation (SAC). Priority habitats, such as Turloughs, which are in danger of disappearing within the EU territory are also listed in Annex I. Annex II of the Directive lists animal and plant species (e.g. Marsh Fritillary, Atlantic Salmon, and Killarney Fern) whose conservation also requires the designation of SAC. Annex IV lists animal and plant species in need of strict protection such as Lesser Horseshoe Bat and Otter, and Annex V lists animal and plant species whose taking in the wild and exploitation may be subject to management measures. In Ireland, species listed under Annex V include Irish Hare, Common Frog and Pine Marten.

Species can be listed in more than one Annex, as is the case with Otter and Lesser Horseshoe Bat which are listed on both Annex II and Annex IV.

Birds Directive/Special Protection Areas

Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds (Birds Directive) has been substantially amended several times. In the interests of clarity and rationality the said Directive was codified in 2009 and is now cited as Directive 2009/147/EC. The Directive instructs Member States to take measures to maintain populations of all bird species naturally occurring in the wild state in the EU (Article 2). Such measures may include the maintenance and/or re-establishment of habitats in order to sustain these bird populations (Article 3).

A subset of bird species have been identified in the Directive and are listed in Annex I as requiring special conservation measures in relation to their habitats. These species have been listed on account of inter alia: their risk of extinction; vulnerability to specific changes in their habitat; and/or due to their relatively small population size or restricted distribution. Special Protection Areas (SPAs) are to be identified and classified for these Annex I listed species and for regularly occurring migratory species, paying particular attention to the protection of wetlands (Article 4).

3.2 Identification of the Designated Sites within the Likely Zone of Impact of the Proposed Development

The most up to date GIS spatial datasets for European designated sites were downloaded from the NPWS websites (www.npws.ie) on the 30/01/2019. The GIS software, MapInfo

(Version 10.0) and following rationale was used to assess which sites occur within the likely zone of impact.

Initially, sites within a 15km radius of the proposed development were identified (as per the DoEHLG Guidance (2010)) (see Figure 3.1). In addition, using the precautionary principle, European Sites located outside the 15km buffer zone were also taken into account and assessed where potential pathways for impact were identified and particularly where hydrological connectivity could be established. In this case, no potential for effects on sites located outside the 15km zone was identified.

Any likely direct or indirect impacts of the proposed development, both alone and in combination with other plans and projects, on European Sites by virtue of the following criteria: size and scale, land-take, distance from the European Site or key features of the site, resource requirements, emissions, excavation requirements, transportation requirements and duration of construction and operation have been considered in this Screening Assessment.

Table 3.1 provides the Screening Assessment and identification of the European Sites located within the likely zone of impact. The site synopses and conservation objectives of these sites, as per the NPWS website (www.npws.ie), were considered at the time of preparation of this report (30/01/2019).

Table 3.1 Identification of Designated sites within the Likely Zone of Impact

European Site	Qualifying Interests/Special Conservation Interests for which the European Site has been designated (www.npws.ie , 30/01/2019)	Conservation Objectives	Likely Zone of Impact determination			
Special Areas of Conservation						
Ben Bulben, Gleniff and Glenade Complex SAC (000623) 1.3km north-east.	 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation (3260) Northern Atlantic wet heaths with Erica tetralix [4010] European Dry Heaths (4030) Alpine and Boreal heaths (4060) Juniperus communis formations on heaths or calcareous grasslands (5130) Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [6230] Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430] Transition mires and quaking bogs [7140] Petrifying springs with tufa formation (7220)* Alkaline fens [7230] Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani) [8110] Calcareous and calcshist screes of the montane to alpine levels (8120) Calcareous rocky slopes with chasmophytic vegetation (8210) Vertigo geyeri (Geyer's Whorl Snail) [1013] Lutra lutra (Otter) [1355] 	This site has the generic conservation objective: 'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected'.' (NPWS Generic version 6.0, 2018)	There will be no direct effects as the proposed development is located entirely outside the designated sites. There is no hydrological connectivity between the proposed road project and the European sites. Given the distance from the proposed road development there is no potential for disturbance related impacts to QI species. No complete impact source-pathway-receptor chain could be identified. The sites are not in the likely zone of impact and no further assessment is required.			
Lough Gill SAC (001976)	 Natural eutrophic lakes with Magnopotamion or Hydrocharition – type vegetation (3150) 	This site has the generic conservation objective:				

