Draft Habitats Regulations Assessment Report of Local Development Plan 2030 – Draft Plan Strategy

February 2019

Comhairle Ceantair
Lár Uladh
Mid Ulster
District Council

This draft Habitats Regulations Assessment Report has been prepared by Shared Environmental Service in conjunction with Mid Ulster District Council.

Consultation

Mid Ulster District Council is consulting on the Mid Ulster District Council Local Development Plan - Draft Plan Strategy 2030 for an **8-week period commencing** on **Friday 22nd February 2019**.

A copy of the Draft Plan Strategy and all supporting documentation including the Sustainability Appraisal incorporating Strategic Environmental Assessment Report, Equality Impact Screening Report, Habitats Regulations Assessment Report, Rural Needs Impact Assessment and background evidence is available on the Mid Ulster District Council website: www.midulstercouncil.org/planning/Mid-Ulster-Development-Plan or at the council offices at Burn Road, Cookstown, Circular Road Dungannon and Ballyronan Road, Magherafelt during the hours of 9am-5pm. A series of exhibitions and drop-in sessions will be held at a number of locations as set out in the draft Plan Strategy. Planning staff will be available to answer questions.

To make a representation you can do so in the following ways:

Online:

- Utilising our online representation form (Survey Monkey) at: www.midulstercouncil.org/planning/mid-ulster-development-plan
- Download a representation from at the above website address.

By mail:

- Email us at: DevelopmentPlan@midulstercouncil.org
- In writing to the following postal address: Development Plan Team, Planning Department, Mid Ulster District Council, 50 Ballyronan Road, Magherafelt, BT45 6EN

All representations must be received by 4pm on 19th April 2019.

An information leaflet on making a representation is available on our website, or from the Development Plan Team upon request.

Alternative Formats

This information can be made available in alternative formats, such as audio, braille, easy read or large print and may be provided in alternative languages, upon request. Please contact Mid Ulster District Council's Corporate Policy and Equality Officer on 03000 132 132 or via email ann.mcaleer@midulstercouncil.org

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Non-technical Summary

Habitats Regulations Assessment

Regulation 43 of the Habitats Regulations, which implement a requirement of the Habitats and Birds Directives, requires an appropriate assessment to be undertaken of plans and projects which are likely to have a significant effect on an International site in Northern Ireland, either alone or in combination with other plans or projects. This is known as Habitats Regulations Assessment (HRA) and provides for assessment of the implications of a land use plan for International sites in view of their conservation objectives. International sites include Special Areas of Conservation (SAC) and Special Protection Areas (SPA). Ramsar sites are also subject to HRA as a matter of policy. It is accepted practice to also carry out HRA for International sites in adjoining countries where there is potential for a cross border effect.

This draft HRA Report is prepared in support of the draft Plan Strategy for Mid Ulster District Council Local Development Plan (LDP). It records the assessment of the draft Plan Strategy proposals and its potential impacts on International sites.

Overview of draft Plan Strategy

The draft Plan Strategy provides a plan-led policy framework for making day-to-day decisions to help Mid Ulster District Council (the District) deliver sustainable development including housing, employment, retail, open space and infrastructure provision across the District. It sets out how the area will change and grow until 2030.

The draft Plan Strategy sets out the Plan Vision and Objectives, followed by the Growth Strategy and Spatial Framework. It introduces a General Principles Planning Policy which applies to all development and Subject Policies which apply to development to which they are relevant. Finally, details of how the Plan Strategy will be monitored are provided. The draft Plan Strategy will be published for public consultation and independent examination before it is adopted.

The nature of the draft Plan Strategy is that it has potential to have a significant effect on some International sites therefore we are undertaking a HRA in our role as a competent authority to ensure the legal requirements of the Habitats Regulations are fully met.

International Sites Overview

A total of 38 sites that have the potential to be connected to the plan area were reviewed. These include sites within the Council area, ranging from large sites such as Lough Neagh and Lough Beg SPA and Ramsar site, the Owenkillew River and Upper Ballinderry River SACs, to a number of much smaller sites focused on protecting a single habitat such as active raised bog at Wolf Island Bog SAC. Sites beyond the Council area with an ecological connection were included, for example Upper Lough Erne SAC which is hydrologically connected. On a precautionary basis, all sites within 15km of the plan area were also considered. Maps 2 to 4 illustrate these sites in relation to Mid Ulster.

Screening of the Plan

All of the Plan Strategy proposals were reviewed, from the Vision and Objectives through the Growth Strategy and Spatial Framework to the General Principles Planning Policy and Subject Policies. This found that some proposals, for example the Vision and some of the Objectives, are general policy statements in the form of ambitions which state a direction without details of how they will be delivered. Some Subject Policies are such that they could not have an effect on International sites, for example some relating to retail use and safety or protecting assets such as open space and the historic environment. Some of the Objectives and Subject Policies are too general to assess as it is not known where they might be applied and whether they could have an effect.

Finally, some objectives and policies were identified as having potential for likely significant effects on International sites. These included the objective for new homes, some parts of the Spatial Framework relating

to development in settlements and the countryside, and Subject Policies including some of those relating to minerals, tourism and renewable energy.

Potential Impacts

All the potential impacts of the draft Plan Strategy proposals were considered. It was found that the draft Plan Strategy could have the potential to affect International sites through the following impacts:

- Habitat Loss: Direct habitat loss in an International site or loss of supporting habitat such as freshwater pearl mussel nursery habitat or fields used by whooper swans.
- Direct Disturbance: This includes noise, vibration or light disturbance during construction or operation, or the presence of people on land developed for recreational use.
- Indirect Disturbance: Disturbance beyond development sites arising from increased levels of recreation including water sports.
- Introduced Species: The introduction of invasive species, non-native, competitive or predatory species or of diseases of key species.
- Aerial Emissions: Aerial emissions arise from industry and transport, agricultural intensification is also a significant source.
- Water Pollution: Deterioration of or failure to improve water quality due to direct runoff of pollutants, including fuel, chemicals and sediments, from development during construction or operation or indirect pollution due to inadequacy of wastewater treatment facilities.
- Hydrological Change: Alteration of the hydrology of sensitive habitats and species by either increasing or decreasing runoff or water percolation into aquifers.

Screening sites for likely significant effects

On review of the long-list of International sites, it was found that 16 of the 38 sites identified in the long-list could be eliminated because they are beyond the distance where aerial emissions could have an effect and have no other connection with the plan area which could result in a conceivable impact. The screening of all sites found that significant effects could not be entirely ruled out for the remaining 22 sites, 21 of which are in Northern Ireland and 1 in Co. Monaghan, Ireland. Some of these sites have multiple designations therefore they represent a total of 15 locations. The following is a list of the sites screened in.

Ballynahone Bog SAC
Ballynahone Bog Ramsar site
Banagher Glen SAC
Black Bog SAC
Black Bog Ramsar site
Carn - Glenshane Pass SAC
Curran Bog SAC
Dead Island Bog SAC
Lough Neagh and Lough Beg Ramsar site
Lough Neagh and Lough Beg SPA
Owenkillew River SAC
Peatlands Park SAC
River Roe and Tributaries SAC
Slieve Beagh SAC
Slieve Beagh ROI SPA
Slieve Beagh Ramsar site
Slieve Beagh-Mullaghfad-Lisnaskea SPA
Teal Lough SAC
Teal Lough proposed Ramsar site
Tonnagh Beg Bog SAC
Upper Ballinderry River SAC
Wolf Island Bog SAC

Protective measures incorporated in the draft Plan Strategy

Some of the policies screened in include additional caveats within them, or in their justification and amplification, which emphasise that development should not be at the expense of the natural environment. All development brought forward under these or other policies are subject to the General Principles Planning Policy and NH1 - International Designations which reinforce and support regional policy and statutory protection for International sites. The requirements of the Habitats and Birds Directive however, mean that the potential effects of the draft Plan Strategy must be assessed in the absence of such protective measures or mitigation. Therefore, despite the inclusion of protective measures, these policies must be further assessed. The potential impacts of the draft Plan Strategy on each International site were therefore assessed and mitigation to avoid or reduce the effects of these impacts is identified.

Appropriate Assessment

Each of the sites screened in for likely significant effects was subject to appropriate assessment. Where a site has multiple designations those were assessed together. These appropriate assessments took account of the mitigation included within the draft Plan Strategy. Where appropriate, recommendations are made for additional measures, to be incorporated in the Plan Strategy before it is adopted or in the Local Policies Plan, through Development Management or at Plan Review. These recommendations will assist in the identification of potential pathways to, impacts on, and mitigation to protect International sites and their selection features and will help avoid adverse effects on site integrity.

Recommendations

The draft Plan Strategy includes several cross cutting policies which, together with regional policy and regulations, mean that projects cannot be brought forward under the Plan Strategy that would have an adverse effect on the integrity of International sites. Those found to have likely significant effects were subject to appropriate assessment.

Appropriate assessment for each International site helped identify further measures to help avoid or reduce likely significant effects. These will enhance the protection for International sites and further reduce the risks of adverse effects on site integrity, including from cumulative impacts. These also ensure, in the event that development connected to an International site is proposed, that potential impacts are taken into account at an early stage. Some of protective measures have already been incorporated in the draft Plan Strategy and some recommendations are to be implemented at later stages. Those which are additional follow.

1. International Sites - Evidence: Seek updated information from DAERA to identify any new evidence about International sites, habitats and species before finalising the HRA for the adopted Plan Strategy.
2. Cumulative Effects: Identify and consider further plans that, in combination, may lead to a cumulative adverse effect on site integrity in the final HRA for the Plan Strategy.
3. Screening - General: Screen all developments in close proximity to, or with a pathway to, designated sites or supporting habitat and carry out HRA where necessary.
4. Screening - Aerial Emissions: Implement DAERA guidance on screening planning applications for aerial emissions and carry out HRA where necessary.
5. Large Rural Development: Encourage pre-application discussions (PADs) for large developments in proximity to International sites in the countryside.
6. International Sites - Recreation: Where an exception is made to allow development relating to recreation in any International site potential impacts must be assessed through HRA.
7. TOZs - Recreation Impacts: Developments within the Loughshore and Davagh Forest TOZs must provide information to enable assessment of direct and indirect effects of any increase in recreation resulting from the development.
8. Waterfowl Supporting Habitat/Flight Paths: Obtain updated information on supporting habitat and flight paths for waterfowl from DAERA, RSPB and others to inform locations supporting habitat and of development that could disrupt flight such as power cables and wind turbines.
9. Wastewater Treatment: Land release should be phased to ensure alignment of housing delivery with planned infrastructure investment and development lead-times. New development cannot proceed until there is evidence of adequate wastewater treatment infrastructure or alternative treatment facilities.
10. Artificial Modification of Watercourses: Discourage culverting or modification of watercourses in SACs and supporting habitat. Where there is no alternative ensure that it will not lead to loss of supporting habitat, disrupt the passage of site selection features or adversely affect them during construction.
11. Rivers - Physical/Flow: Development within the Owenkillew River SAC and Upper Ballinderry River SAC that requires in-channel works, bank modification or abstraction should not be granted planning permission until the relevant statutory authority confirms the works are acceptable.
12. Hen Harrier Range: Obtain updated information on hen harrier ranges from DAERA to inform locations of development that could impact on hen harrier.
13. Rivers - Development Pressure: Monitor development pressure in the Owenkillew River SAC and Upper Ballinderry River SAC at each Plan Review.

14. **TOZs - Development Pressure:** Monitor development pressure in the Loughshore and Davagh Forest TOZs at each Plan Review.

Conclusions of the HRA

The appropriate assessments identified that, although effects are uncertain at this strategic stage potential impacts cannot be ruled out for many plan proposals in the absence of protective measures. The evidence gathered and assessment undertaken enables us to conclude that, subject to included mitigation and the recommendations, the implementation of the draft Plan Strategy will not adversely affect the integrity of the sites listed above.

Next Steps

The HRA will be added to and finalised following public consultation and independent examination of the draft Plan Strategy, then published alongside the adopted Plan Strategy. Further information, where available, about International sites and their selection features, will be taken into account. Before finalising the HRA, relevant plans will be reviewed to further assess potential in combination effects. The Habitats Regulations allows for the competent authority to obtain the opinion of the general public on the HRA if it considers it appropriate and therefore comments are also invited on this HRA. Details on how to comment can be found at the front of this report.

1. The Mid Ulster Plan Strategy

Mid Ulster District Council Local Development Plan

The purpose of the Mid Ulster Council Local Development Plan, comprising the Plan Strategy and Local Policies Plan, is to inform the general public, statutory authorities, developers and other interested bodies of the policy framework and land use proposals that will implement the strategic objectives of the Regional Development Strategy and guide development decisions within Mid Ulster District Council up to 2030.

The Draft Plan Strategy for Mid Ulster Local Development Plan (LDP) sets out how the area will change and grow over the period up to 2030. It:

- Sets out the strategic objectives of Mid Ulster District Council in relation to accommodating growth in the form of new homes and economic development activities to improve the quality of life and meet the needs of our growing population, whilst also protecting the environment.
- Informs the general public, statutory authorities and developers of the policy framework against which all proposals will be assessed.
- Provides certainty for developers by indicating what sort of development will (and will not) conform with the Plan.
- Provides information on how we will monitor the Plan objectives to ensure that they are being achieved.

The Local Development Plan for Mid Ulster supports and spatially represents our Community Plan vision

> *Mid Ulster….a welcoming place where our people are content, healthy and safe; educated and skilled; where our economy is thriving; our environment and heritage are sustained; and where our public services excel.*

This Plan Strategy is the first stage of a two stage Local Development Plan for the District. The Local Development Plan will also consist of the Local Policies Plan (LPP), which is the second stage of the plan making process.

Preparation - the process and progress

The Plan Strategy is underpinned by an extensive evidence base combined with community engagement undertaken as part of the Preferred Options Paper consultation process. The Local Development Plan Preferred Options Paper (POP) was published in November 2016 and subject to 12 weeks of public consultation. Consideration and analysis of the representations received to the POP are set out in the published Public Consultation Report and (and where relevant related background evidence papers). In light of the consultation process, revisions have been made to the approach to some of the preferred options contained in the POP. In addition a Landscape Character Review and further studies to inform designations have provided strong supporting evidence.

Overview of Mid Ulster District Council area

Mid Ulster District straddles two counties and stretches from Swatragh in the north to Fivemiletown in the south and from the Sperrin Mountains in the west to Lough Neagh in the east. It comprises of an area of 1955km² with a varied landscape and a diverse mix of rural and urban communities. It is characterised by its rural nature, given the large proportion of households which are located in the small towns, villages and countryside. Map 1 in Appendix 7 illustrates the council Area.

Local Development Plan - The Stages

Preferred Options Paper

The Preferred Options Paper (POP) published in November 2016 outlined the main issues and policy options to address them. It was accompanied by a Sustainability Appraisal Interim Report which was informed by HRA baseline information.

Plan Strategy

The draft Plan Strategy has taken account of representations on the POP, further evidence gathering and discussions with stakeholders and Elected Members. This draft HRA has been prepared to assess the potential impacts of the Plan Strategy on International sites.

Local Policies Plan

The Local Policies Plan is the second stage of the Local Development Plan and identifies settlement limits, zonings and environmental designations and, where appropriate, introduces local policies or key site requirements for these zones and designations. The three existing Area Plans, Cookstown Area Plan 2010, Dungannon and South Tyrone Area Plan 2010, and Magherafelt Area Plan 2015 will remain in operation. These existing plans, in effect, represent the Local Policies Plan until such time as it has been prepared. Another draft HRA will be prepared to assess the potential impacts of the draft Local Policies Plan on International sites.

Supplementary Planning Guidance

Our draft Plan Strategy identifies that Supplementary Planning Guidance (SPGs) will be provided to support a number of Subject Policies. These will largely relate to design of development or the Historic Environment Subject Policies. If however any SPG is prepared which relates to International sites it will subject to HRA.

Integrated Sustainability Appraisal

Local Development Plans must also be subject to Strategic Environmental Assessment and to Sustainability Appraisal during their preparation with reports required at defined stages. The Sustainability Appraisal process both informed, and was informed by, the HRA process.

