Habitats Regulations Assessment

Bovine Tuberculosis Eradication

794-NI-WAE-02384

18 June 2026

F01

TETRA TECH

Tetra Tech Belfast, Elmwood House, 74 Boucher Road, Belfast, BT12 6RZ, Northern Ireland

Tetra Tech Consulting Limited. Registered in England: No.01470149
Registered Office: 101 Park Drive, Milton Park, Abingdon, Oxfordshire, England, OX14 4RY

Document status

Document status					
Version	**Purpose of document**	**Authored by**	**Reviewed by**	**Approved by**	**Date**
D01	Internal review	RN	JMC	--	14.05.2026
D02	PM review	RN	JMC	--	19.05.2026
F01	Final	RN	LD/EH	RB/JMC	18.06.2026

Approval for issue		
JMC		18 JUNE 2026

Prepared by	Prepared for
Tetra Tech	**Department for Agriculture, Environment and Rural Affairs**

Table of contents

List of tables

List of figures

Executive Summary

DAERA commissioned Tetra Tech to undertake a Strategic Environmental Assessment (SEA) and Habitats Regulations Assessment (HRA) of 'Bovine Tuberculosis (TB) in Northern Ireland: Blueprint for Eradication 2025' with a focus on the potential Wildlife Intervention Options that have been further developed.

The Plan must have regard for the Habitats Directive and the Birds Directive, as transposed through the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995, which require that any plan or project not directly connected with or necessary to the management of a European site but likely to have a significant effect on such a site, must undergo an appropriate assessment in view of best scientific knowledge and in view of the conservation objectives of the site.

The potential Wildlife Intervention Options fall under this remit, and HRA is being undertaken in parallel to the SEA process, to assess the potential implications of adoption and implementation of 'Bovine Tuberculosis (TB) in Northern Ireland: Blueprint for Eradication with a focus on the further development of potential Wildlife Intervention Options' ('the Plan'), on European sites, alone or in combination with other plans or projects and in view of the site's Conservation Objectives.

This appraisal has considered potential effects of habitat loss, degradation and fragmentation, changes in badger ranging behaviour and associated predation effects and also accidental bycatch of other Annex II species and all of the European sites throughout the entire region of Northern Ireland included in the UK National Site Network.

No pathway of effect has been identified that can possibly result in a Likely Significant Effect on any European site. As there are no effects beyond a potentially *de minimis* level that have been identified, there is no prospect at all that Likely significant Effects could occur in combination with any other Plan or Project.

On the basis of the above analysis, there is no requirement to subject the Plan to Appropriate Assessment. The screening appraisal for Habitats Regulations Assessment has concluded that the possibility for Likely Significant Effects arising from adoption of the 'Bovine Tuberculosis (TB) in Northern Ireland: Blueprint for Eradication and implementation' Plan and implementation of its associated 'Wildlife Intervention Options' can be excluded.

That is the case in the absence of mitigation measures and beyond reasonable scientific doubt.

Introduction

1.1 Tetra Tech was commissioned by the TB/BR Policy and Research Branch of Veterinary Service Animal Health Group (VSAHG) in the Department of Agriculture, Environment and Rural Affairs (DAERA) to undertake a Habitats Regulations Assessment (HRA) for the Bovine Tuberculosis (TB) in Northern Ireland: Blueprint for Eradication with a focus on the further development of potential Wildlife Intervention Options ('the Plan').

1.2 Habitats Regulations Assessment (HRA) is required under Council Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna (Habitats Directive) as set out in The Conservation (Natural Habitats, etc) Regulations (Northern Ireland) 1995 (as amended).

1.3 The following report has been prepared to provide a transparent assessment of the Plan and examines the Likely Significant Effects (LSEs) of the project and the potential for Adverse Effects on Site Integrity (AEOSI) of European sites. The HRA will therefore assist the Competent Authority in fulfilling its duties in accordance with Regulation 43(1) of the Conservation (Natural Habitats, etc) Regulations (Northern Ireland) 1995 (as amended).

Background

1.4 Bovine Tuberculosis (bTB) is described as the most difficult animal health challenge in Northern Ireland. The Bovine Tuberculosis in Northern Ireland: Blueprint for Eradication is set out by the TB Partnership Steering Group (TBPSG).

1.5 Bovine TB is difficult to control because of imperfect diagnostics, hidden infection in herds, movement of infected animals, high cattle density, farming practices, persistence of *Mycobacterium bovis* in the environment, and transmission involving wildlife such as badgers, deer and other species.

1.6 The current Blueprint for Eradication re-affirms its commitment to eradicating bTB in Northern Ireland. It stresses that Government, industry, and stakeholders must work together and builds on the 2024 CVO review and the 2022 eradication strategy. The target is to reduce herd incidence by 2% by 2030. The long-term aim is to halve current bTB levels by 2040 and eradicate by 2050.

1.7 The Blueprint aims to develop and consult on evidence-based wildlife intervention proposals to take account of the 2023 judicial review, while progressing any necessary legislation if a preferred approach is chosen.

1.8 The Strategic Environmental Assessment (SEA) Scoping Report prepared for DAERA by Tetra Tech for Bovine TB in Northern Ireland: Blueprint for Eradication, focused on assessing, in a strategic environmental context, the development of potential Wildlife Intervention Options.

1.9 The SEA considered that the key issues associated with implementation of the Plan and the potential Wildlife Intervention Options are Biodiversity, Flora and Fauna.

Biodiversity, Flora and Fauna

1.10 The SEA report identifies wildlife and biodiversity as one of the key environmental considerations for the Bovine TB Blueprint, especially because the proposed wildlife intervention options may affect badgers and other species, as well as the habitats they use.

1.11 The Plan must have regard for the Habitats Directive and the Birds Directive, as transposed through the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995, which require that any plan or project not directly connected with or necessary to the management of a European site but likely to have a significant effect on such a site, must undergo an appropriate assessment in view of best scientific knowledge and in view of the conservation objectives of the site.

1.12 The potential Wildlife Intervention Options fall under this remit, and HRA is being undertaken in parallel to the SEA process, to assess the potential implications of the Plan for European Sites.

Biodiversity & Wildlife: Northern Ireland

1.13 Northern Ireland has a wide range of protected and priority habitats and species and sites have been designated to provide protection to those habitats and species considered to be of particular conservation value.

1.14 These include sites whose conservation is of importance at a European level as part of the UK National Site Network (formerly part of the Natura 2000 network prior to the UK's exit from the EU), for which 58 Special Areas of Conservation (SACs), 16 Special Protection Areas (SPAs), two additional proposed Special Protection Areas (pSPAs), and 20 Ramsar Sites have been designated, to date.