	on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] Old sessile oak woods with Ilex and Blechnum in the British Isles (91Ao) Alluvial forests with Alnus glutinosa and Fraxinus excelsior (91Eo)* Austropotamobius pallipes (White-clawed crayfish) [1092] Petromyzon marinus (Sea Lamprey) [1095] Lampetra planerii (Brook Lamprey) Lampetra fluviatilis (River Lamprey) Salmo salar (Salmon) [1106] Lutra lutra (Otter) [1355]	'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected'.' (NPWS Generic version 6.0, 2018)	
Strand/Drumcliff Bay (Sligo Bay) SAC (000627) 3.3km west	 Estuaries (1130) Mudflats and sandflats not covered by seawater at low tide (1140) Embryonic shifting dunes (2110) Shifting dunes along the shoreline with Ammophila arenaria (2120) Fixed coastal dunes with herbaceous vegetation (2130)* Juniperus communis formations on heaths or calcareous grasslands (5130) Petrifying springs with tufa formation (7220) Vertigo angustior (Marsh snail) [1014] Petromyzon marinus (Sea Lamprey) [1095] Lampetra fluviatilis (River Lamprey) [1099] 	Detailed conservation objectives for this site (Version 1, September 2013) were reviewed as part of the assessment and are available at www.npws.ie	There will be no direct effects as the project footprint is located entirely outside the designated site. No pathway for impact on the terrestrial or groundwater dependent habitats or species for which the SAC is designated exists. Given the distance from the proposed road development there is no potential for disturbance related impacts to QI species. Taking a precautionary approach, and given that the SAC is located hydrologically downstream, a potential pathway for indirect effects on the marine/surface water dependent Qualifying Interests was identified in the form of deterioration of surface water quality resulting from pollution, associated with the construction and operational phases of the development. The Qualifying Interests with the potential to be impacted via the identified pathway include:

			 Mudflats and sandflats not covered by seawater at low tide (1140) Petromyzon marinus (Sea Lamprey) [1095] Lampetra fluviatilis (River Lamprey) [1099] Phoca vitulina (Harbour seal) [1365] Consequently, the potential for significant effects on this European Site cannot be excluded with respect to QIs identified above. This site is therefore considered to be within the Likely Zone of Impact.
Glenade Lough SAC (001919) 9.7km north-east	 Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation [3150] Austropotamobius pallipes (White-clawed Crayfish) [1092] Najas flexlis (Slender Naiad) [1833] 	This site has the generic conservation objective: 'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected'.' (NPWS Generic version 6.0, 2018)	There will be no direct effects as the proposed development is located entirely outside the designated sites. There is no hydrological connectivity between the proposed road project and the European sites. Given the distance from the proposed road development there is no potential for disturbance related impacts to QI species. No complete impact source-pathway-receptor chain could be identified. The sites are not in the likely some of impact
Ballysadare Bay SAC (000622) 10km south-west	 Estuaries (1130) Mudflats and sandflats not covered by seawater at low tide (1140) Embryonic shifting dunes (2110) Shifting dunes along the shoreline with Ammophila arenaria (2120) Fixed coastal dunes with herbaceous vegetation (2130)* Humid dune slacks (2190) Vertigo angustior (Narrow mouthed whorl snail) [1014] Phoca vitulina (Harbour seal) [1365] 	Detailed conservation objectives for this site (Version 1, November 2013) were reviewed as part of the assessment and are available at www.npws.ie	identified. The sites are not in the likely zone of impact and no further assessment is required.
Arroo Mountain SAC (001403)	 Northern Atlantic wet heaths with Erica tetralix (4010) European dry heaths [4030] Alpine and Boreal heaths [4060] 	Detailed conservation objectives for this site (Version 1, August 2016) were	