Structure of the draft Plan Strategy

The draft Plan Strategy is presented as a single volume comprising 24 chapters. The first two chapters introduce the plan and present the legal and policy context, profile of the District and key issues. The plan vision and objectives are presented in Chapter 3, followed by the Growth Strategy and Spatial Framework in Chapter 4.

The General Principles Planning Policy is presented in Chapter 6 and the Subject Policies follow in Chapters 7 - 23. The Subject Policies are grouped in three themes under which policy groups are presented. The layout of policies is as follows:

- General Principles Planning Policy (Chapter 6)
- Social Policies - Accommodating Growth and Creating Places
    - Chapter 7. Housing in Settlements
    - Chapter 8. Housing in the Countryside
    - Chapter 9. Health, Education and Community Uses
    - Chapter 10. Urban Design
    - Chapter 11. Open Space, Recreation and Leisure
- Economic Policies - Creating Jobs and Prosperity
    - Chapter 12. Economic Development
    - Chapter 13. Retail, Offices and Town Centres
    - Chapter 14. Minerals
    - Chapter 15. Tourism
    - Chapter 16. Agriculture, Forestry and Fishing
- Environmental Policies - Protecting Heritage and Providing Infrastructure
    - Chapter 17. The Historic Environment
    - Chapter 18. Natural Heritage
    - Chapter 19. Flood Risk
    - Chapter 20. Waste Management
    - Chapter 21. Telecommunications, Overhead Cables, High Structures and Other Utilities
    - Chapter 22. Renewable Energy

Chapter 23. Transportation

For each theme or policy group an overview is provided followed by the regional policy context and relevant aspects of our Community Plan. We then present our strategy for the policy group. Each policy group has one or more Subject Policies. The Subject Policy is detailed in a text box. It is followed by a Justification and Amplification which briefly explains the rationale for the policy and provides further detail on how the policy will be applied. Chapter 24 finally sets out how the plan will be monitored and reviewed.

2. Habitats Regulations Assessment: The Approach

Introduction

This Chapter describes the overall approach taken to carry out Habitats Regulations Assessment (HRA) for plans in general and how that approach has been applied to the draft Plan Strategy. The tools for this assessment were developed in accordance with the Directives and Habitats Regulations described below and informed by the Habitats Regulations Handbook and further reference material (Appendix 1).

In the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended), hereafter referred to as the Habitats Regulations, Regulation 43 requires an appropriate assessment to be undertaken of plans and projects which are likely to have a significant effect on an International site in Northern Ireland, either alone or in combination with other plans or projects. This is known as HRA and provides for assessment of the implications of a land use plan for European sites in view of their conservation objectives. European sites are defined in the Habitats Regulations as Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), candidate SACs and proposed SPAs. Ramsar sites are also assessed as a matter of policy and included in the term 'International sites' for this report. It is accepted practice to also carry out HRA for SACs and SPAs in adjoining jurisdictions where there is potential for a transboundary effect.

The nature of the draft Plan Strategy is that it has potential to have a significant effect on the selection features of some International sites therefore we are undertaking a HRA in our role as a competent authority. Shared Environmental Service (SES) in Mid and East Antrim Borough Council provides support to Mid Ulster District Council on HRAs for plans and projects. SES has therefore, in conjunction with the council, prepared this draft HRA for the draft Plan Strategy to ensure the legal requirements of the Habitats Regulations are fully met.

The HRA will be finalised following public consultation and independent examination of the draft Plan Strategy and published alongside the adopted Plan Strategy. Regulation 43 (4) of the Habitats Regulations allows for the competent authority to obtain the opinion of the general public on the HRA if it considers it appropriate. Therefore comments are also invited on this HRA.

The Directives

These are Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora and Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (codified version). These Directives are referred to as the Habitats Directive and the Birds Directive respectively and together are called the Directives for the purposes of this report.

The overall aim of the Directives is to maintain or restore the favourable conservation status of habitats and species of community interest. Special Areas of Conservation and Special Protection Areas are designated to afford protection to habitats and species listed in the Habitats and Birds Directives. These designations form a suite of sites that are collectively known as the Natura 2000 network.

HRA – The Stages and Steps

HRA is normally described in four stages:

- Stage 1: Screening for likely significant effects
- Stage 2: Appropriate Assessment and the Integrity Test
- Stage 3: Alternative Solutions
- Stage 4: Imperative reasons of overriding public interest and compensatory measures

The stages and steps for each are detailed in Appendix 3.

Stage 1 involves firstly deciding whether a plan or project should be subject to HRA (Step 1). If through the review there is found to be a requirement for HRA, those proposals with potential likely significant effects are identified along with the types of impact that they may have. Steps 2, identifying International sites, and 3,

gathering information about those sites, help to identify the International sites which the plan may affect and compiles information about those sites.

Analysis of the information collated in steps 1 to 3 enables steps 4, discretionary discussion with the statutory nature conservation body, and 5, screening for likely significant effects on the selection features of International sites, to be carried out.

In combination and cumulative effects

Consideration must be given to any cumulative effects of proposals during plan preparation. These include potential cumulative effects within the plan and in combination with other relevant plans and strategies. Local Development Plans are in preparation by neighbouring councils in Northern Ireland. Most have not progressed beyond the Preferred Options Paper stage however Fermanagh and Omagh District Council published its draft Plan Strategy for consultation in October 2018. Development Plans in neighbouring counties in Ireland or other strategies such as those for infrastructure could have an in combination effect. As the Plan Strategy is scheduled to be adopted in Winter 2020/2021 a year will have elapsed from this draft HRA. Relevant plans will therefore need to be reviewed before the HRA is finalised to further assess in combination effects.

The Department for Infrastructure (DfI) is currently preparing a Regional Strategic Transport Network Transport Plan (RSTNTP) and a Mid Ulster District Council Local Transport Strategy. These documents will reflect the Department for Infrastructures' intentions for the District and will inform the Local Development Plan.

Integrating HRA with Plan Preparation

HRA is an iterative process carried out in parallel with plan preparation. The HRA will be updated in line with knowledge of plan effects and any changes or further information relating to International sites and their features. SES provided HRA baseline information during preparation of the POP.

The policies proposed within the draft Plan Strategy will be assessed to determine whether any of the potential impacts could materialise as a result of the draft Plan Strategy. This draft HRA will be published for consultation with the draft Plan Strategy. A draft HRA will also be published for consultation with the draft Local Policies Plan. A final HRA will be published when each of these are adopted.

Assessment Assumptions and Limitations

Strategic Planning Policy Statement (SPPS) for Northern Ireland

The SPPS, published in September 2015, sets out regional planning policies for securing the orderly and consistent development of land in Northern Ireland under the reformed two-tier planning system. The provisions of the SPPS must be taken into account in the preparation of LDPs and are material to all decisions on individual planning applications and appeals. Furthering sustainable development underpins the SPPS and the five core planning principles include 'Preserving and improving the built and natural environment'. The SPPS includes regional strategic objectives for natural heritage that are general in nature, for example:

- protect, conserve, enhance and restore the abundance, quality, diversity and distinctiveness of the region's natural heritage;
- take actions to reduce our carbon footprint and facilitate adaptation to climate change.

There are however several SPPS policies that must be taken into account in the determination of planning applications and which specifically apply to International Designations as detailed in paragraphs 6.173 – 6.178 in Appendix 3

It is therefore assumed that these policies can be taken as applying to the draft Plan Strategy and the LDP as a whole and that they are material to all decisions on individual planning applications. Policy NH1 in the draft Plan Strategy reflects the SPPS.

Previous Plans

The previous area plans, Cookstown Area Plan 2010, Dungannon and South Tyrone Area Plan 2010, Magherafelt Area Plan 2015 include a variety of spatial designations, some of which will be retained until the LPP or may be retained for the life of this LDP.

Other Regulations

An assumption is made that existing regulations and legislation that are independent of planning are implemented and enforced by the relevant authority. These include Water Order discharge consents, abstraction licensing and Pollution Prevention Control permits for which HRA may also be required. Major development would normally be subject to Environmental Impact Assessment in addition to HRA. NI Water is responsible for public wastewater treatment works and is a competent authority. It is must approve all connections to mains sewerage and will not do so where there is insufficient network or treatment capacity.

HRA at other Stages of Plan Making and Development Management

The LPP will be subject to HRA at which stage revised or new zonings and local policies will be reviewed. The need for HRA will also be considered on a case by case at the development management stage and assessment carried out where required.

Consideration of CJEU Case C323/17 (People over Wind & Sweetman)

On 12 April 2018, the Court of Justice of the European Union (CJEU) issued a judgment, *Case C323/17 (People over Wind & Sweetman),* which ruled that Article 6(3) of the Habitats Directive must be interpreted as meaning that mitigation measures, referred to in the judgment as measures which are intended to avoid or reduce effects, should be assessed within the framework of an appropriate assessment. It is therefore no longer permissible to take account of measures intended to avoid or reduce the harmful effects of the plan or project on an International site at the Stage 1 test of likely significance.

In light of this, a cautious approach has been taken to screening the plan for potential impacts. Stage 1 Assessment does consider essential features and characteristics of the plan; it also takes account of regional and strategic context and other regulatory controls that will apply to development under the plan. However measures envisaged to avoid or prevent what might otherwise have been adverse effects on the integrity of International sites are not taken into account in Stage 1 and instead will be assessed at Stage 2 appropriate assessment. Unless there is certainty that a site can be screened out at Stage 1, assessments will be progressed to Stage 2 appropriate assessment for those features for which there may be a likely significant effect. Incorporated and additional measures to avoid or reduce significant adverse effects are assessed at Stage 2 appropriate assessment.

Climate Change

Northern Ireland faces changes to its climate over the next century. Indications are that we will face hotter, drier summers, warmer winters and more frequent extreme weather events. The Northern Ireland Climate Change Adaptation Programme was published in January 2014. This contains the Northern Ireland Executive's response to the risks and opportunities identified in the Climate Change Risk Assessment for Northern Ireland (published January 2012) as part of the overall UK Climate Change Risk Assessment. The Adaptation Programme provides the strategic objectives in relation to adaptation to climate change, the proposals and policies by which each department will meet these objectives, and the timescales associated with the proposals and policies identified in the period up to 2019. The second Northern Ireland Climate Change Adaptation Programme (NICCAP) (2019-2024) will provide local level evidence with targeted local adaptation information.

The draft Plan Strategy reflects regional policy on climate change and has an objective:

> *To reduce contributions and vulnerability to climate change and to reduce flood risk and the adverse consequences of flooding.*

Policy MIN4 – Peat Extraction has a presumption against commercial peat extraction, in part to preserve the function of peatlands as carbon sinks and stores. RNW1 – Renewable Energy enables renewable energy

production in appropriate locations and the total amount of energy from renewable sources is one of the indicators for monitoring. The Flood Risk Policies avoid inappropriate development in locations vulnerable to flood risk in the future as a consequence of climate change. The draft Plan Strategy also seeks to create the conditions to promote use of public transport and reduce reliance on the private car where it is feasible to do so.

The conservation objectives for SPAs do not refer to climate change. Those for SACs address climate change as follows: 'Northern Ireland faces changes to its climate over the next century. Indications are that we will face hotter, drier summers, warmer winters and more frequent extreme weather events.' The action recommended is 'When developing SAC management plans, the likely future impacts of climate change should be considered and appropriate changes made.' Therefore, while climate change is acknowledged, specific measures have not been addressed. If future management plans identify climate change adaptation measures these will be taken into account when this HRA is finalised.

It is acknowledged that increased levels of development that will arise from the plan have the potential to add to anthropogenic drivers of climate change. However the causes of climate change are global and it is not within the scope of the LDP to bring about levels of change such that they will have an evident impact on climate change as it affects International sites. Climate change is therefore not assessed as an impact that the draft Plan Strategy directly contributes to.

Strategic Nature and Timescale of draft Plan Strategy

Some approaches represent a continuation of a previous policy, however each proposal was considered on its own merits in the assessment. Many of the proposals affect multiple locations or locations which have not been defined. This makes it hard to determine the significance of overall effects. This meant that, while many proposals were found to be too general to assess, potential minor or significant effects cannot be ruled out for some proposals at this stage.

The assessment of strategic plans can present a challenge in terms of deciding what effects may come about as a result of the plan and which cannot occur due to other strategic and regulatory requirements to which the LDP and development management decisions must comply. The view could be taken that, given that NH1 is included to meet the requirements of the SPPS, and that all planning applications must comply with the Habitats Regulations, then the draft Plan Strategy cannot result in an adverse effect on the integrity of any International site. To terminate the HRA on this basis would miss the opportunity to draw attention to the extent of International sites in or connected to the Council area. Deferring HRA to development management stage would also fail to consider cumulative impacts within the plan or in combination effects with other plans and projects.

As the Plan Strategy is scheduled to be adopted in Winter 2020/2021 a year will have elapsed from this draft HRA. New information about International sites, selection features and plans and projects to be considered in combination will therefore need to be incorporated. The HRA will be reviewed before finalisation to ensure that it is proportionate while also fully meeting the requirements of the Habitats Regulations, Directives and related case law. It will be amended where necessary to ensure that it is up to date before it is finalised.

Brexit

The Northern Ireland Assembly produced a paper on 'Northern Ireland's environment – Background and Potential 'Brexit' Considerations' (September 2016) which states, '*A complete departure from the EU may give the UK Government more scope and control over environmental objectives. Whether this would involve a relaxation, tightening, or continuation of environmental standards remains to be seen depending on requirements to be retained by International/global agreements and priorities and negotiations between the EU and UK*[1].

[1] http://www.niassembly.gov.uk/assembly-business/committees/agriculture-environment-and-rural-affairs/research-papers-2016/northern-irelands-environment---background-and-potential-brexit-considerations/

As the Habitats and Birds Directives requirements have been incorporated in domestic regulations, it is assumed that the procedures for protection of European sites will continue to have effect. It is not clear however what the influence of future European case law on interpretation of the Habitats Regulations will be or how long it will have a bearing on domestic legislation.

3. Screening of Plan and Potential Sites

Step 1: Deciding whether a plan should be subject to HRA

The EC Guidance (referenced in Appendix 1) does not specify the scope of a plan which should be subject to the Directive and related transposing legislation but it does state that the key consideration is whether it is likely to have a significant effect. Guidance on application of HRA (referenced in Appendix 1) recommends reviewing proposals against a number of criteria. These may lead to plans being exempted, eliminated or excluded from the need for HRA. The criteria are explained in more detail in Appendix 3.

The draft Plan Strategy does not directly relate to the management of any International site therefore it cannot be exempted from the requirement of the Habitats Regulations. The draft Plan Strategy is part of the Local Development Plan and clearly represents a strategic and local development plan therefore HRA is required on this account. The outcome of this step is that the draft Plan Strategy requires HRA as a strategic and local development plan.

Step 2: Identifying the International sites that should be considered in the assessment

Baseline information on International sites that are connected with the Mid Ulster District Council area was compiled for the POP. This included sites within or adjacent to the Council area, with an ecological connection such as a hydrological link, those within 15km as a precautionary approach and those that are connected by infrastructure. These pathways are discussed further in Chapter 4. This provided a 'long-list' of 38 sites to be considered as listed in Table 1.

Table 1: Long-list of Sites Connected with Council Area

Ballynahone Bog Ramsar site	Montiaghs Moss SAC
Ballynahone Bog SAC	Owenkillew River SAC
Banagher Glen SAC	Peatlands Park SAC
Bann Estuary SAC	Rea's Wood and Farr's Bay SAC
Black Bog Ramsar site	River Faughan and Tributaries SAC
Black Bog SAC	River Foyle and Tributaries SAC
Carn - Glenshane Pass SAC	River Roe and Tributaries SAC
Cranny Bogs SAC	Slieve Beagh Ramsar site
Curran Bog SAC	Slieve Beagh SPA (Ireland)
Dead Island Bog SAC	Slieve Beagh SAC
Deroran Bog SAC	Slieve Beagh-Mullaghfad-Lisnaskea SPA
Kilroosky Lough Cluster ROI SAC	Teal Lough proposed Ramsar site
Lough Foyle Ramsar site	Teal Lough SAC
Lough Foyle SPA	Tonnagh Beg Bog SAC
Lough Neagh & Lough Beg Ramsar site	Upper Ballinderry River SAC
Lough Neagh and Lough Beg SPA	Upper Lough Erne Ramsar site
Magheraveely Marl Loughs Ramsar site	Upper Lough Erne SAC
Magheraveely Marl Loughs SAC	Upper Lough Erne SPA
Main Valley Bogs SAC	Wolf Island Bog SAC

Step 3: Gathering information about the International sites

Information for each site on the long-list identified at Step 2 was reviewed to assess location relative to the plan area, pathways, qualifying interests, conservation objectives and potential threats to site integrity.