1.15 Northern Ireland has 49 habitats listed in Annex I of the Habitats Directive, of which 13 are priority habitats at a European level, and 18 species listed in Annex II of the Directive (DAERA, 2013).

1.16 Badgers (*Meles meles*) are central to the assessment because they are a protected species (under Schedule 5 to The Wildlife (Northern Ireland) Order 1985, as amended) and a known potential reservoir of bTB. There is a possibility of direct effects on badger populations if culling is used, and a possibility of indirect effects on other species through disturbance, displacement, or other changes in the ecological balance through perturbation.

1.17 Many designated sites and their constituent feature species are already in unfavourable condition, so the Plan must be appraised to ascertain whether or not its implementation might inadvertently increase pressures on these features.

Potential Impact Pathways to European Sites

1.18 The following potentially significant environmental effects were identified through the SEA process, and specifically under potential wildlife intervention options:

- Potential for effects on protected areas, including those of international (SACs, SPAs, Ramsar Sites), National (ASSIs, NNRs) and local (SLNCI) importance;
- Potential for effects on protected and priority habitats and species;
- Potential for regionalised direct negative impacts on badger populations within intervention areas from culling activities as a protected species.
- Potential for disturbance or displacement effects on species; and
- Potential for indirect effects on water-dependent habitats and species (including effects on freshwater pearl mussel, salmonids, and other protected fish and shellfish species).

Habitats Directive

1.19 Council Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna, also referred to as the Habitats Directive, aims to promote the conservation of biodiversity through the maintenance and restoration of natural habitats and of wild species.

1.20 The Habitats Directive together with the Birds Directive (2009/147/EC) provide for the protection of habitats and species of European nature conservation importance through the establishment of a network of European sites. European sites are defined as Special Areas of Conservation (SAC) designated under the Habitats Directive and Special Protection Areas (SPA) designated under the Birds Directive.

1.21 Article 6 of the Habitats Directive plays an important role in the management, conservation and protection of European sites (EC 2020).

1.22 Articles 6(1) and 6(2) require that, within Europe sites, Member States:

- Take appropriate conservation measures to maintain and restore the habitats and species for which the site has been designated to a Favourable Conservation Status (FCS);
- Avoid damaging activities that could significantly disturb these species or deteriorate the habitats of the protected species or habitat types.

1.23 Article 6(3) and 6(4) lay down the procedure to be followed for plans or projects that might affect a European site. The process is known as Habitats Regulations Assessment (HRA).

1.24 The Conservation (Natural Habitats, etc) Regulations (Northern Ireland) 1995 (as amended) (known as the Habitats Regulations) transpose the requirements of the

Habitats Directive and aspects of the Birds Directive. The Habitats Regulations provide for the protection of habitats and species of European importance through the designation of European sites as part of the United Kingdom (UK) National Site Network (UKNSN) and remain applicable following the UK's departure from the European Union in line with the Conservation (Natural Habitats, etc.) (Amendment) (Northern Ireland) (EU Exit) Regulations 2019.

1.25 The terminology used in the report is line with the DAERA published guidance Terminology interpretation for The Conservation (Natural Habitats, etc.) (Amendment) (Northern Ireland) (EU Exit) Regulations 2019.

Habitats Regulations Assessment

1.26 HRA is the process that considers the implications of a plan or project (either individually or in combination with other plans and projects) on a European site. It consists of a staged approach (EC 2021) with each stage determining whether a further stage in the process is required.

1.27 **Stage One: Screening** – The first part of the process ascertains whether a plan or project is directly connected with, or necessary to, the management of any European site, and, if this is not the case, whether it is likely to have a significant effect on any European site (either alone or in combination with other plans or projects) in view of the site's COs.

1.28 **Stage Two: Appropriate Assessment** – If likely significant effects cannot be excluded, the next stage of the process involves assessing the impact of the plan or project (either alone or in combination with other plans or projects) against the COs of the European site, to ascertain whether it will affect the integrity of the site, taking into account any mitigation measures. The Competent Authority then decides whether or not to approve the plan or project in light of the findings of the Appropriate Assessment.

1.29 **Stage Three: Derogation** – Derogation only comes into effect if, despite a negative assessment, it is considered that the plan or project should still be carried out for Imperative Reasons of Overriding Public Interest (IROPI). This is only possible if there are no alternative solutions, the IROPI are duly justified, and if suitable compensatory measures are adopted to ensure that the overall coherence and protection of UK National Site Network.

Stage One: Screening

Introduction

1.30 The screening assessment examines the likely effects of the project, either alone or in combination with other projects or plans, upon European sites and considers

whether it can be objectively concluded that the effects will not be significant. The screening assessment is carried out in the absence of any consideration of mitigation measures that form part of the project and are designed to avoid or reduce the impact of the project on a European site (EC 2002). Mitigation measures are defined as "**measures aimed at minimising or even cancelling the negative impact of a plan or project during or after its completion"** (EC 2000).

Management of the site

1.31 Projects related to the conservation management of a European site are generally excluded from assessment (EC 2000). The proposed project is not directly connected with or necessary to the management of any European site and is therefore subject to appropriate assessment as required under the Regulations.

Description of the Plan

1.32 The proposed project involves development of a *Bovine Tuberculosis (TB) in Northern Ireland: Blueprint for Eradication with a focus on the further development of potential Wildlife Intervention Options ('the Plan').*

1.33 The location of the site and the red line boundary are illustrated in **Figure 1**.

1.34 DAERA propose to undertake a characterisation exercise to determine specific areas (minimum size of 100 km²) throughout NI for intervention prior to the commencement of any intervention strategies.

1.35 The following three wildlife intervention options (Non-selective Culling, Test and Vaccinate or Remove (TVR), or Vaccination Only) are considered by DAERA as scientifically supported.