10.4km north-east	 Blanket bogs (7130) Petrifying springs with tufa formation (7220)* Calcareous and calcshist screes of the montane to alpine levels (8120) Calcareous rocky slopes with chasmophytic vegetation (8210) 	reviewed as part of the assessment and are available at www.npws.ie
Union Wood SAC (000638) 10.5km south	 Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles (91Ao) 	This site has the generic conservation objective: 'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected'.' (NPWS Generic version 6.0, 2018)
Streedagh Point Dunes SAC (001680) 10.6km north-west	 Mudflats and sandflats not covered by seawater at low tide [1140] Perennial vegetation of stony banks [1220] Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330] Mediterranean salt meadows (Juncetalia maritimi) [1410] Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Vertigo angustior (Narrow-mouthed Whorl Snail) [1014] 	Detailed conservation objectives for this site (Version 1, March 2015) were reviewed as part of the assessment and are available at www.npws.ie
Bunduff Lough And Machair/Trawalua/Mullag hmore SAC (000625) 10.9km north-west	 Mudflats and sandflats not covered by seawater at low tide [1140] Large shallow inlets and bays [1160] Reefs [1170] Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120] 	Detailed conservation objectives for this site (Version 1, March 2015) were reviewed as part of the

	 Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Machairs (* in Ireland) [21A0] Juniperus communis formations on heaths or calcareous grasslands [5130] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] Alkaline fens [7230] Euphydryas aurinia (Marsh Fritillary) [1065] Petalophyllum ralfsii (Petalwort) [1395] 	assessment and are available at www.npws.ie	
Unshin River SAC (001898) 11km south	 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation (3260) Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] Molinia meadows on calcareous, peaty or clayeysilt-laden soils (Molinion caeruleae) [6410] Alluvial forests with Alnus glutinosa and Fraxinus excelsior (91E0)* Salmo salar (Salmon) [1106] Lutra lutra (Otter) [1355] 	This site has the generic conservation objective: 'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected'.' (NPWS Generic version 6.0, 2018)	
Sligo/Leitrim Uplands	Falco peregrinus (Peregrine) [A103]	rotection Areas This site has the generic	There will be no direct effects as the project footprint is
SPA (004187)	 Pyrrhocorax pyrrhocorax (Chough) [A346] 	conservation objective:	located entirely outside the designated site.
18m east (Adjacent to the eastern boundary of the site)		'To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests of this SPA'.' (NPWS Generic version 6.0, 2018)	The proposed road development is located adjacent to the Sligo/Leitrim Uplands SPA. Taking a precautionary approach and based on proximity the potential for significant effects on the breeding Chough and Peregrine populations of this European Site cannot be excluded at this stage of the Appropriate Assessment process. This site is therefore considered to be within the Likely Zone of Impact.