Step 4: Discretionary discussions on the method and scope of the appraisal

The Statutory Nature Conservation Body is represented by the Northern Ireland Environment Agency (NIEA) of the Department of Agriculture, the Environment and Rural Affairs (DAERA). NIEA has already provided input in relation to the Strategic Environmental Assessment (SEA) for the draft Plan Strategy and conservation objectives are published on its website therefore it was not considered necessary to formally consult NIEA

further at this stage. SES did however meet NIEA staff to seek feedback on its approach to HRA for draft Plan Strategies and to identify further information that NIEA may hold which is not in the public domain. As a result of this NIEA gave advice on the SES approach. NIEA also provided a spreadsheet on Condition of Features in Areas of Special Scientific Interest (ASSIs) and Natura 2000 sites (N2Ks) 2017 and provided updates where available in February 2019. Before we finalise the HRA NIEA will be asked for any more up to date information on International sites and selection features.

4. Screening for Likely Significant Effects

Overview

This Chapter firstly provides an overview of the review of the plan proposals followed by a discussion of the findings for each policy group. The potential impacts that could arise as a result of the plan are identified. Finally the connection between the draft Plan Strategy and the sites to determine those sites for which there could be a likely significant effect.

Step 5: Screening the draft / proposed plan for likely significant effects

All of the Plan Strategy proposals were reviewed, from the Vision and Objectives through the Growth Strategy and Spatial Framework to the General Principles Planning Policy and Subject Policies against the following screening categories and the findings are recorded in Appendix 4. In some cases more than one category was thought to apply.

1. General Policy Statements
2. Plans or projects referred to but not proposed
3. No likely significant effect
4. Proposals too general to assess
5. Potential minor effects
6. Potential significant effects

This found that some proposals, for example the Vision and some of the Objectives, are general policy statements in the form of ambitions which state a direction without details of how they will be delivered. Some Subject Policies are such that they could not have an effect on International sites, for example some relating to retail use and safety or protecting assets such as open space and the historic environment. Some of the Objectives and Subject Policies are too general to assess as it is not known where they might be applied and whether they could have an effect. Potential effects could not be ruled out for the remaining proposals.

Vision and Strategic Objectives

The Vision is an overall aspiration for the District. It acknowledges the importance of Lough Neagh and Lough Beg and that the plan will help protect our natural environment. Delivery of the vision is assessed under the plan objectives, spatial policy framework and subject policies. The Strategic Objectives include several that are general policy statements such as 'To protect and enhance the natural and built environment as wise custodians of our landscape and to achieve biodiversity, quality design, enhanced leisure and economic opportunity and promote health and wellbeing' which are aspirational. Some, such as those relating to infrastructure and attracting new firms are more specific but are too general to assess as it is not known where they will be implemented. Some objectives, relating for example to housing and renewable energy, are likely to lead to development for which impacts on International sites and selection features cannot be ruled out. Delivery of these objectives is considered under the related subject policies.

Strategic Planning Framework

The Strategic Policy Framework provides for growth therefore there is potential for development pressures affecting International sites. Sustainability underpins the SPFs and is explicit in SPF1 while SPF8 promotes connectivity and public transport. SPF1-SPF5 largely consolidate development in settlements. SPF10 aims to protect the natural environment. It also provides for the identification of a number of zones, some of which help to protect International sites. The Strategic Policy Framework is supported by the General Principles Planning Policy and Subject Planning Policies.

General Principles Planning Policy

This policy applies to all development and underpins the subject policies. Many of the criteria address amenity, design and accessibility and do not have likely significant effects. Criterion (g) and (i) help protect International sites and the whole policy is underwritten with a statement that planning permission may be

refused where the proposal will cause demonstrable harm to interests of acknowledged importance which includes International sites.

Subject Policies

SOCIAL POLICIES – ACCOMMODATING GROWTH AND CREATING PLACES

Housing in Settlements

HOU1 and HOU2 relate to housing in settlements and constrain type, design and layout of development rather than location so are not considered to have a likely significant effect. HOU3, HOU4 and TH1 are likely to be focussed on settlements, however development on sites with a pathway to International sites, although unlikely, cannot be ruled out and would be assessed on a case by case basis. TH1 will be considered further.

Housing in the Countryside

CT1-4 all enable development in the countryside in defined circumstances and potential impacts cannot be ruled out. CT2 provides an additional exception for holders of commercial fishing licences in the hinterland of Lough Neagh, however the number of applications is likely to be low. CT4 may increase development pressure on Owenkillew River SAC. The nature and scale of CT5 is such that the policy is not further considered. Individual CT5 applications can be subject to HRA where necessary.

Health, Education and Community Uses

The policy for community use, COY1, allows for land to be reserved for community use either through a community zoning or a key site requirement on an opportunity site or other land use zoning as designated in the Local Policies Plan. Where development under COY1 is to take place on a site that has not been zoned the requirement for satisfactory sewage disposal arrangement has been identified. The policy will be considered further.

Urban Design

The urban design policy UD1 relates to design rather than the amount or locations of development and cannot have a likely significant effect.

Open Space, Recreation and Leisure

OS1 relates to settlements and is the only Open Space, Recreation and Leisure policy which can be screened out at this stage. OS2 and OS3 allow for development which could be directly connected to International sites. Both policies acknowledge this and, taking account of the mitigation, OS2 could have a net positive effect. Policies OS2 and OS3 will be further considered in relation to the International sites that may be affected. Policy OS4 is only likely to enable a small amount of development outside settlement limits which would be subject to HRA on a case by case basis.

ECONOMIC POLICIES – CREATING JOBS AND PROSPERITY

Economic Development

ECON3 and ECON4 do not zone land for, or promote, economic development and cannot have a likely significant effect. ECON1 and ECON2 provide for economic development and likely significant effects cannot be ruled out.

Retailing, Offices and Town Centres

Those retail policies that apply within settlement limits (RE1 to RE6) are not considered to have a likely significant effect because they control what may be developed rather than the location and quantity of development or are small scale. RE7 enables a limited range of small scale retail development in the countryside but given that the location is unknown likely significant effects cannot be excluded.

Minerals

The overview to this policy group acknowledges the need to protect areas of nature, scientific and conservation interest and adopts a precautionary approach to the exploration and extraction of valuable minerals by placing the onus on the developer to demonstrate that there will be no significant harm from the

development. Other than MIN6, which is a human safety measure, development brought forward under the other policies could have likely significant effect in the absence of mitigation.

Tourism

The overview to this policy group acknowledges the need to balance meeting the needs of the tourist with the need to conserve tourist assets and the environment. All the policies have potential for development in or near International sites which could lead to impacts such as water pollution and disturbance of wildlife. TOU 1 is largely protective of International sites however it does not exclude the provision of infrastructure. Four Tourism Opportunity Zones have been identified adjacent to Lough Neagh, one at Davagh Forest and one in the Sixtowns Road valley. Provision for development in Tourism Opportunity Zones is referred to in TOU3 and TOU4.

Agriculture, Forestry and Fishing

Agriculture, forestry and commercial fishing is based in the countryside and may require ancillary development in support of the business or diversification alongside it. Our strategy acknowledges that this development needs to be balanced with our role as custodians of the environment and therefore full consideration must to be given to the potential impacts of intensive farming and animal husbandry particularly in the context of ammonia production and its impact on biodiversity. The significance of ammonia emissions from livestock has also been highlighted in AFR1, flagging the need to ensure that development under this policy does not have an adverse effect on International sites.

ENVIRONMENTAL POLICIES – PROTECTING HERITAGE AND PROVIDING INFRASTRUCTURE

Historic Environment

Most of the 16 historic environment policies seek to protect historic assets or their setting rather than promoting development therefore they cannot have a likely significant effect. Three policies, HE9, HE10 and HE13, specify development that could be acceptable for listed buildings or unlisted vernacular architecture. Development under these policies potentially could be connected to an International site such as a river, however the policies are too general to assess and such development would be subject to HRA at the planning application stage. HE15 could lead to development of industrial heritage directly connected to designated sites, for example of the Ulster Canal, therefore this policy has been screened in. HE16 is largely a protective measure however it has been screened in to assess whether any mitigation may be required at LPP.

Natural Heritage

In order to protect and enhance our natural heritage in relation to biodiversity our Strategy includes identifying sites of International, national and local importance. These designations are supported by appropriate policies to ensure their protection and/or enhancement. We will ensure that the precautionary principle is applied when considering the impacts of a proposed development on Internationally significant natural heritage resources. Policies NH1 to NH5 do not promote new development and, directly or indirectly, afford protection to International sites. SCA1 is largely protective, however it does allow some exceptions with potential for likely significant effects therefore it will be assessed further. NH4 does not have a likely significant effect however there may be potential to further strengthen protection of International sites through designation of SLNCIs.

Flood Risk

Our Strategy is to manage development so as to reduce the risks and impacts of flooding. This means development in flood plains will be avoided where possible. Where there is a lack of information or uncertainty a precautionary approach to development will be taken. The policies all constrain development in areas at risk of flooding or alongside some watercourses and provide a degree of additional protection to International sites. The extent of this protection has potential to be varied and for this reason policies FLD1, FLD2 and FLD5 will be further assessed. Our Strategy encourages developers to use Sustainable Drainage Systems (SuDS) particularly in areas susceptible to surface water flooding. Therefore all development proposals are encouraged to use sustainable drainage systems (SuDS) as the preferred drainage solution which can help to reduce or avoid likely significant effects on International sites.

Waste Management

The waste management policies direct suitable locations where facilities for the management or disposal of waste and wastewater are required. Such facilities have the potential to cause pollution which, in the absence of mitigation, could have a likely significant effect. For this reason policies WM1, WM2 and WM3 have been screened in. Policy WM4 seeks to avoid conflicts between waste management and other development and does not have a potential effect.

Telecommunications, Overhead Cables, High Structures and Other Utilities

The strategy is to continue facilitating telecommunications infrastructure to address the urban/rural imbalance. Other utilities, including the provision of gas, water and cemeteries, can be acceptable although key considerations will relate to impact on the environment. As there is potential for likely significant effects TOHS1 is assessed further.

Renewable Energy

The strategy aims to ensure that adequate opportunities exist for the further development of renewable energy without causing damage to our natural heritage. Areas have been identified where renewable energy, and in particular wind energy, will be constrained. These place the emphasis on protecting landscapes however, in some cases, they also serve to provide protection to International sites. Given the potential for likely significant effects from many forms of renewable development RNW1 is considered further.

Transportation

The emphasis of the transportation policies is to improve connectivity through the District and also improve safety through TRAN1 and TRAN4. TRAN1 constrains development that might prejudice a transport scheme, such schemes are brought forward and will be assessed by central government. TRAN3 relates to towns and does not promote development while TRAN4 constrains access in the interests of safety and traffic flow; neither can have a likely significant effect. TRAN2 prevents development that might inhibit future use of a disused transport route however enables use for recreation, nature conservation or tourism. This policy is assessed further to consider potential impacts on International sites.

Potential Impacts of Development

Potential development impacts are listed in Table 2. The left-hand column describes generic impacts and the right-hand column discusses if and how each may arise from the draft Plan Strategy. To assist further assessment the findings of Table 2 were then grouped into seven main categories of impacts as follows, and as indicated in the table:

- Habitat Loss (HL): Direct habitat loss in an International site or loss of supporting habitat such as freshwater pearl mussel nursery habitat or fields used by whooper swans.
- Direct Disturbance (DD): This includes noise, vibration or light disturbance during construction or operation, or the presence of people on land developed for recreational use.
- Indirect Disturbance (ID): Disturbance beyond development sites arising from increased levels of recreation including water sports.
- Introduced Species (IS): The introduction of invasive species, non-native, competitive or predatory species or of diseases of key species.
- Aerial Emissions (AE): Aerial emissions arise from industry and transport, agricultural intensification is also a significant source.
- Water Pollution (WP): Deterioration of or failure to improve water quality due to direct runoff of pollutants, including fuel, chemicals and sediments, from development during construction or operation or indirect pollution due to inadequacy of wastewater treatment facilities.
- Hydrological Change (HC): Alteration of the hydrology of sensitive habitats and species by either increasing or decreasing runoff or water percolation into aquifers.

Table 2: Potential Development Impacts in Relation to International Sites

Potential Impacts	Activities arising from the draft Plan Strategy
Loss, fragmentation, damage of habitats and / or species	
Construction activities associated with the LDP could lead to the loss, fragmentation (or obstruction of movement) or damage of habitats and / or species through:	
• Direct land take and / or land clearance and the use of machinery/materials. (HL)	Due to the extent of International sites in the council there is potential for development pressure within or adjacent to sites.
• Direct and indirect impacts resulting from the construction and operation of built development and required infrastructure. (HL)	
• Impacts caused during repair and maintenance activities for built development and required infrastructure. (HL)	This could arise during redevelopment of buildings or facilities within International sites.
• Direct impacts associated with mineral development in the plan area. (HL)	There are constraints on minerals development in or around some International sites through ACMDs however impacts cannot be totally excluded.
• Removal, fragmentation or physical changes to important connectivity features could create barrier effects to species, alter habitat availability or ecological functioning or result in changes in breeding, roosting, commuting and foraging behaviour. (HL)	Potential loss of habitat for selection features beyond International sites for example swan fields or salmon spawning and nursery habitat.
Disturbance: physical, noise, lighting	
Noise or activity during construction and operational activities could have adverse impacts on sensitive species (marine mammals and birds in particular). (DD)	Potential noise or vibration disturbance to site selection features during construction from e.g. piling.
Increased lighting from construction or additional built development could: create barrier effects to species; result in changes in species breeding, roosting, commuting and foraging behaviour; or increase predation. (DD)	Potential light disturbance from e.g. floodlighting
Biological Disturbance: invasive species, human disturbance	
Sensitive habitats and species may experience adverse impacts from the introduction of invasive species, non-native, competitive or predatory species through construction activities and associated machinery, movement of soils and waste or from garden escapes. (IS)	New development has the potential to introduce invasive or non-native species or cause their spread to other sites.
Increased human activity (including recreation; increase in pet ownership; increased incidence in fires) close to sensitive habitats and species may cause disturbance that could impact negatively on these features and lead to displacement of sensitive species from certain locations. (ID)	Potential for disturbance during operation, for example as a result of facilitating or promoting recreational activity.
Contamination of land	
Waste arising from the operation of developments associated with the LDP could cause contamination of land which could have a direct detrimental impact on sensitive habitats or species or indirect impacts if subsequent emissions to water occur. (WP)	Some development may generate waste as a by product of construction or operation.