- **Non-Selective Culling:** The objective of a non-selective cull is to reduce the infection burden within the badger population and in turn to reduce the transmission risk, subject to delivery, coverage and local epidemiology, within an identified intervention area of at least 100 km^2. This approach seeks to achieve that objective by decreasing the badger population by up to 70% regardless of their infection status. Non-selective culling has never taken place in Northern Ireland but has been deployed in both England and RoI. There are three primary methods for deploying a non-selective cull: controlled shooting of free roaming badgers, controlled shooting of cage trapped badgers and controlled shooting of stopped restraint captured badgers.
- **Test and Vaccinate or Remove (TVR):** The Test and Vaccinate or Remove (TVR) methodology combines field trapping, real-time diagnostic testing at trap site, and vaccination - administering a BCG (Bacillus Calmette-Guérin) vaccine or selective removal of badgers within an identified intervention area of at least 100 km^2. This is a selective approach to culling in which badgers are captured,

anaesthetised and tested for infection using a trap side test, the Dual Path Platform (DPP) test. Badgers that test negative for bTB are vaccinated micro-chipped and released, while those that test positive for bTB are euthanised humanely by lethal injection. While trapping can be carried out by trained lay operatives, the testing and subsequent vaccination or removal must be carried out by veterinarians. This process will be repeated and captured animals who test negative will be revaccinated each year of the intervention. TVR was the subject of a DAERA research project in County Down from 2014-2018. There are two primary methods for deploying a TVR: cage trapping, and the use of stopped restraints.

- **Vaccination Only:** This method involves administering a BCG (Bacillus Calmette-Guérin) vaccine to badgers without any prior testing taking place within an identified intervention area of at least 100 km^2. There is no removal of any infected animals within the local badger population. Vaccination only would not protect already infected animals and a sufficient proportion[1][2] estimated in some modelling studies at around 30-40% of the badger population, would need to be vaccinated each year to achieve badger herd immunity. Although, it should be noted that required vaccine coverage is dependent on underlying badger bTB prevalence in the area and is therefore indirectly affected by potential previous interventions that might have taken place in that area[3]. England and the RoI both initiated their badger interventions using culling-based approaches. After pursuing culling methods for many years, England has moved to a vaccination only policy with RoI also deploying badger vaccination, although it continues to cull where it believes necessary based on epidemiological evidence. There are two primary methods for deploying vaccination only: cage trapping, and the use of stopped restraints.

Zone of Influence

1.36 The Zone of Influence (ZoI) for a project is the area over which ecological features which are the subject of the HRA procedure, may be affected by biophysical changes as a result of a proposed Plan and its associated activities.

1.37 The Plan notes that areas may be selected for wildlife intervention where there is evidence that badgers are contributing to ongoing bTB problems in cattle, and that other factors that will be taken into consideration including:

- Long-term high levels of bTB in cattle herds;

[1] Modelling as a Decision Support Tool for Bovine TB Control Programs in Wildlife: https://pmc.ncbi.nlm.nih.gov/articles/PMC6232866/

[2] Can Badger Vaccination Contribute to bovine TB Control? A Narrative review of the evidence: https://www.sciencedirect.com/science/article/pii/S0167587725000492

[3] Bovine tuberculosis model validation against a field study of badger vaccination with selective culling: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0320830

- Higher than average badger social group density;
- Evidence of bTB infection in local badgers;
- Local veterinary and epidemiological information; and
- Natural or physical boundaries that limit badger movement, such as rivers or major roads where available.

1.38 The precise size and configuration of each intervention area will depend on local conditions. Each area will be at least 100 km^2 and where possible, natural or physical boundaries, such as rivers or major roads, will be used to help define areas and limit badger movement beyond their boundaries.

1.39 The total area over which intervention would take place would not conflict with the protection afforded to protected species under the Bern Convention. Therefore, the total intervention area would not at any one time exceed 30% of the total agricultural land area in Northern Ireland.

1.40 The intervention period for badger management is proposed up to at five years. This duration is based on evidence from previous trials (TVR and modelling), and experience from other countries, where standard interventions are generally expected to be of at least five years' duration to achieve disease control outcomes; however, the intervention will be kept under close continuous review once an intervention commences.

1.41 Following this initial period, any future approach would be informed by surveillance data, disease trends and emerging scientific evidence which the Department would consider at that time.

1.42 Once operational in any given area, wildlife intervention options are still restricted seasonally. In Northern Ireland, the existing intervention window (or open season) runs from 1 July to 30 November. It has been in place for over 30 years and falls under the policy remit of the Department's Northern Ireland Environment Agency (NIEA). The start date of 1 July is based on evidence that sows tend to give birth from mid-January to mid-March, with a weaning period of around 12 weeks. The end date of 30 November is intended to prevent disturbance to pregnant sows from December onwards.

1.43 Future consideration may be given once an option is chosen to extending the open season as this would be potentially beneficial regardless of the method of capture selected. This is because the wider the intervention window, the more likely it is that a sufficient number of animals will be captured. This would increase the rate by which the overall badger infection load in an area is reduced. Any consideration to extend the intervention window will be assessed against the potential welfare implication and the value linked to the type of intervention.

1.44 This means that spatially, the Plan could be implemented in any part of Northern Ireland, but is not anticipated to operate in areas not considered to be agricultural land. Temporally, the wildlife intervention options would not be anticipated to operate at any one time in more than 30% of the total agricultural land area in Northern Ireland, but once operating in any given area, may continue to operate for at least five years duration and seasonally between July and November in each year.

1.45 These spatial and temporal aspects of the Plan mean that the appraisal must include European sites located within the geographical boundary of the areas over which it is anticipated to operate the wildlife intervention options; European sites in proximity to those boundaries; and European sites outside the boundary of the Plan that may be connected to the project through an identifiable impact pathway.

1.46 DAERA propose to undertake a characterisation exercise to determine specific areas (minimum size of 100 km^2) throughout Northern Ireland prior to the commencement of any wildlife intervention strategies.

1.47 As such the Zone of Influence (ZoI) can be characterised as either not yet having been established, or alternatively and preferably taking into account the Precautionary Principle, the entirety of Northern Ireland, and therefore the proposed project has the potential to be located within, or within the ZoI of all European sites in Northern Ireland.

1.48 **Table 1-1** below lists the European sites within the ZoI of the Plan, and their Qualifying Interests Features (QIFs). The locations of these European sites are illustrated in **Figure 2**.