Cummeen Strand SPA (004035) 3.3km south-west (>4.5km downstream via surface water).	 Branta bernicla hrota (Brent Goose) [Ao46] Haematopus ostralegus (Oystercatcher) [A130] Tringa totanus (Redshank) [A162] Wetlands (A999) 	Detailed conservation objectives for this site (Version 1, September 2013) were reviewed as part of the assessment and are available at www.npws.ie	There will be no direct effects as the project footprint is located entirely outside the designated site. Given the distance from the proposed road development there is no potential for disturbance related impacts to QI species.
Drumcliff Bay SPA (004013) 4.1km west (>5.09km downstream via surface water).	 Calidris alba (Sanderling) [A144] Limosa lapponica (Bar-tailed Godwit) [A157] Wetlands and Waterbires (A999) 	Detailed conservation objectives for this site (Version 1, September 2013) were reviewed as part of the assessment and are available at www.npws.ie	Taking a precautionary approach, and given that the SPAs are located hydrologically downstream, a potential pathway for indirect effects on the surface water dependent Qualifying Interests 'Wetland and Waterbirds [A999]' was identified, in the form of deterioration of surface water quality resulting from pollution, associated with the construction and operational phases of the development. Consequently, the potential for significant effects on this European Site cannot be excluded at this stage of the Assessment process. These sites are therefore considered to be within the Likely Zone of Impact.
Ballintemple & Ballygilgan SPA (004234) 7.2km north-west Ballysadare Bay SPA	■ Branta leucopsis (Barnacle Goose) [Ao45] ■ Branta bernicla hrota (Brent Goose) [Ao46]	This site has the generic conservation objective: 'To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests of this SPA'.' (NPWS Generic version 6.0, 2018) Detailed conservation	There will be no direct effects as the proposed development is located entirely outside the designated sites. There is no hydrological connectivity between the proposed road project and the European sites. Given the distance from the proposed road development there is no potential for disturbance related impacts to QI species. No complete impact source-pathway-receptor chain could be identified. The sites are not in the likely zone of impact and no further assessment is required.
(004129) 10km south-west	 Pluvialis squatarola (Grey Plover) [A141] Calidris alpine alpine (Dunlin) [A149] Limosa lapponica (Bar-tailed Godwit) [A157] Tringa totanus (Redshank) [A162] Wetlands (A999) 	objectives for this site (Version 1, October 2013) were reviewed as part of the assessment and are available at www.npws.ie	and no forther assessment is required.

4 ARTICLE 6(3) SCREENING STATEMENT AND CONCLUSIONS

The findings of this Screening Assessment are presented following the European Commission guidance document Assessment of Plans and Projects Significantly affecting Natura 2000 Sites: Methodological Guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC (EC, 2001) and the Department of the Environment's Guidance on the Appropriate Assessment of Plans and Projects in Ireland (December 2009, amended February 2010).

4.1 Data Collected to Carry Out Assessment

In preparation of the report, the following sources were used to gather information:

- Review of NPWS Site Synopses, Conservation Objectives for the European Sites
- Review of 2013 and 2007 EU Habitats Directive (Article 17) Reports.
- Review of online web-mappers: National Parks and Wildlife Service (NPWS), Teagasc, EPA, Water Framework Directive (WFD), Geological Survey of Ireland (GSI), Inland Fisheries Ireland (IFI) & Irish Wetland Bird Survey I-WeBS.
- Review of specially requested records from the NPWS Rare and Protected Species
 Database for the hectads which overlap with the study area.
- Review of Bird Atlases: (Sharrock, 1976; Lack, 1986; Gibbons et al., 1993; Balmer et al., 2013).
- Review of Birds of Conservation Concern (BoCCI) in Ireland 2014-2019 (Colhoun & Cummins, 2013)
- Review of the Bat Conservation Ireland (BCI) Private Database
- Inland Fisheries Ireland (IFI) Reports
- Review of OS maps and aerial photographs of the site of the proposed project.
- Review of relevant databases including National Biodiversity Ireland Database and available literature of previous surveys conducted in the area.
- Review of other plans and projects within the area.

4.2 Concluding Statement

It cannot be excluded beyond reasonable scientific doubt, in view of best scientific knowledge on the basis of objective information and in light of the conservation objectives of the relevant European sites, that the proposed development, individually or in combination with other plans and projects, would have a significant effect on the Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Sligo/Leitrim Uplands SPA, Cummeen Strand SPA (004035) and Drumcliff Bay SPA.

As a result, it is recommended to the competent authority that an Appropriate Assessment is required and that a Natura Impact Statement be prepared in respect of the proposed development.

BIBLIOGRAPHY

Bailey, M. and Rochford J. (2006) Otter Survey of Ireland 2004/2005. Irish Wildlife Manuals, No. 23. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland.

Balmer, D.E., Gillings, S., Caffrey, B.J., Swann, R.L., Downie, I.S. and Fuller, R.J. (2013). Bird Atlas 2007-11: the breeding and wintering birds of Britain and Ireland. BTO Books, Thetford, UK.