Potential Impacts	Activities arising from the draft Plan Strategy
Emissions by air	
The construction and operation of developments associated with the LDP (in particular industrial developments) have the potential to generate chemical and dust emissions and could make a contribution to acid rain or nutrient deposition resulting in significant adverse impacts to animals and sensitive habitats for example they could cause localised smothering of vegetation or potential health issues in animals e.g. birds. (AE)	Aerial emissions primarily arise from industry and transport but domestic fuel and agricultural intensification are also sources. The potential for aerial pollution cannot be excluded. Aerial emissions are subject to and will be addressed by other regulations however they are also a material consideration for development management.
Increased traffic generation could lead to increased air pollution and greenhouse gas emissions which could have localized impacts on sensitive habitats or species. (AE)	Although active travel and public transport are promoted where feasible, population and economic growth are likely to drive a net increase in traffic. This has potential for impacts for International sites and features that are close to main roads.
Emissions by water and changes to hydrology	
There is potential for an increased transport of chemical contaminants reaching the aquatic environment during the construction and operation of development associated with the LDP. This could range from transportation of fuels to cleaning or wastewater treatment materials and associated drainage and discharges into watercourses. Changes to water quality can have harmful effects on fish, invertebrates, and vegetation, e.g. as a result of lowered oxygen levels. (WP)	Construction activities have the potential to create pathways for pollution. The historical use of brownfield land and emphasis on redevelopment means that there is a risk of release of contaminants during construction which could cause pollution to habitats and species. There are standard approaches that can be required by planning conditions for assessing the risk of contamination and carrying out remediation. Discharges to the water environment during construction and/or operation will be subject to consent under other regulations.
Surface run off and sediment release from construction works and operational activities associated with the LDP can increase sediment deposition and turbidity within aquatic systems. This can adversely impact on associated wildlife by causing shading effects that can inhibit plant and algal growth and smother organisms thereby limiting productivity and survival. (WP)	A major sediment release could have a conceivable impact on adjacent wetland habitats or other site selection features such as salmon or freshwater pearl mussel.
Water abstraction from streams or lakes required for construction and operation of developments associated with the LDP could have physical impacts on water levels, fish species at intakes, affect populations of fish or alter the configuration or availability of breeding gravels. (HC)	There is evidence that water supply will be sufficient for the life of the plan therefore there is not predicted to be a need to expand water supply sources to support proposed development. Any development that requires non-mains water could have a localised effect and will require an abstraction licence which will be subject to HRA.
Construction and operation of development associated with the LDP could alter the hydrology of sensitive habitats and species by either increasing or decreasing runoff or water percolation into aquifers. (HC)	Some International sites depend on groundwater therefore there is potential for impacts on their hydrology.
Increased demands on wastewater treatment works or for septic tanks could lead to increased nutrient enrichment of waterbodies which could change water quality and increase eutrophication. This in turn could have a harmful effect on the ecological functioning of these systems. (WP)	There is insufficient infrastructure or network capacity to treat wastewater in some settlements which will be a constraint on development. Alternatives to mains sewerage will have to be assessed by the appropriate competent authority.

All of the proposals that were screened in, as recorded in Appendix 5, were reviewed in relation to Table 2. This confirmed that the seven categories of impacts described above account for all of the impacts that could

arise from the draft Plan Strategy. These are further discussed in Chapters 5 and 7 and recommendations on avoiding or reducing these impacts included.

Pathways to International Sites

In identifying the long-list of International sites to be considered, sites within or adjacent to the plan area, sites connected by ecological pathways, sites within 15km and sites connected by infrastructure were included. This section reviews the pathways between the plan area and those International sites in more detail, taking account of the plan proposals, potential impacts identified above and site information.

Sites within or adjacent

These are International sites which are within or directly adjacent to the plan area and are illustrated in Maps 2 - 4 in Appendix 7. Our Council area is rich in habitats and species and there are many International site within it and some such as Carn-Glenshane Pass SAC that extend into neighbouring Council areas. There is also a SPA in Co. Monaghan which is adjacent to our District. Some designations such as Ballynahone Bog SAC and Ramsar site share a boundary.

Those sites wholly within the Council area range from a number of small sites which protect active raised bog, most of which are in the Lough Neagh and Bann basin, for example Curran Bog and Wolf Island Bog SACs, through to areas that extend over many kilometres such as Slieve Beagh-Mullaghfad-Lisnaskea SPA which extends into Fermanagh and Omagh District Council. The most extensive designated area in our council is Lough Neagh and Lough Beg SPA and Ramsar. Both include the open water of the Loughs and the shoreline with some variations in the extent of the landward designation.

Ecological pathways

Ecological pathways include connections by ecological corridors such as river systems; hydrological links between the Council area and peatland or wetland sites; known areas of land in the Council area which are regularly used by birds which also use a SPA or Ramsar Site; and supporting habitats for species including salmon. All sites within the council area have an ecological link with adjacent land.

The primary ecological pathway is hydrological through watercourses, lakes and estuaries. Map 5 illustrates the major river basins within our District. The Moyola and Ballinderry catchments are almost entirely within the council area in its central and northern parts with each draining to Lough Neagh. The east of the District drains directly to Lough Neagh. The southern part of the District is largely in the River Blackwater catchment, forming about half of that catchment, which also flows into Lough Neagh. The northern part of the District is part of the Lower Bann catchment. This includes the catchment for the shores of Lough Beg.

As a central council in Northern Ireland the District also contains a portion of a number of other catchments these being Upper Lough Erne to the south west, the Strule and Owenkillew to the west and a very small fringe of the Roe to the north west.

Within 15km

This screening criteria is a very precautionary one which allows consideration of all sites within 15km of the Council area. DEFRA/EPA Guidance on air emission risk assessment[2] was referred to in the absence of local guidance on screening distances. That guidance advises that projects should consider European sites within 15km for coal or oil fired power stations and 10km for other developments that cause potentially polluting aerial emissions.

Infrastructural connection

Infrastructural connectivity is related to the potential linkage of sites to the Council area by infrastructure services such as water abstraction or wastewater discharges. Infrastructure can also include facilities that enable public access.

[2] https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit#screening-for-protected-conservation-areas

It is the responsibility of NI Water to ensure that a safe supply of drinking water for the population is maintained. The main sources for our District are from Lough Neagh and Lough Fea therefore there is an infrastructure connection with Lough Neagh and Lough Beg SPA and Ramsar site. NI Water has confirmed that water supply will be sufficient for the life of the plan.

Wastewater treatment works discharge to a number of points within the wider Lough Neagh catchment and is reflected in those sites for which there are hydrological connections.

Outcome of Stage 1

On review of the long-list of International sites, it was found that 16 of the 38 sites identified in the long-list could be eliminated because they are beyond the distance where aerial emissions could have an effect and have no other connection with the plan area which could result in a conceivable impact. These site, listed in Table 3, are eliminated from the need for further assessment. As there is no pathway for effects on these sites there is no need to consider in combination effects on them from other projects or plans.

Table 3: International Sites Eliminated from Further Assessment

	Connection with Council Area						
Site Name	Within / Adjacent	Ecological	By Infra-structure	Within 15km	Within 10km	Distance (km)	Screening Comment
Cranny Bogs SAC				•	•	8.0	Outside council area and too far away for impacts from aerial emissions, no other pathway.
Deroran Bog SAC				•		10.9	
Kilroosky Lough Cluster SAC (Ireland)				•		13.5	
Magheraveely Marl Loughs Ramsar site				•		10.1	
Magheraveely Marl Loughs SAC				•		10.1	
Main Valley Bogs SAC				•		11.1	
Montiaghs Moss SAC				•		14.7	
Rea's Wood and Farr's Bay SAC				•		10.3	Outside the council area. Although there is a pathway through Lough Neagh the site selection feature, alluvial forest, will not be subject to likely significant effects as a result of development in Mid Ulster therefore this site is screened out.
River Faughan and Tributaries SAC		•		•	•	9.9	Outside the council area and there is no pathway for any effects on this SAC therefore it is screened out.
Upper Lough Erne SPA		•				15.8	This site is too distant (over 20km west in a direct line and over 30km via hydrological pathways) for any conceivable
Upper Lough Erne SAC		•				15.8	

	Connection with Council Area						
Site Name	Within / Adjacent	Ecological	By Infra-structure	Within 15km	Within 10km	Distance (km)	Screening Comment
Upper Lough Erne Ramsar site		•				15.8	effect and therefore this site is screened out.
River Foyle and Tributaries SAC		•				22.8	Although salmon, as a feature of this SAC, may migrate into the council area this part of the River Foyle catchment is designated as Owenkillew SAC which will be further assessed. The River Foyle and tributaries SAC is therefore screened out.
Lough Foyle SPA		•				22.9	This site too distant (over 40km downstream of Mid Ulster via the River Roe) for any conceivable effect and therefore this site is screened out.
Lough Foyle Ramsar site		•				22.9	
Bann Estuary SAC		•				23.9	This site is a long way from the council area (approximately 30km downstream of the northern part of Mid Ulster near Kilrea). Although connected by the Lower Bann, the terrestrial nature of the site selection features is such that likely significant effects could not arise therefore this site is screened out.

The screening of all sites found that significant effects could not be entirely ruled out for the remaining 22 sites, 21 of which are in Northern Ireland and 1 in Co. Monaghan, Ireland. These sites detailed in Table 4 all have a pathway to the plan area. Some of these sites have multiple designations therefore they represent a total of 15 locations. Table 4 provides an overview of the sites screened in, the features for which they are designated, the pathways through which there are potential impacts on sites and features, and what those potential impacts could be.

Table 4: International sites and Features to be Further Assessed and Potential Impacts

SITE	Pathways	Features	Habitat Loss	Direct Disturbance	Indirect Disturbance	Introduced Species	Aerial Emissions	Water Pollution	Hydrological Change
Ballynahone Bog SAC	Direct, Aerial, Hydrological	Active raised bog	•				•		•
Ballynahone Bog Ramsar site	Direct, Aerial, Hydrological	Lowland raised bog	•				•		•
Banagher Glen SAC	Aerial	Woodlands					•		
Black Bog SAC	Aerial, Hydrological	Active raised bog	•				•		•

SITE	Pathways	Features	Habitat Loss	Direct Disturbance	Indirect Disturbance	Introduced Species	Aerial Emissions	Water Pollution	Hydrological Change
Black Bog Ramsar site	Aerial, Hydrological	Lowland raised bog	•				•		•
Carn - Glenshane Pass SAC	Direct, Aerial, Hydrological	Blanket bog	•				•		•
Curran Bog SAC	Direct, Aerial, Hydrological	Active and degraded raised bog	•				•		•
Dead Island Bog SAC	Direct, Aerial, Hydrological	Active raised bog	•				•		•
Lough Neagh and Lough Beg Ramsar site	Direct, Aerial, Hydrological, Disturbance	Wetlands, rare plant and animal species, waterfowl, waders, pollan	•	•	•	•	•	•	•
Lough Neagh and Lough Beg SPA	Direct, Aerial, Hydrological, Disturbance	Breeding common tern and great crested grebe, wintering waterfowl, waders	•	•	•	•	•	•	•
Owenkillew River SAC	Direct, Aerial, Hydrological, Disturbance	Freshwater pearl mussel, river habitat, woodland, otter, salmon	•	•	•	•	•	•	•
Peatlands Park SAC	Aerial	Active and degraded raised bog, woodland					•		
River Roe and Tributaries SAC	Hydrological	Salmon, river habitat, woods, otter			•		•	•	
Slieve Beagh SAC	Direct, Aerial, Ecological, Hydrological, Disturbance	Blanket bog, heath, lakes	•			•	•		•
Slieve Beagh ROI SPA	Aerial, Ecological, Hydrological, Disturbance	Hen harrier	•	•	•		•		•
Slieve Beagh Ramsar site	Direct, Aerial, Ecological, Hydrological, Disturbance	Blanket bog, fen, lakes	•			•	•	•	•
Slieve Beagh-Mullaghfad-Lisnaskea SPA	Direct, Aerial, Ecological, Hydrological, Disturbance	Hen harrier	•	•	•		•		•
Teal Lough SAC	Direct, Aerial, Hydrological	Active blanket bog	•				•		•
Teal Lough proposed Ramsar site	Direct, Aerial, Hydrological	Blanket bog	•				•		•
Tonnagh Beg Bog SAC	Aerial	Active raised bog					•		
Upper Ballinderry River SAC	Direct, Aerial, Hydrological, Disturbance	Freshwater pearl mussel, river habitat, otter	•	•	•	•	•	•	•

SITE	Pathways	Features	Habitat Loss	Direct Disturbance	Indirect Disturbance	Introduced Species	Aerial Emissions	Water Pollution	Hydrological Change
Wolf Island Bog SAC	Direct, Aerial, Hydrological	Active raised bog	•				•		•

5. Protective Measures in the draft Plan Strategy

Introduction

Environmental considerations and constraints have already shaped the draft Plan Strategy through consideration of baseline information on International sites at the POP and through the process of sustainability appraisal. Measures incorporated in the draft Plan Strategy are described here. Recommendations for the adopted Plan Strategy and subsequent LDP and development management stages are included in Chapter 7.

Case law requires that mitigation is not considered at screening and that it should be considered through appropriate assessment. None of the policies have been screened out on the basis of mitigation. The review of the plan proposals in Appendix 5 includes the protective measures detailed in policies or in the justification and amplification (J&A) in support of them. The analysis of spatial designations in the draft Plan Strategy in Appendix 6 identifies further protective measures. The protective measures that have been incorporated in the draft Plan Strategy, as detailed in Appendix 5 and 6, are summarized here. This demonstrates those policies that directly or indirectly protect International sites. The protective measures and recommendations will help ensure that prospective applicants are aware of potential constraints and planners can consider impacts of designations at LPP and of individual planning applications at development management.

Plan Objectives (3)

The plan objectives include one to protect the natural environment:

> *To protect and enhance the natural and built environment as wise custodians of our landscape and to achieve biodiversity, quality design, enhanced leisure and economic opportunity and promote health and wellbeing.*

Growth Strategy and Spatial Planning Framework (4)

SPF1 is to manage growth of settlements in a sustainable manner and SPF6 to accommodate development in the countryside while safeguarding our natural heritage.

Implementation of the Plan Strategy (5)

The draft Plan Strategy makes clear at 5.01 that a number of the subject policies apply as appropriate to all development and these include General Principles Planning Policy and Natural Heritage Policy. This means that policy that explicitly protects International sites applies to all development, including land which has been zoned for development.

General Principles Planning Policy (6)

Mid Ulster's strategy incorporates the regional strategic core planning principles which include preserving and improving the built and natural environment.

GP1(g) Other infrastructural requirements, states that:

> *All development should demonstrate adequate infrastructure is in place to deal with waste, sewerage and drainage. Where mains sewerage is not available, the applicant may be required to demonstrate that this will not create or add to a pollution problem.*

GP1(i) Biodiversity, requires that:

> *Development proposals should respect, protect and/or enhance the District's rich and distinct biodiversity and sites designated for their contribution to the natural environment at any level.*

Subject Policies (7 - 23)

Policies that directly protect International sites

Any new development will be subject to legislative requirements, including the need to comply with the requirements of the Habitats Regulations, and regional policy including the SPPS. Turning to our draft Plan Strategy, NH1 – International Designations directly protects International sites and applies to all development:

> *Planning permission will only be granted for a development proposal that, either individually or in combination with existing and/or proposed plans or projects, is not likely to have a significant effect on a European Site or a listed or proposed Ramsar site.*
>
> *Where a development proposal is likely to have a significant effect (either alone or in combination) or reasonable scientific doubt remains, the planning authority is required by law to carry out an appropriate assessment of the implications for the site in view of the site's conservation objectives. Only after having ascertained that it will not adversely affect the integrity of the site, can the planning authority agree to the development and impose appropriate mitigation measures in the form of planning conditions.*
>
> *A development proposal which could adversely affect the integrity of a European or Ramsar site may only be permitted in exceptional circumstances as laid down in the relevant statutory provisions.*

NH1 incorporates the International Designations policies of the SPPS (6.175 – 6.178), detail on these is provided in Appendix 3. NH2-NH5 provide protection for Protected Species; National Designations; Local Designations; and Other Habitats, Species or Features of Natural Importance. In doing so they, in some cases, provide additional protection for International sites and their features. This may be through, for example, protecting mobile species, or by adding local designations such as Sites of Local Nature Conservation Importance (SLNCIs) that provide a protective buffer to International sites.

Other protective policies

It is helpful to consider protective measures incorporated in the draft Plan Strategy in relation to the potential impacts that were identified in Chapter 4. A number of the policies include statements that serve to protect International sites and their features from all of these impacts. For example ECON2 - Economic Development in the Countryside states that it will be the responsibility of the developer to explore all potential environmental impacts and consideration will be given to the wider long-term environmental effects of the proposal.

Habitat Loss

In addition to the requirements of NH1, Policy MIN4 – Peat Extraction has a presumption against commercial peat extraction which would not allow peat extraction on an International site. OS2 - Protection of River Corridors requires a 10m biodiversity strip that will also provide a degree of protection for rivers that are International sites.

For mobile species, such as hen harrier, habitat loss could occur in supporting habitat beyond the International site. This could be through direct loss of habitat or through a barrier effect to commuting and foraging behaviour. Constraints on wind turbines and tall structures through TOHS1 and SCA1 provide protection to supporting habitat for some International sites such as Slieve Beagh-Mullaghfad-Lisnaskea SPA.