Table 1-1: European Sites & their Qualifying Interest Features

Site code	Site name	Area (ha)	Progress to screening
UK0030318	Aughnadarragh Lough SAC	12.8	yes
UK0030319	Ballykilbeg SAC	37.59	yes
UK0016599	Ballynahone Bog SAC	243.52	yes
UK0030083	Banagher Glen SAC	87.9	yes
UK0030084	Bann Estuary SAC	348.37	yes
UK0030089	Binevenagh SAC	90.92	yes
UK0016609	Black Bog SAC	183.72	yes
UK0030097	Breen Wood SAC	36.03	yes
UK0030110	Carn-Glenshane Pass SAC	1941.28	yes
UK0030116	Cladagh (Swanlinbar) River SAC	28.36	yes
UK0030321	Cranny Bogs SAC	79.06	yes

Site code	Site name	Area (ha)	Progress to screening
UK0016603	Cuilcagh Mountain SAC	2751.68	yes
UK0030322	Curran Bog SAC	183.51	yes
UK0030323	Dead Island Bog SAC	54.62	yes
UK0030324	Deroran Bog SAC	75.6	yes
UK0016620	Derryleckagh SAC	48.73	yes
UK0016615	Eastern Mournes SAC	7509.59	yes
UK0016611	Fairy Water Bogs SAC	224.18	yes
UK0030068	Fardrum and Roosky Turloughs SAC	43.21	yes
UK0016606	Garron Plateau SAC	4652.18	yes
UK0016610	Garry Bog SAC	154.91	yes
UK0030169	Hollymount SAC	49.96	yes
UK0030045	Largalinny SAC	245.54	yes
UK0030180	Lecale Fens SAC	40.87	yes
UK0030047	Lough Melvin SAC	517.98	yes
UK0016621	Magheraveely Marl Loughs SAC	58.89	yes
UK0016613	Magilligan SAC	1059.62	yes
UK0030199	Main Valley Bogs SAC	186.35	yes
UK0016619	Monawilkin SAC	175.25	yes
UK0030211	Moneygal Bog SAC	156.16	yes
UK0030212	Moninea Bog SAC	44.84	yes
UK0030214	Montiaghs Moss SAC	151.39	yes
UK0016612	Murlough SAC	11903.9	yes
UK0030224	North Antrim Coast SAC	311.44	yes
UK0030399	North Channel SAC	160367	yes
UK0030233	Owenkillew River SAC	213.84	yes
UK0030236	Peatlands Park SAC	207.53	yes
UK0016607	Pettigoe Plateau SAC	1267.88	yes
UK0030055	Rathlin Island SAC	3346.59	yes
UK0030244	Rea's Wood and Farr's Bay SAC	41.83	yes
UK0030365	Red Bay SAC	966.279	yes
UK0030361	River Faughan and Tributaries SAC	293.79	yes
UK0030320	River Foyle and Tributaries SAC	771.8	yes
UK0030360	River Roe and Tributaries SAC	408.19	yes
UK0030268	Rostrevor Wood SAC	16.65	yes
UK0030383	Skerries and Causeway SAC	10867.43	yes

Site code	Site name	Area (ha)	Progress to screening
UK0016622	Slieve Beagh SAC	1888.18	yes
UK0030277	Slieve Gullion SAC	612.7	yes
UK0016618	Strangford Lough SAC	15391.77	yes
UK0016608	Teal Lough SAC	198.5	yes
UK0030384	The Maidens SAC	7464.05	yes
UK0030325	Tonnagh Beg Bog SAC	55.71	yes
UK0030326	Tully Bog SAC	36.06	yes
UK0030291	Turmennan SAC	14.83	yes
UK0030296	Upper Ballinderry River SAC	58.88	yes
UK0016614	Upper Lough Erne SAC	5751.34	yes
UK0030300	Fermanagh Scarplands SAC	2276.47	yes
UK0030303	Wolf Island Bog SAC	118.14	yes
UK9020301	Antrim Hills SPA	27,093	yes
UK9020101	Belfast Lough SPA	429	yes
UK9020290	Belfast Lough Open Water SPA	5,592	yes
UK9020161	Carlingford Lough SPA	827	yes
UK9020291	Copeland Islands SPA	200	yes
UK9020221	Killough Bay SPA	133	yes
UK9020042	Larne Lough SPA	398	yes
UK9020031	Lough Foyle	2,194	yes
UK9020091	Lough Neagh and Lough Beg SPA	40,857	yes
UK9020271	Outer Ards SPA	1,410	yes
UK9020051	Pettigoe Plateau SPA	1,263	yes
UK9020011	Rathlin Island SPA	3,343	yes
UK9020021	Sheep Island SPA	3	yes
UK9020302	Slieve Beagh - Mullaghfad – Lisnaskea SPA	8,942	yes
UK9020111	Strangford Lough SPA	15,564	yes
UK9020071	Upper Lough Erne SPA	5,762	yes

Screening Appraisal for Appropriate Assessment

European sites conservation objectives

1.49 **Table 1-2** below sets out the COs for the QIFs for which there is insufficient evidence to conclude that there will not be any LSEs.

Table 1-2: Qualifying Interest Features and their Conservation Objectives

European site	Qualifying Interest Feature (Annex I Habitat / Annex II Species)	Conservation Objectives:
Aughnadarragh Lough SAC	• 1065 Marsh fritillary butterfly *Euphydryas aurinia,*	• Supporting the population of this protected Marsh Fritillary butterfly
Ballykilbeg SAC	• 1065 Marsh fritillary butterfly *Euphydryas aurinia*	• Supporting the population of this protected Marsh Fritillary butterfly
Ballynahone Bog SAC	• 7110 Active raised bogs	• Maintain or restore the active raised bog
Banagher Glen SAC	• 91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles • 9180 Tilio-Acerion forests of slopes, screes and ravines	• Maintain or restore the Old sessile oak woods with *Ilex* and *Blechnum* and Tilio-Acerion forests of slopes, screes, and ravines to a favourable condition.
Bann Estuary SAC	• 1330 Atlantic salt meadows *(Glauco-Puccinellietalia maritimae)* • 2110 Embryonic shifting dunes • 2120 "Shifting dunes along the shoreline with Ammophila arenaria (""white dunes"")"	• To maintain (or restore where appropriate) the • Fixed dunes with herbaceous vegetation • Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) • Shifting dunes along the shoreline with Ammophila arenaria • Embryonic shifting dune
Binevenagh SAC	• 6230 Species-rich Nardus grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe) * Priority feature • 8120 Calcareous and calcshist screes of the montane to alpine levels (T*hlaspietea rotundifolii)*	• Main aim to maintain or restore the site's habitat features—specifically dry calcareous grasslands, scree slopes, and ash/hazel woodlands—to favourable condition. • Key goals focus on protecting the unique arctic-alpine plants and managing threats like Nitrogen input.
Black Bog SAC	• 7110 Active raised bogs	• Maintain or restore the active raised bog
Breen Wood SAC	• Habitat: Old sessile oak woods with Ilex and Blechnum in the British Isles • Habitat: Bog Woodland	• Maintain and where feasible expand the extent of existing oak woodland but not at the expense of other SAC (ABC) features. • Maintain and expand the extent of the existing bog woodland.
Carn-Glenshane Pass SAC	• 7130 Blanket bogs (* if active bog)	• Maintain, or restore where appropriate, the Blanket Bog to a favourable condition
Cladagh (Swanlinbar) River SAC	• 7130 Blanket bogs (* if active bog)	• Maintain or restore Favourable Conservation Status (MFCS)
Cranny Bogs SAC	• 7110 Active raised bogs	• MFCS
Cuilcagh Mountain SAC	• 7110 Active raised bogs	• MFCS
Curran Bog SAC	• 110 Active raised bogs	• MFCS