Barbour, M.T. and J.B. Stribling. (1991) Use of Habitat Assessment in Evaluating the Biological Integrity of StreamCommunities. Biological Criteria: Research and Regulation: 25-38. EPA-440/5-91-005. Washington, DC: Office of Water, US EPA.

Birds Directive (2009/47/EC) – http://ec.europa.eu/environment/nature/legislation/birdsdirective/index_en.htm

Bowers Marriott, B. (1997) Practical Guide to Environmental Impact Assessment: A Practical Guide. Published by McGraw-Hill Professional, 1997, 320 pp.

Chandler, J.R. (1970) A Biological Approach to water Quality Management. Water Poll. Cont. 69:415-421.

Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (Habitats Directive) and Directive 2009/147/EC (codified version of Directive 79/409/EEC as amended) (Birds Directive) – transposed into Irish law as European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477/2011).

Crowe, O., Wilson, J., Aznar, I. and More, S.J. (2009). A review of Ireland's waterbirds, with emphasis on wintering migrants and reference to H₅N₁ avian influenza. Irish Veterinary Journal 62, 800–811.

Crowe, O. (2005) Ireland's Wetlands and their Waterbirds: Status and Distribution. BirdWatch Ireland, Rockingham, Co. Wicklow.

DEHLG (2009) Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities. DEHLG, Dublin.

DoEHLG (2010). Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. Revision, February, 2010. Department of the Environment, Heritage and Local Government.

EA (2003) River Habitat Survey in Britain and Ireland: Field Survey Guidance Manual. River Habitat Survey Manual: 2003 version, Environment Agency, 136 pp.

Eastern Fisheries Board requirements publication (2004)" Protection of fisheries habitat during Construction and Development Works at River Sites"

European Communities (2018) Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg. European Commission

EC (2000) Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg. European Commission.

EC (2001) Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC.

EC (2002) 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, Office for Official Publications of the European Communities, Luxembourg. European Commission.

EC (2006) Nature and biodiversity cases: Ruling of the European Court of Justice. Office for Official Publications of the European Communities, Luxembourg.

EC (2007a) Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission. Office for Official Publications of the European Communities, Luxembourg. European Commission.

EC (2007b) Interpretation Manual of European Union Habitats. Version EUR 27. European Commission, DG Environment.

Envirocentre (2006) The Office of Public Works Ecological Impact Assessment (EcIA) of the Effects of Statutory Arterial Drainage Maintenance Activities on the Otter (*Lutra lutra*).

EPA (2002) Guidelines on the information to be contained in Environmental Impact Statements. Environmental Protection Agency.

EPA (2003) Advice Notes on current practice in the preparation of Environmental Impact Statements. Environmental Protection Agency.

EPA website: http://www.epa.ie.

European Communities (Conservation of Wild Birds) Regulations, 1985, SI 291/1985 & amendments – http://www.irishstatutebook.ie.

European Communities (Environmental Impact Assessment) Regulations, 1989 to 2001.

European Communities (Natural Habitats) Regulations, SI 94/1997, SI 233/1998 & SI 378/2005 – http://www.irishstatutebook.ie.

Fossitt, J. A. (2000). A Guide to Habitats in Ireland. Dublin: The Heritage Council.

Habitats Directive (92/43/EEC).

CIEEM (2016) Institute of Ecology and Environmental Management Draft Guidelines for Ecological Impact Assessment.

Kelly, F.L., Connor, L., Morrissey, E., Coyne, J., Matson, R., Feeney, R. and Rocks, K. (2014) Water Framework Directive Fish Stock Survey of Glencar Lough, August 2013.

Lucey, J. & McGarrigle, M.L. 1987 The Distribution of the crayfish *Austropotamobius pallipes* (Lereboullet) in Ireland. *Irish Fisheries Investigations* Series A. (*Freshwater*) 29 1-13.

McGuinness, D., Muldoon, C., Tierney, N., Cummins, S., Murray, A., Egan, S. & Crowe, O. (2015). Bird Sensitivity Mapping for Wind Energy Developments and Associated Infrastructure in the Republic of Ireland. Guidance Document. Birdwatch Ireland.