Direct Disturbance and Indirect Disturbance

OS3 - Outdoor Sport and Recreation allows for access and recreation however the policy states that 'there will not be an unacceptable level of disturbance to ... the use of habitats by wildlife.' It also states that 'proposals for development of facilities ancillary to water sports adjacent to inland lakes, reservoirs and waterways will accord with the plan provided: ... b) it is demonstrated that there is no conflict with the provisions of any local management plan.' This highlights that disturbance from recreation cannot be at the expense of the selection features of International sites.

Some policies constrain development but allow for the provision of access as is the case for OS2 which allows for provision of public access and recreation provision where appropriate. This is qualified that there must be no unacceptable adverse impact on nature conservation. SCA1 also makes an exception for development relating to recreation/open space, however states that an assessment may be required to demonstrate that the ecology of the area has been fully considered.

Introduced Species

No policies directly address introduced species however those that require all environmental aspects to be considered will allow for consideration of potential impacts of introduced species.

Aerial Emissions

In the council area the greatest source of aerial emissions from development will be from livestock housing or related development such as anaerobic digesters. The draft Plan Strategy draws attention to this issue and AFR1 - Agriculture and Forestry Development states that 'proposals for intensive farming and animal husbandry are required to demonstrate that they will not have a significant adverse environmental impact, particularly in relation to ammonia production'.

Water Pollution

There is emphasis in the Spatial Planning Framework (SPF1, SPF2) on the need for adequate sewage infrastructure. The flood risk policies constrain development in flood plains which will reduce pollution risk. Sand and gravel extraction has potential to cause silt loading which in turn impacts on sensitive species such as salmon and freshwater pearl mussels. MIN2 includes a statement that it is subject to environmental considerations and that a precautionary approach will be adopted. This includes a requirement for the developer to demonstrate that the development will not cause harm in relation to seven criteria which include International sites and protected species.

Hydrological Change

In addition to those policies that address all potential impacts on International sites, OS2 - Protection of River Corridors, in requiring a 10m biodiversity strip, will help to protect river channels and banks in International sites. FLD2 - Development and Surface Water (Pluvial) Flood Risk outside Floodplains also includes a requirement for a drainage assessment where surface water run-off from the development may adversely impact upon features of importance to nature conservation.

LDP Spatial Designations

Those spatial designations that are brought forward through the LDP and are relevant to International sites are detailed in Appendix 6. Some designations, such as Primary Retail Core or Area of Townscape Character, will not cause an impact on International sites and have not been included. Those LDP designations which may have a protective, or adverse, effect on International sites are described further in Appendix 6 and summarised below.

Designations that constrain development include Area of Constraint on Wind Turbines and High Structures (AOCWTHS), Area of Constraint on Minerals Development (ACMD), Area of Significant Archaeological Interest (ASAI), Local Landscape Policy Area (LLPA), Main River and Site of Local Nature Conservation Importance (SLNCI). These vary from those that only constrain specific types of development such as tall structures, minerals extraction, or tourism development to those that constrain most types of development unless the benefits outweigh the value of the site as is the case for SLNCIs.

Some SLNCIs are brought forward and some will be designated at LPP. These will not have an adverse effect and in some cases these could benefit International sites, if for example they provide a buffer or protect supporting habitat. LLPAs, which are within or adjacent to settlements, have been carried forward from the current Plans. Our Local Policy Plan will identify further LLPAs, where appropriate, and will provide policy and supplementary guidance as to the nature and type of development that will be acceptable. This has potential to detail protective measures such as buffers to watercourses which may benefit International sites.

Some designations focus development in specific localities examples being Dispersed Rural Community (DRC), Mineral Reserve Policy Area (MRPA), Rural Industrial Policy Area (RIPA) and Tourism Opportunity Zone (TOZ). Those MRPAs and RIPAs that are included are not connected to pathways that are likely to lead to significant effects on International sites. The Broughderg DRC and Davagh Forest TOZs are directly connected to Owenkillew River SAC and the four Loughshore TOZs overlap Lough Neagh and Lough Beg SPA and Ramsar site. TOU3 states that development within a TOZ will need to demonstrate that they will not have, or have mitigated against, significant adverse impacts on internationally recognised habitats.

Monitoring and Review (24)

Chapter 24 of the draft Plan Strategy sets out the monitoring of our plan which is related to the Plan Objectives. The indicators for monitoring the objective to protect the natural environment are in the form of pressure analysis for housing and renewable energy development. Condition of International sites is monitored by DAERA, typically on a six year cycle, therefore updates on the condition assessment of site selection features should be taken into account at each 5 year plan review.

6. Tests of Likely Significance and Appropriate Assessments

Introduction to Tests of Likely Significance and Appropriate Assessments

The test of likely significance and appropriate assessment are two discreet HRA steps which are sometimes presented in separate sections. In this report the two steps are presented together for the convenience of the reader. This chapter therefore presents the tests of likely significance, which informed the sites short-listed in Chapter 4, followed by the appropriate assessment.

Context for Conservation Objectives

EU Member States have responsibility under the Habitats and Birds Directives to ensure that all habitats and species of Community Interest are maintained or restored to Favourable Conservation Status (FCS). Natura 2000 sites have a role to play in achieving this overall objective as the most important core sites for these species and habitats. Each site must therefore be managed in a way that ensures it contributes as effectively as possible to helping the species and habitats for which it has been designated reach a favourable conservation status.

In accordance with Article 6.1 of the Habitats Directive, Member States are required to implement, on each site, the necessary conservation measures which correspond to the ecological requirements of the protected habitat types and species of Community Interest present. DAERA has commissioned management plans for many International sites. Those that are available will be taken into account when this HRA is finalised.

Member States must also prevent any damaging activities that could significantly disturb those species and habitats (Article 6.2) and protect the site from new plans and projects that are potentially damaging or likely to have a significant effect on a Natura 2000 site (Article 6.3, 6.4).

To ensure that each Natura 2000 site contributes fully to reaching this overall target of FCS, it is important to set clear conservation objectives for each individual site. These define the desired state for each of the species and habitat types for which the site was designated.

Conservation Objectives have a role in:

- conservation planning and management by guiding management to maintain habitats and species in, or restore them to, favourable condition;
- assessing plans and projects, as required under Article 6(3) of the Habitats Directive in light of the site's conservation objectives;
- monitoring and reporting by providing the basis for assessing the condition of a feature, the factors that affect it and the actions required.

Favourable Condition is defined as 'the target condition for an interest feature in terms of the abundance, distribution and/or quality of that feature within the site'. The most recent condition assessment for site selection features was referred to in preparing this report.

Sources of information Northern Ireland sites

The appropriate assessments draw on or refer to source documents as detailed below. Digital maps for all sites can be viewed on the DAERA Natural Environment Map Viewer[3] or downloaded from its digital datasets web page[4]. Maps are also provided in Appendix 7.

[3] DAERA (2018) 'Natural Environment Map Viewer' Available at: https://www.daera-ni.gov.uk/services/natural-environment-map-viewer (accessed 23/01/2019).

[4] DAERA (2018) 'Download Digital Datasets' Available at https://www.daera-ni.gov.uk/articles/download-digital-datasets (accessed 23/01/2019).

Special Areas of Conservation

An overview of each SAC can be found on the JNCC website at its section on UK Protected Sites[5]. Under 'General Site Character' there is a link to the Natura 2000 standard data form for that SAC. Further detail is provided on this website about the Annex I habitats and Annex II species that are a primary reason for selection of the site. It also explains why the site is important and provides a link to information about that habitat in the UK context. Further information for each SAC can be found online through the DAERA Protected Areas page[6]. On each site page the link to guidance and literature allows the Reasons for designation, Conservation Objectives and site map to be accessed.

Special Protection Areas

A link to the Natura 2000 standard data form for each SPA can be found on the JNCC website at its section on UK protected sites. Further information for each site can be found through the DAERA Protected Areas page. On the each site page the link to guidance and literature allows the SPA citation document and Conservation Objectives to be accessed.

Ramsar sites

A link to the Information Sheet on Ramsar Wetlands (RIS) for each Ramsar site can be found on the JNCC UK Protected Sites Page. Further information for each site can be found through the DAERA Protected Areas page. On the DAERA site page the link to guidance and literature allows the Ramsar citation document and map to be accessed.

Condition Assessment

NIEA has compiled and made available a spreadsheet, 'Condition of Features in ASSIs and N2Ks'. This details the most recent condition assessment for features, usually with an explanation of the reason why a feature is in unfavourable condition. This spreadsheet was referred to in completing all appropriate assessments. NIEA also provided unpublished condition assessment reports for some individual sites and some site selection features such as hen harrier.

Sources of Information Ireland sites

The background information for appropriate assessment draws on or refers to source documents as detailed below. Digital maps for all sites can be downloaded from the NPWS website at their Designated Site Data web page[7].

Special Protection Areas Ireland

An overview of Ireland's SPA network can be found on the NPWS website at the page on Special Protection Areas[8]. On this page, there are links to SPA boundary data and a statutory list of SPAs where further information on the SPA citation document, conservation interests and operations or activities requiring consent can be found. Links to individual web pages for each SPA, which include their Natura 2000 standard data form, are found on the NPWS website page on Conservation Objectives[9].

Condition Assessment Ireland

Condition Assessment information for designated sites is provided from the NPWS website at its Conservation Objectives' page. A list of SACs and SPAs is provided with links to site conservation objectives, Natura 2000 data forms and site synopsis information. For some of these sites, Conservation Objectives Supporting Documents are also provided and include condition information.

Sites to be assessed

Of the 22 sites, where there is a potential pathway for effects from the plan area, it was possible to group some for further assessment so that 16 assessment were carried out. In the case of Slieve Beagh the SAC and

[5] http://jncc.defra.gov.uk/page-1458
[6] https://www.daera-ni.gov.uk/landing-pages/protected-areas
[7] NPWS (2018) 'Designated site data' https://www.npws.ie/maps-and-data/designated-site-data (accessed 23/01/2019)
[8] NPWS (2018) 'Special Protection Areas (SPA)' https://www.npws.ie/protected-sites/spa (accessed 23/01/2019)
[9] https://www.npws.ie/protected-sites/conservation-management-planning/conservation-objectives

Ramsar site assessments were combined but a separate assessment was carried out for the SPAs. The appropriate assessments have also been grouped according to features e.g. bog sites, rivers and SPAs as follows:

Ballynahone Bog SAC and Ramsar Site
Curran Bog SAC
Dead Island Bog SAC
Wolf Island Bog SAC
Teal Lough SAC and Proposed Ramsar Site
Black Bog SAC and Ramsar Site
Carn-Glenshane Pass SAC
Tonnagh Beg Bog SAC
Peatlands Park SAC
Banagher Glen SAC
River Roe and Tributaries SAC
Owenkillew River SAC
Upper Ballinderry River SAC
Slieve Beagh SAC and Ramsar Site
Slieve Beagh-Mullaghfad-Lisnaskea SPA and Slieve Beagh (Ireland) SPA
Lough Neagh and Lough Beg SPA and Ramsar Site

The appropriate assessments took account of the mitigation included within the draft Plan Strategy. Where appropriate, recommendations are made for additional measures, to be incorporated in the HRA for the Plan Strategy before it is adopted, or in the Local Policies Plan, through Development Management, or at Plan Review. These recommendations will assist in the identification of potential pathways to, impacts on, and mitigation to protect International sites and their selection features and will help avoid adverse effects on site integrity.

Presentation

As there was a significant amount of information to present about sites and features, tables are included where they provide greater clarity. In some cases, due to changes in the accuracy of mapping, there are discrepancies between designation areas even though the site boundaries are the same. The areas quoted are those in the citation documents. The site threats in conservation objectives and adverse activities in condition assessments are referred to, some of these are standard reporting terms which are broad. Conservation objectives are published for SACs and SPAs however they are not published for Ramsar sites.

Some mitigation measures identified in Chapter 7 apply to all sites and are not repeated in each appropriate assessment. These are:

1. International Sites - Evidence: Seek updated information from DAERA to identify any new evidence about International sites, habitats and species before finalising the HRA for the adopted Plan Strategy.
2. Cumulative Effects: Identify and consider further plans that, in combination, may lead to a cumulative adverse effect on site integrity in the final HRA for the Plan Strategy.
3. Screening - General: Screen all developments in close proximity to, or with a pathway to, designated sites or supporting habitat and carry out HRA where necessary.
4. Screening - Aerial Emissions: Implement DAERA guidance on screening planning applications for aerial emissions and carry out HRA where necessary.
5. Large Rural Development: Encourage pre-application discussions (PADs) for large developments in proximity to International sites in the countryside.
6. International Sites - Recreation: Where an exception is made to allow development relating to recreation in any International site potential impacts must be assessed through HRA.

Ballynahone Bog SAC and Ramsar Site

Status:	Designated Special Area of Conservation	**Site Code:**	UK0016599
Year:	2005	**Area:**	244 ha
Status:	Designated Ramsar site	**Site Code:**	UK12001
Year:	1998	**Area:**	243 ha
Map:	Appendix 7, Map 7		

STAGE 1: TEST OF LIKELY SIGNIFICANCE

Summary Site Description

Ballynahone Bog SAC

Ballynahone Bog lies in the Moyola River valley. The peat has formed on either side of an Esker ridge, which would have impeded drainage, creating the waterlogged conditions that eventually lead to the formation of the raised bog. The active raised bog supports hummock, hollow and pool complexes, and notable peatland flora including Bog-rosemary *Andromeda polifolia* and the bog mosses *Sphagnum fuscum*, *S. austinii* and *S. pulchrum*. Some areas of the bog have been burnt in the past but these areas are now recovering. The boundary rationale and management considerations are detailed in the Conservation Objectives.

Ballynahone Bog Ramsar site

Ballynahone Bog is one of the largest lowland raised bogs in Northern Ireland. The raised bog which covers most of the site exhibits the full range of characteristic vegetation and structural features associated with this type of habitat such as bog pools and hummocks. The raised bog dome is surrounded by cut-over bog with poor fen and birch woodland. The bog vegetation is characterised by a high percentage cover of Sphagnum mosses, ericoid dwarf-shrubs such as cross-leaved heath *Erica tetralix* and heather *Calluna vulgaris*, and other associated species such as hare's-tail cottongrass *Eriophorum vaginatum*, common cottongrass *Eriophorum angustifolium*, deergrass *Trichophorum cespitosum* and sundew species *Drosera* spp.

Location and connectivity with the plan area

The SAC and Ramsar site share the same boundary. They are wholly within Council area lying between the A6 to the North and A29 to the west and Moyola River to the South. Maghera is 1km to the north, Tobermore within 2km to the southwest and Gulladuff within 3km to the Northwest. There are also a number of smaller settlements within 5km.

Plan Designations

There are no plan designations on or around Ballynahone Bog SAC and Ramsar site.

Selection Features

Ballynahone Bog SAC

Feature type	Feature	Global Status	Size/extent/population
Habitat	Active raised bog	B	131 ha

Ballynahone Bog Ramsar site

Ramsar Criterion 1: The site is a large and relatively intact example of a lowland raised bog and one of the best examples of this habitat in the UK.

Conservation Objectives

The Conservation Objective for this site is:

> To maintain (or restore where appropriate) the active raised bog to favourable condition.

The SAC selection feature component objectives for the active raised bog are:

- Maintain the extent of intact lowland raised bog and actively regenerating raised bog vegetation.
- Maintain and enhance the quality of the lowland raised bog community types including the presence of notable species.

- Seek to expand the extent of actively regenerating raised bog vegetation into degraded (non-active) areas of cutover bog.
- Maintain the diversity and quality of other habitats associated with the active raised bog, e.g. acid grassland, fen and swamp, especially where these exhibit natural transition to the raised bog.
- Maintain the hydrology of the raised bog peat mass.
- Seek nature conservation management over suitable areas immediately outside the SAC where there may be potential for lowland raised bog rehabilitation.

Main Threats, Pressures and Activities with Impacts on the Site

Both on-site and off-site activities can potentially affect the site. The following is a summary of the most likely factors that are either affecting the site, or could affect it in the future: peat cutting, burning, drainage, nitrogen deposition, changes to surrounding land use, scrub encroachment, grazing, fly-tipping, shooting, visitor impact, climate change.