European site	Qualifying Interest Feature (Annex I Habitat / Annex II Species)	Conservation Objectives:
Dead Island Bog SAC	• 7120 Degraded raised bogs still capable of natural regeneration	• MFCS
Deroran Bog SAC	• 7110 Active raised bogs	• MFCS
Derryleckagh SAC	• 7140 Transition mires and quaking bogs	• MFCS
Eastern Mournes SAC	• 4010 Northern Atlantic wet heaths with Erica tetralix • 4030 European dry heaths	• MFCS
Fairy Water Bogs SAC	• 7110 Active raised bogs	• MFCS
Fardrum and Roosky Turloughs SAC	• 3180 Turloughs	• MFCS
Garron Plateau SAC	• 7130 Blanket bogs (* if active bog) • 7230 Alkaline fens • 1528 Marsh saxifrage *Saxifraga hirculus*	• MFCS
Garry Bog SAC	• 7110 Active raised bogs	• MFCS
Hollymount SAC	• 91E0 Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	• MFCS
Largalinny SAC	• 91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	• MFCS
Lecale Fens SAC	• 7230 Alkaline fens	• MFCS
Lough Melvin SAC	• Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea • 6410 Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) • 1106 Atlantic salmon *Salmo salar*	• MFCS
Magheraveely Marl Loughs SAC	• 3140 Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. • 7230 Alkaline fens • 1092 White-clawed (or Atlantic stream) crayfish *Austropotamobius pallipes*	• MFCS
Magilligan SAC	• 2130 "Fixed coastal dunes with herbaceous vegetation (""grey dunes"")" • 2170 Dunes with Salix repens ssp. argentea (Salicion arenariae)	• MFCS

European site	Qualifying Interest Feature (Annex I Habitat / Annex II Species)	Conservation Objectives:
	• 2190 Humid dune slacks • 1065 Marsh fritillary butterfly *Euphydryas (Eurodryas, Hypodryas) aurinia* • 1395 Petalwort *Petalophyllum ralfsii*	
Main Valley Bogs SAC	• 7110 Active raised bogs	• MFCS
Monawilkin SAC	• 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)	• MFCS
Moneygal Bog SAC	• 7110 Active raised bogs	• MFCS
Moninea Bog SAC	• 7110 Active raised bogs	• MFCS
Montiaghs Moss SAC	• 1065 Marsh fritillary butterfly *Euphydryas (Eurodryas, Hypodryas) aurinia*	• MFCS
Murlough SAC	• 2130 "Fixed coastal dunes with herbaceous vegetation (""grey dunes"")" • 2150 Atlantic decalcified fixed dunes (Calluno-Ulicetea) • 1065 Marsh fritillary butterfly • 1365 Harbour seal *Phoca vitulina*	• MFCS
North Antrim Coast SAC	• 1230 Vegetated sea cliffs of the Atlantic and Baltic Coasts	• MFCS
North Channel SAC	• 1014 Narrow-mouthed whorl snail	• MFCS
Owenkillew River SAC	• 3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation • 91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles • 1029 Freshwater pearl mussel *Margaritifera margaritifera* • 1106 Atlantic salmon *Salmo salar* • 1355 Otter *Lutra lutra*	• MFCS
Peatlands Park SAC	• 7120 Degraded raised bogs still capable of natural regeneration • 91D0 Bog woodland	• MFCS
Pettigoe Plateau SAC	• 3160 Natural dystrophic lakes and ponds • 7130 Blanket bogs (* if active bog)	• MFCS
Rathlin Island SAC	• 1170 Reefs	• MFCS

European site	Qualifying Interest Feature (Annex I Habitat / Annex II Species)	Conservation Objectives:
	• 1230 Vegetated sea cliffs of the Atlantic and Baltic Coasts • 8330 Submerged or partially submerged sea caves	
Rea's Wood and Farr's Bay SAC	• 91E0 Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	• MFCS
Red Bay SAC	• 1110 Sandbanks which are slightly covered by sea water all the time	• MFCS
River Faughan and Tributaries SAC	• 1106 Atlantic salmon *Salmo salar* • 1355 Otter *Lutra lutra*	• MFCS
River Foyle and Tributaries SAC	• 3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation • 1355 Otter *Lutra lutra*	• MFCS
River Roe and Tributaries SAC	• 1106 Atlantic salmon Salmo salar 1355 Otter *Lutra lutra*	• MFCS
Rostrevor Wood SAC	• 91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	• MFCS
Skerries and Causeway SAC	• 1110 Sandbanks which are slightly covered by sea water all the time • 1170 Reefs • 8330 Submerged or partially submerged sea caves	• MFCS
Slieve Beagh SAC	• 3160 Natural dystrophic lakes and ponds • 7130 Blanket bogs (* if active bog)	• MFCS
Slieve Gullion SAC	• 4030 European dry heaths	• MFCS
Strangford Lough SAC	• 1140 Mudflats and sandflats not covered by seawater at low tide • 1150 Coastal lagoons • 1160 Large shallow inlets and bays • 1170 Reefs • 1365 Harbour seal *Phoca vitulina*	• MFCS
Teal Lough SAC	• 7130 Blanket bogs (* if active bog)	• MFCS
The Maidens SAC	• 1110 Sandbanks which are slightly covered by sea water all the time • 1170 Reefs • 1364 Grey seal *Halichoerus grypus*	• MFCS
Tonnagh Beg Bog SAC	• 7110 Active raised bogs	• MFCS
Tully Bog SAC	• Tully Bog SAC	• MFCS