Moorkens, E.A. & Killeen, I.J. (2011) Monitoring and Condition Assessment of Populations of Vertigo geyeri, Vertigo angustior and Vertigo moulinsiana in Ireland. Irish Wildlife Manuals,

No. 55. National Parks and Wildlife Service, Department of Arts, Heritage and Gaeltacht, Dublin, Ireland.

Murphy, D.F. (2004) Requirements for the Protection of Fisheries Habitat During Construction and Development Works at River Sites. Eastern Regional Fisheries Board, Dublin.

Natural England (March 2007). Draft Guidance: The Assessment of Regional Spatial Strategies and Sub-Regional Strategies Under the Provisions of the Habitats Regulations.

NPWS (2008) The Status of EU Protected Habitats and Species in Ireland. Conservation Status in Ireland of Habitats and Species listed in the European Council Directive on the Conservation of Habitats, Flora and Fauna 92/43/EEC.

NPWS of the DEHLG (2008) The Report on Status of Habitats and Species in Ireland: Technical Reports and Forms.

NPWS Protected Site Synopses and maps available on http://www.npws.ie/en/ProtectedSites/.

NRA (2004) Environmental Impact Assessment of National Road Schemes – A Practical Guide, National Roads Authority, Dublin.

NRA (2004) Guidelines for the Treatment of Noise and Vibration in National Road Schemes (1 ed.). Dublin: National Roads Authority.

NRA (2005) Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes. Dublin: National Roads Authority.

NRA (2006) A Guide to Landscape Treatments for National Road Schemes in Ireland. Dublin: National Roads Authority.

NRA (2006) Best Practice Guidelines for the Conservation of Bats in the Planning of National Road Schemes. Dublin: National Roads Authority.

NRA (2006) Guidelines for the Protection and Preservation of Trees, Hedgerows and Scrub Prior to, During and Post-Construction of National Road Schemes. Dublin: National Roads Authority.

NRA (2006) Guidelines for the Treatment of Badgers prior to the Construction of National Road Schemes (1 ed.). Dublin: National Roads Authority.

NRA (2006) Guidelines for the Treatment of Bats during the Construction of National Road Schemes. Dublin: National Roads Authority.

NRA (2006) Guidelines for the Treatment of Otters prior to the Construction of National Road Schemes. Dublin: National Roads Authority.

NRA (2009). Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes. Dublin: National Roads Authority.

NRA (2008). The Management of Noxious Weeds and Non-native Invasive Plant Species on National Roads. Dublin: National Roads Authority.

NRA (2008). Guidelines for the Creation, Implementation and Maintenance of an Environmental Operating Plan. Dublin: National Roads Authority.

Scott Wilson et al. (September 2006) Appropriate Assessment of Plans.

Scott Wilson, Levett-Therivel Sustainability Consultants, Treweek Environmental Consultants and Land Use Consultants (2006). Appropriate Assessment of Plans. Scott Wilson, Basingstoke.

Scottish Natural Heritage (SNH) (2016) Assessing Connectivity with Special Protection Areas (SPA)

Shannon Regional Fisheries Board (2009). Protection and Conservation of Fisheries Habitat with Particular reference to Road Construction (2009)

Stace, C. A. (1997). New Flora of the British Isles. Cambridge: Cambridge University Press.

Therivel R. (2009) Workshop Material on the Habitats Directive Assessment of Plans Levett-Therivel Sustainability Consultants on behalf of the Heritage Council, Kilkenny.

Therivel, R. (2009) 'Appropriate assessment of plans in England', Environmental Impact Assessment Review 29(4), pp. 261-272.

Warren, M.S. (1994) The UK Status and suspected metapopulation structure of a threatened European butterfly, the Marsh Fritillary, Eurodryas aurinia. Biological Conservation 67:239-249.

Water status data available on http://www.epa.ie and http://www.wfdireland.ie Wildlife Act 1976 and Wildlife (Amendment) Act 2000.