Sensitivities of Selection Features to plan

Potential impacts arising from the Plan Strategy, as identified in Chapter 5, are listed in the following table which those that could affect the selection features of this site.

Potential Impacts Arising From Plan	Pathway for Impact to affect this site?	Comment	Features that may be affected
Habitat Loss	On site development	Peat cutting or facilities for access. Habitat loss due to other factors is considered below.	Active raised bog
Direct Disturbance	None	The selection feature is not vulnerable to disturbance.	
Indirect Disturbance	None		
Introduced Species	None		
Aerial Emissions	Aerial	Potential nitrogen deposition from intensive agriculture or traffic could cause degradation or loss of habitat.	Active raised bog
Water Pollution	None	There is no drainage onto the site.	
Hydrological Change	Adjacent/nearby development	Could increase drainage and lead to drying out of the bog.	Active raised bog

Potential for Cumulative Impacts

Cumulative impacts could arise from proliferation of agricultural development, substantial increase in traffic on the A6, or drainage works and will be considered in Stage 2: Appropriate Assessment.

Screening conclusion

Under the precautionary approach it was deemed that Appropriate Assessment is required for this site to consider the impacts of habitat loss, aerial emissions and hydrological change on active raised bog as a site selection feature.

STAGE 2: APPROPRIATE ASSESSMENT

Site specific evidence sources

Ballynahone Bog SAC Conservation Objectives V2.0, 01/04/2015
Ballynahone Bog Ramsar Information Sheet V3.0, 13/06/2008[10]
ASSI: Ballynahone Bog

Condition assessment

The most recent condition assessment, in 2011, found the condition to be Unfavourable: Recovering. This was reported as being due to lack of remedial management (e.g. stopping-up drains, scrub cutting, erecting deer fences).

[10] http://jncc.defra.gov.uk/pdf/RIS/UK12001.pdf

Impacts that may arise as a result of the plan

This section considers those impacts which are most likely to arise as a result of the LDP in more detail in relation to the main threats, pressures and activities with impacts on the site identified in the conservation objectives.

Ballynahone Bog SAC

The main management issue on the site is the removal/blockage of active drains to maintain the bogs hydrology. Drainage works associated with development outside of the site's boundaries could potentially impact upon the bog's hydrology.

Excess nitrogen deposition can directly damage plants and also favour the growth of competitive plants leading to changes in ecosystem structure or function and to a reduction in biodiversity. The 3 year average 2013-2015 of 22.54 kg N/ha/yr is well above the lower and upper critical loads of 5-10 kg N/ha/yr[11]. The 3 year average 2013-2015 ammonia concentration was 2.66 µg/m^3 which exceeds the critical level for this habitat of 1 µg/m^3. Evidence of damage from both ammonia and nitrogen loading has been reported for this site.

Construction in support of intensive agriculture can increase nitrogen deposition from the development site or as a result of land spreading of litter, slurry, manure or digestate. Road development leading to a significant increase in traffic could increase the deposition of nitrogen from traffic.

Any changes in local land-use e.g. drainage, road improvements, afforestation, agricultural intensification and development may be detrimental to the SAC. The draft Plan Strategy does not promote any form of development adjacent to the SAC. Any applications that may come forward would have to be assessed through project level HRA.

Visitor impact is identified as a potential pressure however The draft Plan Strategy does not identify the site as a destination for visitors. The main adjoining land-use outside the ASSI is forestry and improved agricultural land, with areas of rough pasture and old cutover bog along the northern and south-western edges of the bog. The site incorporates the hydrological unit therefore development will not affect the management of the site in response to climate change.

Ballynhone Bog Ramsar site

No factors adversely affecting the site's ecological character are reported.

Potential Impacts on Site Integrity in the Absence of Mitigation

The following integrity of site checklist indicates the impacts that the draft Plan Strategy could have in the absence of protective measures.

Does the plan have the potential to:	Yes/No
• cause delays in progress towards achieving the conservation objectives of the site?	Yes
• interrupt progress towards achieving the conservation objectives of the site?	Yes
• disrupt those factors that help to maintain the favourable conditions of the site?	Yes
• interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site?	Yes
Other indicators: Does the plan have the potential to:	**Yes/No**
• cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?	Yes
• change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site?	Yes
• interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)?	Yes
• reduce the area of key habitats?	Yes

[11] http://www.apis.ac.uk/

• reduce the population of key species?	Yes
• change the balance between key species?	Yes
• reduce diversity of the site?	Yes
• result in disturbance that could affect population size or density or the balance between key species?	No
• result in fragmentation?	Yes
• result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding , etc.)?	Yes

Controls in place to address threats

Any new development would be subject to legislative requirements and environmental assessment including the need to comply with the requirements of the Habitats Regulations as well as the Strategic Planning Policy Statement. The protective measures described in Chapter 5 are incorporated in the draft Plan Strategy and will also have effect.

Mitigation to address threats

The following recommendations, detailed in Chapter 7, apply to all sites: 1. International Sites – Evidence; 2. Cumulative Effects; 3. Screening – General; 4. Screening - Aerial Emissions; 5. Large Rural Development; and 6. International Sites – Recreation. Combined with incorporated measures in the draft Plan Strategy these address the potential impacts identified above.

In-combination effects from other plans or projects that are likely to have significant effects

The assessment found that, with mitigation in place, there will be no adverse effect on site integrity. There are no road schemes proposed adjacent to the site which will increase the capacity for traffic and associated aerial emissions and the dualling of the A6 to the west and east was not identified as having any impact on this site. The need to consider and assess further in-combination effects from other projects or plans, including those of adjacent councils, will be reviewed before the HRA is finalised.

Appropriate Assessment Conclusion

The evidence gathered and assessment undertaken does not enable us to conclude reasonably and objectively that the implementation of the plan, in the absence of mitigation, will not adversely affect selection features or the integrity of this site. Mitigation measures are therefore required to ensure that the plan will not have any effect on the integrity of these sites. These mitigation measures are identified above. Their incorporation in the Plan Strategy is discussed in Chapter 5 and additional measures are discussed in Chapter 7.

Adverse Effect on Site Integrity (AESI) Finding

Feature	AESI before mitigation	AESI after mitigation
Active raised bog	Potential AESI	No AESI

It is therefore concluded that the draft Plan Strategy, in conjunction with the recommendations in Chapter 7, will not have an adverse effect on site integrity of Ballynahone Bog SAC or Ballynahone Bog Ramsar site.

Curran Bog SAC

Status:	Designated Special Area of Conservation	**Site Code:**	Appendix 7, Map
Year:	2005	**Area:**	184 ha
Map:	Appendix 7, Map 7		

STAGE 1: TEST OF LIKELY SIGNIFICANCE

Summary Site Description

Curran Bog occurs in the flood-plain of the Moyola River. Despite extensive turf-cutting around its edge, the remaining intact surface retains a high cover of *Sphagnum* bog-mosses (indicating active peat growth) and well-developed surface patterning (i.e. pool, hummock and hollow complexes).

The pool system is a particularly important feature, as these are generally very rare in Northern Ireland lowland raised bogs. The pools vary in shape and size, but are generally linear with a carpet of aquatic *Sphagnum* bog-mosses, particularly *S. cuspidatum*, with lesser amounts of *S. auriculatum* and scattered Bogbean *Menyanthes trifoliata*. Notable species include *Drosera longifolia*, *S. pulchrum*, *S. austinii* and *S. fuscum*.

The cutover area is extensive and has a range of secondary vegetation types, which support a variety of plant and animal communities. The old peat-cuttings around the edge of the intact surface are in differing stages of infilling and show habitat succession after cutting, with areas of scrub, open water pools, regenerating bog vegetation, acid fen and even base-rich swamp and fen.

Curran Bog is also important for invertebrates. There are large numbers of recently-created acid pools, which show few signs of enrichment and support an aquatic fauna typical of acid and base-poor waters. The recorded fauna includes seven species of dragonfly, eight aquatic Heteroptera and twenty-three species of water beetle.

Location and connectivity with the plan area

Midway between Maghera and Magherafelt 1km south west of the A6. Within 0.4km of Curran and 3km of Desertmartin, Tobermore, and Magherafelt.

Plan Designations

There are no plan designations on or around Curran Bog SAC.

Selection Features

Feature type	Feature	Global Status	Size/extent/population
Habitat	Active raised bog	B	25.5 ha
Habitat	Degraded raised bog still capable of regeneration	C	126.9 ha

Conservation Objectives

The Conservation Objective for this site is:

> To maintain (or restore where appropriate) the active raised bog to favourable condition.

The SAC selection feature component objectives for the active raised bog are:

- Maintain the extent of intact lowland raised bog and actively regenerating raised bog vegetation.
- Maintain and enhance the quality of the lowland raised bog community types including the presence of notable species.
- Seek to expand the extent of actively regenerating raised bog vegetation into degraded (non-active) areas of cutover bog.
- Maintain the diversity and quality of other habitats associated with the active raised bog, e.g. acid grassland, fen and swamp, especially where these exhibit natural transition to the raised bog.

- Maintain the hydrology of the raised bog peat mass.
- Seek nature conservation management over suitable areas immediately outside the SAC where there may be potential for lowland raised bog rehabilitation.

Main Threats, Pressures and Activities with Impacts on the Site

Both on-site and off-site activities can potentially affect the site. The following is a summary of the most likely factors that are either affecting the site, or could affect it in the future: peat cutting, burning, drainage, nitrogen deposition, changes to surrounding land use, scrub encroachment, grazing, fly-tipping, shooting, climate change.

Sensitivities of Selection Features to plan

Potential impacts arising from the Plan Strategy, as identified in Chapter 5, are listed in the following table which identifies those that could affect the selection features of this site.

Potential Impacts Arising From Plan	Pathway for Impact to affect this site?	Comment	Features that may be affected
Habitat Loss	On site development	Peat cutting or facilities for access. Habitat loss due to other factors is considered below.	Active and degraded raised bog
Direct Disturbance	None	The selection feature is not vulnerable to disturbance.	
Indirect Disturbance	None		
Introduced Species	None		
Aerial Emissions	Aerial	Potential nitrogen deposition from intensive agriculture or traffic could cause degradation or loss of habitat.	Active and degraded raised bog
Water Pollution	None	There is no drainage onto the site.	
Hydrological Change	Adjacent/nearby development	Could increase drainage and lead to drying out of the bog.	Active and degraded raised bog

Potential for Cumulative Impacts

Cumulative impacts could arise from proliferation of agricultural development, substantial increase in traffic on the A6, or drainage works and will be considered in Stage 2: Appropriate Assessment.

Screening conclusion

Under the precautionary approach it was deemed that Appropriate Assessment is required for this site to consider the impacts of habitat loss, aerial emissions and hydrological change on active raised bog and degraded raised bog still capable of regeneration as site selection features.

STAGE 2: APPROPRIATE ASSESSMENT

Site specific evidence sources

Curran Bog SAC Conservation Objectives V2.0, 01/04/2015
ASSI: Curran Bog

Condition assessment

The most recent condition assessment, in 2013, found the condition to be Unfavourable: Recovering. This was reported as being due to water management (including drainage, dredging or alterations to the water table, could be too much water or too little); Invasive species (including bracken or scrub).

Impacts that may arise as a result of the plan

This section considers those impacts which are most likely to arise as a result of the LDP in more detail in relation to the main threats, pressures and activities with impacts on the site identified in the conservation objectives. The main management issue on the site is the removal/blockage of active drains to maintain the bogs hydrology. Drainage works associated with development outside of the site's boundaries could potentially impact upon the bog's hydrology.

Excess nitrogen deposition can directly damage plants and also favour the growth of competitive plants leading to changes in ecosystem structure or function and to a reduction in biodiversity. The 3 year average 2013-2015 of 24.68 kg N/ha/yr is well above the lower and upper critical loads of 5-10 kg N/ha/yr. The 3 year average 2013-2015 ammonia concentration was 3.22 µg/m^3 which exceeds the critical level for these habitats of 1 µg/m^3. Construction in support of intensive agriculture can increase nitrogen deposition from the development site or as a result of land spreading of litter, slurry, manure or digestate. Road development leading to a significant increase in traffic could increase the deposition of nitrogen from traffic.

Any changes in local land-use e.g. drainage, road improvements, afforestation, agricultural intensification and development may be detrimental to the SAC. The draft Plan Strategy does not promote any form of development adjacent to the SAC. Any applications that may come forward would have to be assessed through project level HRA.

Potential Impacts on Site Integrity in the Absence of Mitigation

The following checklist indicates the impacts that the draft Plan Strategy could have in the absence of protective measures.

Does the plan have the potential to:	Yes/No
• cause delays in progress towards achieving the conservation objectives of the site?	Yes
• interrupt progress towards achieving the conservation objectives of the site?	Yes
• disrupt those factors that help to maintain the favourable conditions of the site?	Yes
• interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site?	Yes
Other indicators: Does the plan have the potential to:	**Yes/No**
• cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?	Yes
• change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site?	Yes
• interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)?	Yes
• reduce the area of key habitats?	Yes
• reduce the population of key species?	Yes
• change the balance between key species?	Yes
• reduce diversity of the site?	Yes
• result in disturbance that could affect population size or density or the balance between key species?	No
• result in fragmentation?	Yes
• result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding , etc.)?	Yes

Controls in place to address threats

Any new development would be subject to legislative requirements and environmental assessment including the need to comply with the requirements of the Habitats Regulations as well as the Strategic Planning Policy Statement. The protective measures described in Chapter 5 are incorporated in the draft Plan Strategy and will also have effect.

Mitigation to address threats

The following recommendations, detailed in Chapter 7, apply to all sites: 1. International Sites – Evidence; 2. Cumulative Effects; 3. Screening – General; 4. Screening - Aerial Emissions; 5. Large Rural Development; and 6. International Sites – Recreation. Combined with incorporated measures in the draft Plan Strategy these address the potential impacts identified above.

In-combination effects from other plans or projects that are likely to have significant effects

The assessment found that, with mitigation in place, there will be no adverse effect on site integrity. There are no road schemes proposed adjacent to the site which will increase the capacity for traffic and associated aerial emissions and the dualling of the A6 to the west and east was not identified as having any impact on

this site. The need to consider and assess further in-combination effects from other projects or plans, including those of adjacent councils, will be reviewed before the HRA is finalised.

Appropriate Assessment Conclusion

The evidence gathered and assessment undertaken does not enable us to conclude reasonably and objectively that the implementation of the plan, in the absence of mitigation, will not adversely affect selection features or the integrity of this site. Mitigation measures are therefore required to ensure that the plan will not have any effect on the integrity of these sites. These mitigation measures are identified above. Their incorporation in the Plan Strategy is discussed in Chapter 5 and additional measures are discussed in Chapter 7.

Adverse Effect on Site Integrity (AESI) Finding

Feature	AESI before mitigation	AESI after mitigation
Active raised bog	Potential AESI	No AESI
Degraded Raised Bog still capable of Regeneration	Potential AESI	No AESI

It is therefore concluded that the draft Plan Strategy, in conjunction with the recommendations in Chapter 7, will not have an adverse effect on site integrity of Curran Bog SAC.

Dead Island Bog SAC

Status:	Designated Special Area of Conservation	**Site Code:**	UK0030323
Year:	2005	**Area:**	55 ha
Map:	Appendix 7, Map 9		

STAGE 1: TEST OF LIKELY SIGNIFICANCE

Summary Site Description

Dead Island Bog is a lowland raised bog lying in a shallow interdrumlin hollow within the Lower Bann valley.

Special features include a large, intact core of deep peat, which exhibits a wide range of characteristic vegetation and structural features. These include shallow pools and a well-developed hummock and lawn complex. Typically, the vegetation is characterised by ericoid dwarf shrubs and other associated species. The bog surface is permanently wet and supports a dense and diverse cover of *Sphagnum* bog-mosses.

Notable species include *Sphagnum imbricatum*, forming several small, hummocks scattered over the surface, and Great Sundew *Drosera longifolia* in several of the pools.