European site	Qualifying Interest Feature (Annex I Habitat / Annex II Species)	Conservation Objectives:
Turmennan SAC	• 7140 Transition mires and quaking bogs	• MFCS
Upper Ballinderry River SAC	• 3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation • 1029 Freshwater pearl mussel *Margaritifera margaritifera*	• MFCS
Upper Lough Erne SAC	• 3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation • 1A0 Old sessile oak woods with Ilex and Blechnum in the British Isles • 91E0 Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) • 1355 Otter *Lutra lutra*	• MFCS
Fermanagh Scarplands SAC	• 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) • 6410 Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) • 8240 Limestone pavements • 9180 Tilio-Acerion forests of slopes, screes and ravines	• MFCS
Wolf Island Bog SAC	• 7110 Active raised bogs	• MFCS
Antrim Hills SPA	• Hen Harrier (*Circus cyaneus*) • Merlin *(Falco columbarius)*	• Maintain or enhance the breeding populations of Hen Harrier and Merlin. • Ensure sufficient habitat for successful fledging. • Maintain the integrity and naturalness of the upland habitats
Belfast Lough SPA	• Breeding Population: Common Tern (*Sterna hirundo*), Arctic Tern (*Sterna paradisaea*). • Overwintering Populations: Redshank (*Tringa totanus*), Bar-tailed Godwit (*Limosa lapponica*), Black-tailed Godwit (*Limosa limosa islandica*), and a diverse assemblage of waterbirds including Shelduck, Oystercatcher, Purple Sandpiper, Dunlin, Curlew, and Turnstone.	• Maintain or restore the habitats and species in favorable condition, specifically ensuring the long-term protection of internationally important wintering waterfowl and seabird populations

European site	Qualifying Interest Feature (Annex I Habitat / Annex II Species)	Conservation Objectives:
Belfast Lough Open Water SPA	• Great Crested Grebe (*Podiceps cristatus*).	• Maintain or restore the wintering population of Great Crested Grebe (*Podiceps cristatus*)
Carlingford Lough SPA	• Breeding Sandwich Tern (*Sterna sandvicensis*) • Breeding Common Tern (*Sterna hirundo*) • Non-breeding Light-bellied Brent Goose (*Branta bernicla hrota*)	• MFCS
Copeland Islands SPA	• Manx Shearwater (*Puffinus puffinus* • Arctic Tern (*Sterna paradisaea* • Eider Duck (*Somateria mollissima*)	• MFCS
Killough Bay SPA	• Light-bellied Brent Goose (*Branta bernicla hrota*).	• MFCS
Larne Lough SPA	• Roseate Tern (*Sterna dougallii*) • Common Tern (*Sterna hirundo*)	• MFCS
Lough Foyle SPA	• Internationally significant populations of Whooper Swan, Light-bellied Brent Goose, and Bar-tailed Godwit, along with nationally important numbers of Red-throated Diver, Great Crested Grebe, Bewick's Swan, Greylag Goose, Shelduck, Teal, Mallard, Eider, Red-breasted Merganser, Oystercatcher, Golden Plover, Lapwing, Knot, Dunlin, Curlew, Redshank, Black-headed Gull, Common Gull, Herring Gull, and Wigeon.	• MFCS
Lough Neagh and Lough Beg SPA	• Internationally important numbers of breeding Common Tern, wintering Whooper Swan, Bewick's Swan, Pochard, Tufted Duck, Scaup, and Goldeneye	• MFCS
Outer Ards SPA	• Breeding Colony: ▪ Arctic Tern (*Sterna paradisaea*). • Wintering Populations: ▪ Light-bellied Brent Goose (*Branta bernicla hrota*). Golden Plover (*Pluvialis apricaria*). ▪ Turnstone (*Arenaria interpres*). ▪ Ringed Plover (*Charadrius hiaticula*).	• MFCS
Pettigoe Plateau SPA	▪ Breeding Golden Plover (*Pluvialis apricaria*)	• MFCS

European site	Qualifying Interest Feature (Annex I Habitat / Annex II Species)	Conservation Objectives:
	▪ Greenland White-fronted Goose (*Anser albifrons flavirostris*)	
Rathlin Island SPA	▪ Breeding Bird Assemblage: Protection of the broader community of breeding birds, including Annex 1 species: ▪ Hen Harrier (*Circus cyaneus*) ▪ Merlin (*Falco columbarius*) ▪ Dunlin (*Calidris alpina*) ▪ Common Tern (*Sterna hirundo*) ▪ Other important breeding birds: Lapwing, Curlew, and Snipe.	• MFCS
Sheep Island SPA	▪ Breeding population of the northern European sub-species of cormorant (*Phalacrocorax carbo carbo*	• Maintain or restore the breeding population of the northern European sub-species of cormorant (*Phalacrocorax carbo carbo*) in favourable condition
Slieve Beagh - Mullaghfad - Lisnaskea SPA	▪ breeding population of Hen Harrier (*Circus cyaneus*)	• Protecting and maintaining the breeding population of Hen Harrier (*Circus cyaneus*) and its supporting habitats
Strangford Lough SPA	• Breeding Seabirds: Protect and maintain population levels of Annex I breeding birds, including: ○ Sandwich Tern (*Sterna sandvicensis*) ○ Common Tern (*Sterna hirundo*) ○ Arctic Tern (*Sterna paradisaea*)	• maintain or restore the designated features—specifically breeding Sandwich tern, Common tern, and Arctic tern, alongside over 20,000 wintering waterfowl—to a favourable condition.
Upper Lough Erne	• Whooper Swan: Internationally important wintering population. • Breeding Bird Assemblage: Key species include: • Common Tern: Annex 1 breeding species. • Great Crested Grebe: Breeding and wintering populations. • Waders: Significant concentrations of breeding Curlew, Snipe, and Redshank.	• Maintaining or restoring its natural eutrophic lakes, wetlands, alluvial forests, and otter populations, while protecting breeding passerines and wintering Whooper Swans

Impact prediction

Habitat Loss, Degradation and Fragmentation

1.50 Agricultural areas tend, generally, not to comprise those types of Annex I habitat types that are the reason for designation as European sites, but exceptions do occur and where they do, typically occur in transitional areas at the edges of more highly modified and heavily managed agricultural farm holdings.

1.51 The wildlife intervention options under consideration result in small and reasonably shallow footprints on the ground for cage traps where they are installed, or pegs to hold restraints in place where they are installed. Culling and vaccination methods do not result in a ground footprint.

1.52 The ground work required to install a cage trap or hold restraint results in surface vegetation and soils being disturbed to accommodate the physical equipment. It is anticipated that these types of interventions with ground footprints will occur in grassland areas, and along field boundaries in agricultural areas. It is not anticipated that these interventions will occur in aquatic habitats or coastal and estuarine habitats. Badgers live and feed in terrestrial habitats. They excavate setts in dry ground. Badgers live and feed in lowland grassland habitats more often that they do in upland peatland habitats, but the latter will occur less commonly.

1.53 Where ground work required to install intervention methods occurs in areas outside of European sites, there is no indirect effect of the ground works in adjacent or proximate European sites. Where it occurs in areas inside of European sites, the magnitude of the disturbance is immeasurably small and it is not permanent. The amount of soil disturbed is comparable to, if not often less than, the amount of soil disturbed naturally by a badger excavating a sett or a larger rabbit warren There is no published evidence that badgers excavating setts in European sites contribute to imperilling the achievement of conservation objectives of Annex I habitat types of European sites. Drawing on this parallel, there is no likelihood of ground works and associated habitat disturbance resulting in a likely significant effect on any Annex I habitat of a European site.