A triangular-shaped internal soak on the eastern flank of the bog provides an additional feature of interest. The soak is marked by a distinct change in the vegetation structure and composition. Cranberry *Vaccinium oxycoccus* is notable here, scattered over the surface of the *Sphagnum* mat.

Disturbance to the bog has been confined to machine cutting and occasional burning on both the intact core and cutover margins. The boundary includes all intact lowland raised bog and associated semi-natural habitats, including cutover bog and Birch scrub. The land surrounding the site is intensively managed agricultural land in silage and grazing.

Location and connectivity with the plan area

Wholly within council area 2km northwest of Clady and there are two small settlements within 2km.

Plan Designations

There are no plan designations on or around Dead Island Bog SAC.

Selection Features

Feature type	Feature	Global Status	Size/extent/population
Habitat	Active raised bog	B	36.9 ha

Conservation Objectives

The Conservation Objective for this site is:

> To maintain (or restore where appropriate) the active raised bog to favourable condition.

The SAC selection feature component objectives for the active raised bog are:

- Maintain the extent of intact lowland raised bog and actively regenerating raised bog vegetation.
- Maintain and enhance the quality of the lowland raised bog community types including the presence of notable species.
- Seek to expand the extent of actively regenerating raised bog vegetation into degraded (non-active) areas of cutover bog.
- Maintain the diversity and quality of other habitats associated with the active raised bog, e.g. acid grassland, fen and swamp, especially where these exhibit natural transition to the raised bog.
- Maintain the hydrology of the raised bog peat mass.
- Seek nature conservation management over suitable areas immediately outside the SAC where there may be potential for lowland raised bog rehabilitation.

Main Threats, Pressures and Activities with Impacts on the Site

Both on-site and off-site activities can potentially affect the site. The following is a summary of the most likely factors that are either affecting the site, or could affect it in the future: peat cutting, burning, drainage, nitrogen deposition, changes to surrounding land use, scrub encroachment, grazing, fly-tipping, climate change.

Sensitivities of Selection Features to plan

Potential impacts arising from the Plan Strategy, as identified in Chapter 5, are listed in the following table which identifies those that could affect the selection features of this site.

Potential Impacts Arising From Plan	Pathway for Impact to affect this site?	Comment	Features that may be affected
Habitat Loss	On site development	Peat cutting or facilities for access. Habitat loss due to other factors is considered below.	Active raised bog
Direct Disturbance	None	The selection feature is not vulnerable to disturbance.	
Indirect Disturbance	None		
Introduced Species	None		
Aerial Emissions	Aerial	Potential nitrogen deposition from intensive agriculture could cause degradation or loss of habitat.	Active raised bog
Water Pollution	None	There is no drainage onto the site.	
Hydrological Change	Adjacent/nearby development	Could increase drainage and lead to drying out of the bog.	Active raised bog

Potential for Cumulative Impacts

Cumulative impacts could arise from proliferation of agricultural development or drainage works and will be considered in Stage 2: Appropriate Assessment.

Screening conclusion

Under the precautionary approach it was deemed that Appropriate Assessment is required for this site to consider the impacts of habitat loss, aerial emissions and hydrological change on active raised bog as a site selection feature.

STAGE 2: APPROPRIATE ASSESSMENT

Site specific evidence sources

Dead Island Bog SAC Conservation Objectives V2.0, 01/04/2015
ASSI: Dead Island Bog

Condition assessment

The most recent condition assessment, in 2015, found the condition to be Favourable: Maintained. No threats have been reported in condition assessments for this site.

Impacts that may arise as a result of the plan

This section considers those impacts which are most likely to arise as a result of the LDP in more detail in relation to the main threats, pressures and activities with impacts on the site identified in the conservation objectives.

Drainage works associated with development outside of the site's boundaries could potentially impact upon the bog's hydrology.

Excess nitrogen deposition can directly damage plants and also favour the growth of competitive plants leading to changes in ecosystem structure or function and to a reduction in biodiversity. The 3 year average 2013-2015 of 20.72 kg N/ha/yr is well above the lower and upper critical loads of 5-10 kg N/ha/yr. The 3 year average 2013-2015 ammonia concentration was 2.85 µg/m^3 which exceeds the critical level for this habitat of

1 µg/m^3. Construction in support of intensive agriculture can increase nitrogen deposition from the development site or as a result of land spreading of litter, slurry, manure or digestate. Road development leading to a significant increase in traffic could increase the deposition of nitrogen from traffic however there are no major roads close to this site.

Any changes in local land-use e.g. drainage, road improvements, afforestation, agricultural intensification and development may be detrimental to the SAC. The draft Plan Strategy does not promote any form of development adjacent to the SAC. Any applications that may come forward would have to be assessed through project level HRA.

Potential Impacts on Site Integrity in the Absence of Mitigation

The following checklist indicates the impacts that the draft Plan Strategy could have in the absence of protective measures.

Does the plan have the potential to:	Yes/No
• cause delays in progress towards achieving the conservation objectives of the site?	Yes
• interrupt progress towards achieving the conservation objectives of the site?	Yes
• disrupt those factors that help to maintain the favourable conditions of the site?	Yes
• interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site?	Yes
Other indicators: Does the plan have the potential to:	**Yes/No**
• cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?	Yes
• change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site?	Yes
• interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)?	Yes
• reduce the area of key habitats?	Yes
• reduce the population of key species?	Yes
• change the balance between key species?	Yes
• reduce diversity of the site?	Yes
• result in disturbance that could affect population size or density or the balance between key species?	No
• result in fragmentation?	Yes
• result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding , etc.)?	Yes

Controls in place to address threats

Any new development would be subject to legislative requirements and environmental assessment including the need to comply with the requirements of the Habitats Regulations as well as the Strategic Planning Policy Statement. The protective measures described in Chapter 5 are incorporated in the draft Plan Strategy and will also have effect.

Mitigation to address threats

The following recommendations, detailed in Chapter 7, apply to all sites: 1. International Sites – Evidence; 2. Cumulative Effects; 3. Screening – General; 4. Screening - Aerial Emissions; 5. Large Rural Development; and 6. International Sites – Recreation. Combined with incorporated measures in the draft Plan Strategy these address the potential impacts identified above.

In-combination effects from other plans or projects that are likely to have significant effects

The assessment found that, with mitigation in place, there will be no adverse effect on site integrity. The need to consider and assess further in-combination effects from other projects or plans, including those of adjacent councils, will be reviewed before the HRA is finalised.

Appropriate Assessment Conclusion

The evidence gathered and assessment undertaken does not enable us to conclude reasonably and objectively that the implementation of the plan, in the absence of mitigation, will not adversely affect selection features or the integrity of this site. Mitigation measures are therefore required to ensure that the

plan will not have any effect on the integrity of these sites. These mitigation measures are identified above. Their incorporation in the Plan Strategy is discussed in Chapter 5 and additional measures are discussed in Chapter 7.

Adverse Effect on Site Integrity (AESI) Finding

Feature	AESI before mitigation	AESI after mitigation
Active raised bog	Potential AESI	No AESI

It is therefore concluded that the draft Plan Strategy, in conjunction with the recommendations in Chapter 7, will not have an adverse effect on site integrity of Dead Island Bog SAC.

Wolf Island Bog SAC

Status:	Designated Special Area of Conservation	**Site Code:**	UK0030303
Year:	2005	**Area:**	118 ha
Map:	Appendix 7, Map 9		

STAGE 1: TEST OF LIKELY SIGNIFICANCE

Summary Site Description

Wolf Island Bog lies to the west of the River Bann directly south of Kilrea and with an intact surface of 71.8 ha, it represents one of the largest remaining areas of uncut lowland raised bog in County Londonderry. The bog lies within the river valley at an elevation between 30m and 40m O.D. and displays the classic characteristics of a lowland raised bog.

The active raised bog supports hummocks and hollows, pool complexes and notable peatland flora including Great Sundew *Drosera anglica*, Oblong-leaved Sundew *D. intermedia*, and the bog mosses *Sphagnum fuscum* and *S. imbricatum*.

Wolf Island (Fallahogy) was the bog where 'Landnan' (early land clearance event) was first discovered in Ireland, and first radiocarbon dated. It has since become an important site for tephra studies and for investigations of Medieval and recent landscape change. The bog is divided into two parts, but despite this, it is a reasonably compact site within a landscape, which has largely been improved for agricultural use.

The boundary around the entire site is clearly defined as the edge of the peatland hydrological unit, being completely surrounded by improved agricultural land.

Location and connectivity with the plan area

Wholly within council area 2km northwest of Clady. Nearest small settlement is Tamlaght O'Crilly just over 1km away.

Plan Designations

There are no plan designations on or around Wolf Island Bog SAC.

Selection Features

Feature type	Feature	Global Status	Size/extent/population
Habitat	Active raised bog	B	103.1 ha

Conservation Objectives

The Conservation Objective for this site is:

> To maintain (or restore where appropriate) the active raised bog to favourable condition.

The SAC selection feature component objectives for the active raised bog are:

- Maintain the extent of intact lowland raised bog and actively regenerating raised bog vegetation.
- Maintain and enhance the quality of the lowland raised bog community types including the presence of notable species.
- Seek to expand the extent of actively regenerating raised bog vegetation into degraded (non-active) areas of cutover bog.
- Maintain the diversity and quality of other habitats associated with the active raised bog, e.g. acid grassland, fen and swamp, especially where these exhibit natural transition to the raised bog.
- Maintain the hydrology of the raised bog peat mass.
- Seek nature conservation management over suitable areas immediately outside the SAC where there may be potential for lowland raised bog rehabilitation.

Main Threats, Pressures and Activities with Impacts on the Site

Both on-site and off-site activities can potentially affect the site. The following is a summary of the most likely factors that are either affecting the site, or could affect it in the future: peat cutting, burning, drainage, grazing, nitrogen deposition, scrub encroachment, fly-tipping, changes to surrounding land use and climate change.

Sensitivities of Selection Features to plan

Potential impacts arising from the Plan Strategy, as identified in Chapter 5, are listed in the following table which identifies those that could affect the selection features of this site.

Potential Impacts Arising From Plan	Pathway for Impact to affect this site?	Comment	Features that may be affected
Habitat Loss	On site development	Peat cutting or facilities for access. Habitat loss due to other factors is considered below.	Active raised bog
Direct Disturbance	None	The selection feature is not vulnerable to disturbance.	
Indirect Disturbance	None		
Introduced Species	None		
Aerial Emissions	Aerial	Potential nitrogen deposition from intensive agriculture could cause degradation or loss of habitat.	Active raised bog
Water Pollution	None	There is no drainage onto the site.	
Hydrological Change	Adjacent/nearby development	Could increase drainage and lead to drying out of the bog.	Active raised bog

Potential for Cumulative Impacts

Cumulative impacts could arise from proliferation of agricultural development or drainage works and will be considered in Stage 2: Appropriate Assessment.

Screening conclusion

Under the precautionary approach it was deemed that Appropriate Assessment is required for this site to consider the impacts of habitat loss, aerial emissions and hydrological change on active raised bog as a site selection feature.

STAGE 2: APPROPRIATE ASSESSMENT

Site specific evidence sources

Wolf Island Bog SAC Conservation Objectives V2.0, 01/04/2015
ASSI: Wolf Island Bog

Condition assessment

The most recent condition assessment, in 2011, found the condition to be Favourable: Maintained. No threats have been reported in condition assessments for this site.

Impacts that may arise as a result of the plan

This section considers those impacts which are most likely to arise as a result of the LDP in more detail in relation to the main threats, pressures and activities with impacts on the site identified in the conservation objectives.

Drainage works associated with development outside of the site's boundaries could potentially impact upon the bog's hydrology.

Excess nitrogen deposition can directly damage plants and also favour the growth of competitive plants leading to changes in ecosystem structure or function and to a reduction in biodiversity. The 3 year average 2013-2015 of 20.72 kg N/ha/yr is well above the lower and upper critical loads of 5-10 kg N/ha/yr. The 3 year average 2013-2015 ammonia concentration was 2.76 µg/m^3 which exceeds the critical level for this habitat of

1 µg/m^3. Construction in support of intensive agriculture can increase nitrogen deposition from the development site or as a result of land spreading of litter, slurry, manure or digestate. Road development leading to a significant increase in traffic could increase the deposition of nitrogen from traffic however there are no major roads close to this site.

Any changes in local land-use e.g. drainage, road improvements, afforestation, agricultural intensification and development may be detrimental to the SAC. The draft Plan Strategy does not promote any form of development adjacent to the SAC. Any applications that may come forward would have to be assessed through project level HRA.

Potential Impacts on Site Integrity in the Absence of Mitigation

The following checklist indicates the impacts that the draft Plan Strategy could have in the absence of protective measures.

Does the plan have the potential to:	Yes/No
• cause delays in progress towards achieving the conservation objectives of the site?	Yes
• interrupt progress towards achieving the conservation objectives of the site?	Yes
• disrupt those factors that help to maintain the favourable conditions of the site?	Yes
• interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site?	Yes
Other indicators: Does the plan have the potential to:	**Yes/No**
• cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?	Yes
• change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site?	Yes
• interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)?	Yes
• reduce the area of key habitats?	Yes
• reduce the population of key species?	Yes
• change the balance between key species?	Yes
• reduce diversity of the site?	Yes
• result in disturbance that could affect population size or density or the balance between key species?	No
• result in fragmentation?	Yes
• result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding , etc.)?	Yes

Controls in place to address threats

Any new development would be subject to legislative requirements and environmental assessment including the need to comply with the requirements of the Habitats Regulations as well as the Strategic Planning Policy Statement. The protective measures described in Chapter 5 are incorporated in the draft Plan Strategy and will also have effect.

Mitigation to address threats

The following recommendations, detailed in Chapter 7, apply to all sites: 1. International Sites – Evidence; 2. Cumulative Effects; 3. Screening – General; 4. Screening - Aerial Emissions; 5. Large Rural Development; and 6. International Sites – Recreation. Combined with incorporated measures in the draft Plan Strategy these address the potential impacts identified above.

In-combination effects from other plans or projects that are likely to have significant effects

The assessment found that, with mitigation in place, there will be no adverse effect on site integrity. The need to consider and assess further in-combination effects from other projects or plans, including those of adjacent councils, will be reviewed before the HRA is finalised.

Appropriate Assessment Conclusion

The evidence gathered and assessment undertaken does not enable us to conclude reasonably and objectively that the implementation of the plan, in the absence of mitigation, will not adversely affect selection features or the integrity of this site. Mitigation measures are therefore required to ensure that the

plan will not have any effect on the integrity of these sites. These mitigation measures are identified above. Their incorporation in the Plan Strategy is discussed in Chapter 5 and additional measures are discussed in Chapter 7.

Adverse Effect on Site Integrity (AESI) Finding

Feature	AESI before mitigation	AESI after mitigation
Active raised bog	Potential AESI	No AESI

It is therefore concluded that the draft Plan Strategy, in conjunction with the recommendations in Chapter 7, will not have an adverse effect on site integrity of Wolf Island Bog SAC.

Teal Lough SAC and Proposed Ramsar Site

Status:	Designated Special Area of Conservation	**Site Code:**	UK0016608
Year:	2005	**Area:**	199 ha
Status:	Proposed Ramsar Site	**Site Code:**	UK12022
Year:	Proposed 2018	**Area:**	198 ha
Map:	Appendix 7, Map 10		

STAGE 1: TEST OF LIKELY SIGNIFICANCE

Summary Site Description

Teal Lough SAC

Teal Lough Bog lies to the north-west of Cookstown beyond Lough Fea at an elevation of 220m. It is bisected by the county boundary, which runs through Teal Lough itself. This is one of the largest and least disturbed upland blanket peat and raised bog habitats in Northern Ireland. The features of interest are all hydrologically linked; being four actively developing upland raised bogs surrounded by active blanket peat with an oligotrophic lake to the north.

The pool and hummock complexes display rich bryophyte communities (including *Sphagnum imbricatum* and *Mylia taylorii*), a limited but notable range of upland invertebrates (including *Salda muelleri* and *Agabus arcticus*) and a vascular flora uncommon in Northern Ireland (*Drosera intermedia* and *Utricularia minor*). The underlying Pleistocene sand and gravel fluvioglacial outwash series, together with the ridge series, are important, being related to a major deglaciation phase of the South Sperrins. The boundary around the entire site is clearly defined as the edge of the peatland hydrological unit, being completely surrounded by improved agricultural land. The boundary rationale and management considerations are detailed in the Conservation Objectives.