1.54 Even in circumstances where a cage trap or hold restraint peg were to be installed in ground near a watercourse, and the exposed soils were to migrate to the surface water during rainfall events, the magnitude of soil escaping to the surface water is no greater than that from everyday occurrences of small-scale releases of soil to surface waters as escaping sediment. Added to this, the fact that soils are migrating to the surface waters as suspended sediments during rainfall events mean that the watercourses are carrying higher flows (during and after those rainfall events), allowing dilution over distance to occur in greater flow regimes.

1.55 The effect of any accidental release of soils to surface waters as a result of ground work excavations to accommodate intervention equipment is considered to be *de minimis*. No likely significant effects will occur.

Changes in Badger Ranging Behaviour and Associated Predation Effects

1.56 Agricultural areas contain a high proportion of the Northern Ireland badger population. The removal of individuals from badger clans, and the disruption of structures in badger clans from agricultural areas will cause effects to occur as a result of the removal of individuals. Such effects can include an increase in other

predator species with omnivorous or carnivorous diets who will take the opportunity to feed on whatever badgers will have been feeding on in any given area. Removing a top predator from an ecosystem can lead to compensatory predation through the 'predator release effect' and thus indirectly influence depredation rates on prey species (Crooks & Soulé, 1999, Ritchie & Johnson, 2009). For example, badger removal can be associated with increases in European Hedgehog *Erinaceus europaeus* and Red Fox *Vulpes vulpes* populations (Trewby *et al.,* 2014)

1.57 Badger culling has been linked to increases in the extent of badger ranging behaviour. A study by Woodroffe *et al.* (2006) concluded that culling influenced both the activity and spatial organisation of badgers and results suggest that culling can profoundly affect both the density and the ranging behaviour of badgers.

1.58 Effects of badger removal on the wider ecosystem are expected to be more complex than simply releasing certain species from a constraint relating to predation and a criticism levelled at culling policies is that these increases may have negative effects on bird species, even if badgers themselves are relatively unimportant as avian predators. The eggs and nestlings of bird species that are potentially vulnerable to badger predation will also be susceptible to other avian and mammalian predators to varying degrees.

1.59 A comparative study of breeding bird populations inside and outside of badger control areas was undertaken by Natural England and the BTO (Kettel *et al.*, 2020). Breeding bird survey data were used to compare population growth rates inside and outside Badger cull areas in southwest England over a five-year cull period (2013–2017), following a five-year baseline period (2008–2012). Comparative analyses of population growth rates of ground-nesters and of other species were tested for potential influences of Badger predation. The study also compared species richness and diversity before and during culling, in treatment and control areas. The study concluded that there was no evidence for broad or consistent effects that support the existence of causal effects of Badger removal. While the results are not definitive and show associations rather than, necessarily, causal links, they provide an important insight into the potential implications of culling on bird species and how they should be evaluated. The results provide little evidence for positive or negative effects of badger removal on population growth rates of bird species, with most results being non-significant (79%, 46 of 58 species).

1.60 Overwintering populations of waterbirds forming feature populations of wetland SPA sites do not breed here, doing so in the high Arctic. Predation of their eggs by badgers is not a concern that arises in Northern Ireland, and so any changes in density and the ranging behaviour of badgers due to implementation of wildlife intervention options does not affect productivity rates of SPA feature species overwintering birds.

1.61 There is no reasonable pathway of effect that can be identified for the proposed wildlife interventions having any implication on overwintering waterbird populations.

1.62 Having reviewed the threats and pressures section of the conservation objectives documents for the SPA sites listed in **Table 1-2**, badger predation at breeding sites is not a known or identified pressure for any breeding bird feature species of a SPA. Predation of their eggs by badgers is not a concern that arises in Northern Ireland, and so any changes in density and the ranging behaviour of badgers due to implementation of wildlife intervention options does not affect productivity rates of SPA feature species breeding birds

1.63 Badgers do not normally or regularly prey on any Annex II species occurring in Northern Ireland and which is a qualifying feature of any SAC (e.g. petalwort, marsh saxifrage, white-clawed crayfish, marsh fritillary butterfly, freshwater pearl mussel, Atlantic salmon, cetacean or pinniped species). Changes in density and the ranging behaviour of badgers due to implementation of wildlife intervention options will not result in any likely significant effects on the population dynamics or favourable conservation condition of any Annex II species.

Accidental Bycatch of Annex II Species

1.64 Otters are comparable in body size and dimension to badgers, and both are members of the Mustelid family. Stopped restraints have been in operation for several decades in RoI, where the Department of Agriculture, Food and the Marine (DAFM) has gained substantial field experience in their deployment. Should this option be chosen, it would be DAERA's intention to use the same specifications for stopped restraints used in RoI, as defined by law[4].

1.65 Tetra Tech requested that DAERA reach out to DAFM to find out if any otters were accidentally caught in the cage traps or stop restraints deployed throughout that territory over a period of decades, to ascertain whether or not data existed on accidental capture of otters (an Annex II species which is a feature species of a number of freshwater river systems in Northern Ireland) throughout stopped restraint deployment campaigns.

1.66 Animal Health Policy Division of DAFM has confirmed to the Veterinary Epidemiology Unit in DAERA that they hold no records of otters being caught accidentally in any equipment deployed to catch badger. On a number of occasions, fox was recorded as an accidental by-catch. DAFM staff added that due to badger sett locations being the primary focal point for capture effort, this would reduce the risk of otter capture as badger and otter are not known to share the same resting places. DAFM also added that in general terms, the field staff avoid

[4] S.I. No. 620/2003 - Wildlife Act 1976 (Approved Traps, Snares and Nets) Regulations 2003: https://www.irishstatutebook.ie/eli/2003/si/620/made/en/print

riparian habitats and in the view of their contractors, otters could more than likely free themselves given the aperture in the stopped restraint.

Conclusion

1.67 A screening appraisal for appropriate assessment has been undertaken to inform the competent authority as to whether or not adoption and implementation of 'Bovine Tuberculosis (TB) in Northern Ireland: Blueprint for Eradication with a focus on the further development of potential Wildlife Intervention Options' ('the Plan'), would likely have a significant effect on any European site (either alone or in combination with other plans or projects) in view of the site's Conservation Objectives.

1.68 This appraisal has considered potential effects of habitat loss, degradation and fragmentation, changes in badger ranging behaviour and associated predation effects and also accidental bycatch of other Annex II species and all of the European sites throughout the entire region of Northern Ireland included in the UK National Site Network.

1.69 No pathway of effect has been identified that can possibly result in a Likely Significant Effect on any European site. As there are no effects beyond a potentially *de minimis* level that have been identified, there is no prospect at all that Likely significant Effects could occur in combination with any other Plan or Project.

1.70 On the basis of the above analysis, there is no requirement to subject the Plan to Appropriate Assessment. The screening appraisal for Habitats Regulations Assessment has concluded that the possibility for Likely Significant Effects arising from adoption of the 'Bovine Tuberculosis (TB) in Northern Ireland: Blueprint for Eradication and implementation' Plan and implementation of its associated 'Wildlife Intervention Options' can be excluded. That is the case in the absence of mitigation measures and beyond reasonable scientific doubt.

References

Crooks, K.R. & Soulé, M.E. (1999). Mesopredator release and avifaunal extinctions in a fragmented system. Nature 400:563–566

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

European Commission (2002) Assessment of plans & projects significantly affecting European sites, Methodological guidance on the provisions of Article6 (3) & (4) of the Habitats Directive 92/43/EEC, Office of the Official Publications of the European Communities, Luxembourg.

European Commission (2021) Commission Notice, Assessment of plans and projects in relation to Natura 2000 sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC, C(2021) 6913, 28.9.2021, Brussels.

Kettel, E.F., Lakin, I., Heydon, M.J. and Siriwardena, G.M. (2020). A comparison of breeding bird populations inside and outside of European Badger *Meles meles* control areas. Bird Study, Vol. 67, No. 3, 279–291 https://doi.org/10.1080/00063657.2021.188946

Ritchie, E.G. & Johnson, C.N. (2009). Predator interactions, mesopredator release and biodiversity conservation. Ecol. Lett. 12: 982–998

Trewby, I.D., Young, R., McDonald, R.A., Wilson, G.J.,Davison, J., Walker, N., Robertson, A., Doncaster,C.P. & Delahay, R.J. (2014). Impacts of removing Badgers on localised counts of hedgehogs. PLoS ONE 9:e95477

Woodroffe, R., Donnelly, C.A., Cox, D.R., Bourne, F.J., Cheeseman, C.L., Delahay, R.J., Gettinby, G.,McInerney, J.P. & Morrison, W.I. (2006). Effects of culling on badger *Meles* meles spatial organization: implications for the control of bovine tuberculosis. J. Appl. Ecol. 43: 1–10

Figures

Figure 1: Site Location and European Designated Sites

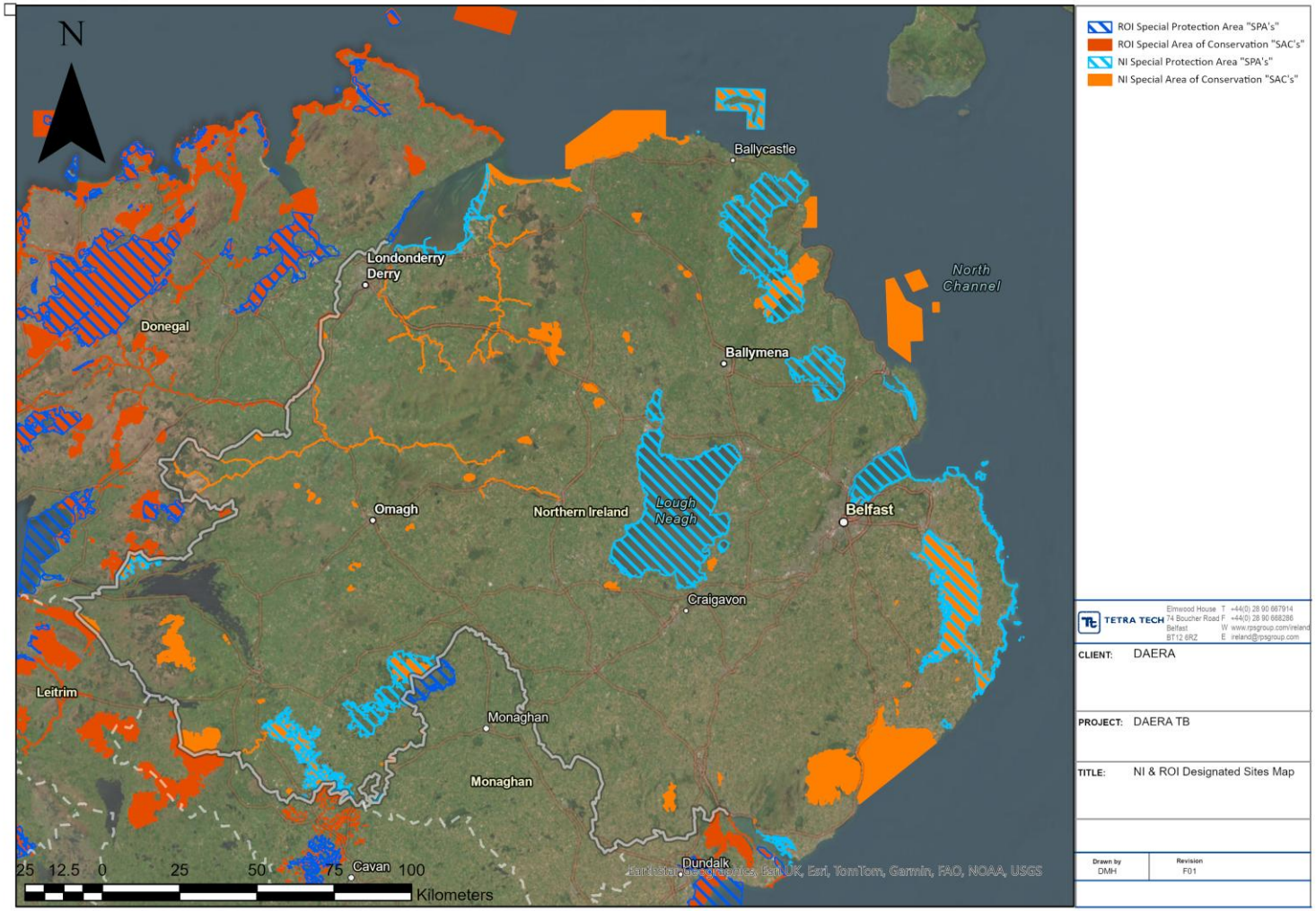

Figure 2: Designated sites and potential for hydrological connectivity