Teal Lough Ramsar Site

Teal Lough Bog lies some 10 km north-west of Cookstown beyond Lough Fea at an elevation of 220 m. This is one of the largest and least disturbed upland blanket peat and raised bog habitats in Northern Ireland. The features of interest are all hydrologically linked, with actively developing upland raised bog surrounded by active blanket peat, and with an oligotrophic lake to the north. Teal Lough has one of the finest hummock and pool complexes of any peatland complex in Northern Ireland.

The boundary of the Ramsar site is entirely coincident with the Teal Lough Special Area of Conservation (SAC) area, incorporating part of Teal Lough and Slaghtfreeden Bogs Area of Special Scientific Interest (ASSI) (Teal Lough part only), and all of Teal Lough Part II ASSI. The county boundary bisects the Ramsar site.

Location and connectivity with the plan area

The SAC is 0.5km northwest of Lough Fea. The nearest small settlement is Straw 5km away and Draperstown is just over 6km away.

Plan Designations

The sites are entirely within the AOCWTHS, ACMD and TCZ.

Selection Features

Teal Lough SAC

Feature type	Feature	Global Status	Size/extent/population
Habitat	Active blanket bog	B	155.5 ha

Teal Lough Ramsar Site

Ramsar Criterion 1

Teal Lough contains one of the most extensive and least disturbed examples of upland blanket peat and raised bog habitats in Northern Ireland, including one of the finest hummock and pool complexes of any raised bog in Northern Ireland.

Conservation Objectives

The Conservation Objective for this site is:

> To maintain (or restore where appropriate) the active blanket bog to favourable condition.

The SAC selection feature component objectives for the active blanket bog are:

- Maintain the extent of intact blanket bog and actively regenerating blanket bog vegetation.
- Maintain and enhance the quality of the blanket bog community types including the presence of notable species.
- Seek to expand the extent of actively regenerating blanket bog vegetation into degraded (non-active) areas of cutover bog.
- Maintain the diversity and quality of other habitats associated with the blanket bog especially where these exhibit natural transition to the blanket bog.
- Maintain the hydrology of the intact blanket bog peat mass.
- Seek nature conservation management over suitable areas immediately outside the SAC where there may be potential for blanket bog rehabilitation.

Main Threats, Pressures and Activities with Impacts on the Site

Both on-site and off-site activities can potentially affect the site. The following is a summary of the most likely factors that are either affecting the site, or could affect it in the future: mineral extraction, burning, reclamation of heathland, grazing, supplementary stock feeding, application of fertiliser/slurry/manure, afforestation, nitrogen deposition, recreational activities, fly-tipping, changes to surrounding land use and climate change.

Sensitivities of Selection Features to plan

Potential impacts arising from the Plan Strategy, as identified in Chapter 5, are listed in the following table which identifies those that could affect the selection features of this site.

Potential Impacts Arising From Plan	Pathway for Impact to affect this site?	Comment	Features that may be affected
Habitat Loss	On site development	Peat cutting or facilities for access. Habitat loss due to other factors is considered below.	Active blanket bog
Direct Disturbance	None	The selection feature is not vulnerable to disturbance.	
Indirect Disturbance	None		
Introduced Species	None		
Aerial Emissions	Aerial	Potential nitrogen deposition from intensive agriculture could cause degradation or loss of habitat.	Active blanket bog
Water Pollution	None	There is no drainage onto the site.	
Hydrological Change	Adjacent/nearby development	Could increase drainage and lead to drying out of the bog.	Active blanket bog

Potential for Cumulative Impacts

Cumulative impacts could arise from proliferation of agricultural development or drainage works and will be considered in Stage 2: Appropriate Assessment.

Screening conclusion

Under the precautionary approach it was deemed that Appropriate Assessment is required for this site to consider the impacts of habitat loss, aerial emissions and hydrological change on active blanket bog as a site selection feature.

STAGE 2: APPROPRIATE ASSESSMENT

Site specific evidence sources

Teal Lough SAC Conservation Objectives V2.1, 13/10/2017
Teal Lough Ramsar Information Document January 2019[12]
ASSIs: Teal Lough and Slaghtfreeden Bogs ASSI (declared 1987) and Teal Lough Part II ASSI (declared 1995

Condition assessment

The most recent condition assessment, in 2015, found the condition to be Favourable: Maintained. No threats have been reported in condition assessments for this site.

Impacts that may arise as a result of the plan

This section considers those impacts which are most likely to arise as a result of the LDP in more detail in relation to the main threats, pressures and activities with impacts on the site identified in the conservation objectives.

Teal Lough SAC

Any removal of minerals, e.g. peat or sand, from the site will destroy that part of the site and may have consequential effects on the rest of the area due to its fragile, integrated structure and hydrology.

Recreational activities: Regular use of any part of the area, by walking but especially by four-wheel drive vehicles, can cause local vegetation loss and structural damage to the peat which may lead to significant erosion, particularly on slopes. Wet moss hummocks are also vulnerable to more than occasional treading so over-use of the site should be avoided.

Any changes in local land-use e.g. drainage, road improvements, afforestation, agricultural intensification and development may be detrimental to the SAC.

Excess nitrogen deposition can directly damage plants and also favour the growth of competitive plants leading to changes in ecosystem structure or function and to a reduction in biodiversity. The 3 year average 2013-2015 of 17.08 kg N/ha/yr is above the lower and upper critical loads of 5-10 kg N/ha/yr. The 3 year average 2013-2015 ammonia concentration was 1.21 µg/m^3 which exceeds the critical level for this habitat of 1 µg/m^3. Construction in support of intensive agriculture can increase nitrogen deposition from the development site or as a result of land spreading of litter, slurry, manure or digestate. Road development leading to a significant increase in traffic could increase the deposition of nitrogen from traffic however there are no major roads close to this site.

Any changes in local land-use e.g. drainage, road improvements, afforestation, agricultural intensification and development may be detrimental to the SAC. The draft Plan Strategy does not promote any form of development adjacent to the SAC. Any applications that may come forward would have to be assessed through project level HRA.

Climate change

Teal Lough Ramsar Site

No factors adversely affecting the site's ecological character are reported.

Potential Impacts on Site Integrity in the Absence of Mitigation

The following checklist indicates the impacts that the draft Plan Strategy could have in the absence of protective measures.

[12] https://www.daera-ni.gov.uk/consultations/teal-lough-ramsar

Does the plan have the potential to:	Yes/No
• cause delays in progress towards achieving the conservation objectives of the site?	Yes
• interrupt progress towards achieving the conservation objectives of the site?	Yes
• disrupt those factors that help to maintain the favourable conditions of the site?	Yes
• interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site?	Yes
Other indicators: Does the plan have the potential to:	**Yes/No**
• cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?	Yes
• change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site?	Yes
• interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)?	Yes
• reduce the area of key habitats?	Yes
• reduce the population of key species?	Yes
• change the balance between key species?	Yes
• reduce diversity of the site?	Yes
• result in disturbance that could affect population size or density or the balance between key species?	No
• result in fragmentation?	Yes
• result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding , etc.)?	Yes

Controls in place to address threats

Any new development would be subject to legislative requirements and environmental assessment including the need to comply with the requirements of the Habitats Regulations as well as the Strategic Planning Policy Statement. The protective measures described in Chapter 5 are incorporated in the draft Plan Strategy and will also have effect.

Mitigation to address threats

The following recommendations, detailed in Chapter 7, apply to all sites: 1. International Sites – Evidence; 2. Cumulative Effects; 3. Screening – General; 4. Screening - Aerial Emissions; 5. Large Rural Development; and 6. International Sites – Recreation. Combined with incorporated measures in the draft Plan Strategy these address the potential impacts identified above.

In-combination effects from other plans or projects that are likely to have significant effects

The assessment found that, with mitigation in place, there will be no adverse effect on site integrity. The need to consider and assess further in-combination effects from other projects or plans, including those of adjacent councils, will be reviewed before the HRA is finalised.

Appropriate Assessment Conclusion

The evidence gathered and assessment undertaken does not enable us to conclude reasonably and objectively that the implementation of the plan, in the absence of mitigation, will not adversely affect selection features or the integrity of this site. Mitigation measures are therefore required to ensure that the plan will not have any effect on the integrity of these sites. These mitigation measures are identified above. Their incorporation in the Plan Strategy is discussed in Chapter 5 and additional measures are discussed in Chapter 7.

Adverse Effect on Site Integrity (AESI) Finding

Feature	AESI before mitigation	AESI after mitigation
Active blanket bog	Potential AESI	No AESI

It is therefore concluded that the draft Plan Strategy, in conjunction with the recommendations in Chapter 7, will not have an adverse effect on site integrity of Teal Lough SAC or Teal Lough Ramsar site.

Black Bog SAC and Ramsar Site

Status:	Designated Special Area of Conservation	**Site Code:**	UK0016609
Year:	2005	**Area:**	194 ha
Status:	Designated Ramsar site	**Site Code:**	UK12003
Year:	1999	**Area:**	183 ha
Map:	Appendix 7, Map 8		

STAGE 1: TEST OF LIKELY SIGNIFICANCE

Summary Site Description

Black Bog SAC

Black Bog lies at the source of the Owenreagh River approximately equal distance between Omagh and Cookstown. The bog lies at a moderate elevation between 130m and 140m O.D. and displays some characteristics of transitional/intermediate bog. With an uncut dome estimated to be just over 147 ha, it represents the largest area of uncut lowland raised bog in Northern Ireland. The active raised bog supports well-developed and extensive hummock and hollow topography, and notable peatland flora including *Empetrum nigrum*, the oceanic liverwort *Pleurozia purpurea* and the bog mosses *Sphagnum fuscum* and S. *imbricatum*. One of the most important features of Black Bog is the unbroken transition through a lagg, dominated by Purple Moor-grass *Molinia caerulea*, to swamp and fen along the Owenreagh River. The boundary rationale and management considerations are detailed in the Conservation Objectives.

Black Bog Ramsar site

This site is one of the two largest intact active bogs in Northern Ireland with hummock and hollow pool complexes and represents one of the best examples of this habitat type in the UK. The site is especially important for its extensive hummock-hollow complex, high cover of *Sphagnum* species and largely intact lagg. There are some very large *Sphagnum* hummocks including *S. imbricatum* and *S. fuscum*. Another feature of the bog surface is the occurrence of an unusual plant community with locally high cover of *Empetrum nigrum* and large hummocks of *Cladonia impexa*.

Location and connectivity with the plan area

The SAC and Ramsar site share the same boundary. A very narrow fringe of the sites, about 50m at the widest and less than 1% of the total area, is in our District area and the majority is adjacent in Fermanagh and Omagh District Council. Nearest settlement Dunnamore 4km to the east.

Plan Designations

There are no plan designations on or around Black Bog SAC and Ramsar site.

Selection Features

Black Bog SAC

Feature type	Feature	Global Status	Size/extent/population
Habitat	Active raised bog	B	166 ha

Black Bog Ramsar site

Ramsar Criterion 1: The site is a large and relatively intact example of a lowland raised bog and one of the best examples of this habitat in the UK.

Conservation Objectives

The Conservation Objective for this site is:

> To maintain (or restore where appropriate) the active raised bog to favourable condition.

The SAC selection feature component objectives for the active raised bog are:

- Maintain the extent of intact lowland raised bog and actively regenerating raised bog vegetation.
- Maintain and enhance the quality of the lowland raised bog community types including the presence of notable species.

- Seek to expand the extent of actively regenerating raised bog vegetation into degraded (non-active) areas of cutover bog.
- Maintain the diversity and quality of other habitats associated with the active raised bog, e.g. acid grassland, fen and swamp, especially where these exhibit natural transition to the raised bog.
- Maintain the hydrology of the raised bog peat mass.
- Seek nature conservation management over suitable areas immediately outside the SAC where there may be potential for lowland raised bog rehabilitation.

Main Threats, Pressures and Activities with Impacts on the Site

Both on-site and off-site activities can potentially affect the site. The following is a summary of the most likely factors that are either affecting the site, or could affect it in the future: Peat cutting, burning, drainage, nitrogen deposition, changes to surrounding land-use, scrub encroachment, grazing, fly-tipping, shooting, climate change.

Sensitivities of Selection Features to plan

Potential impacts arising from the Plan Strategy, as identified in Chapter 5, are listed in the following table which identifies those that could affect the selection features of this site.

Potential Impacts Arising From Plan	Pathway for Impact to affect this site?	Comment	Features that may be affected
Habitat Loss	On site development	Peat cutting or facilities for access. Habitat loss due to other factors is considered below.	Active raised bog
Direct Disturbance	None	The selection feature is not vulnerable to disturbance.	
Indirect Disturbance	None		
Introduced Species	None		
Aerial Emissions	Aerial	Potential nitrogen deposition from intensive agriculture could cause degradation or loss of habitat.	Active raised bog
Water Pollution	None	There is no drainage onto the site.	
Hydrological Change	Adjacent/nearby development	Could increase drainage and lead to drying out of the bog.	Active raised bog

Potential for Cumulative Impacts

Cumulative impacts could arise from proliferation of agricultural development or drainage works and will be considered in Stage 2: Appropriate Assessment.

Screening conclusion

Under the precautionary approach it was deemed that Appropriate Assessment is required for this site to consider the impacts of habitat loss, aerial emissions and hydrological change on active raised bog as a site selection feature.

STAGE 2: APPROPRIATE ASSESSMENT

Site specific evidence sources

Black Bog SAC Conservation Objectives V2.0, 01/04/2015
Black Bog Ramsar Information Sheet 14/12/99
ASSI: Black Bog

Condition assessment

The most recent condition assessment, in 2011, found the condition to be Favourable: Un-classified. This is an improvement in relation to the condition assessment in 2005 when the condition was Unfavourable: Recovering. This was reported as being due to water management (including drainage, dredging or alterations to the water table. Could be too much water or too little).

Impacts that may arise as a result of the plan

This section considers those impacts which are most likely to arise as a result of the LDP in more detail in relation to the main threats, pressures and activities with impacts on the site identified in the conservation objectives.

Black Bog SAC

The main management issue on the site is the removal/blockage of active drains to maintain the bogs hydrology. Drainage works associated with development outside of the site's boundaries could potentially impact upon the bog's hydrology.

Excess nitrogen deposition can directly damage plants and also favour the growth of competitive plants leading to changes in ecosystem structure or function and to a reduction in biodiversity. The 3 year average 2013-2015 of 14.98 kg N/ha/yr is above the lower and upper critical loads of 5-10 kg N/ha/yr. The 3 year average 2013-2015 ammonia concentration was 1.37 µg/m^3 which exceeds the critical level for this habitat of 1 µg/m^3. Construction in support of intensive agriculture can increase nitrogen deposition from the development site or as a result of land spreading of litter, slurry, manure or digestate.

Any changes in local land-use e.g. drainage, road improvements, afforestation, agricultural intensification and development may be detrimental to the SAC. The draft Plan Strategy does not promote any form of development adjacent to the SAC. Any applications that may come forward would have to be assessed through project level HRA.

The site incorporates the hydrological unit therefore development will not affect the management of the site in response to climate change.

Black Bog Ramsar site

No factors adversely affecting the site's ecological character are reported.

Potential Impacts on Site Integrity in the Absence of Mitigation

The following checklist indicates the impacts that the draft Plan Strategy could have in the absence of protective measures.

Does the plan have the potential to:	Yes/No
• cause delays in progress towards achieving the conservation objectives of the site?	Yes
• interrupt progress towards achieving the conservation objectives of the site?	Yes
• disrupt those factors that help to maintain the favourable conditions of the site?	Yes
• interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site?	Yes
Other indicators: Does the plan have the potential to:	**Yes/No**
• cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?	Yes
• change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site?	Yes
• interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)?	Yes
• reduce the area of key habitats?	Yes
• reduce the population of key species?	Yes
• change the balance between key species?	Yes
• reduce diversity of the site?	Yes
• result in disturbance that could affect population size or density or the balance between key species?	No
• result in fragmentation?	Yes
• result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding , etc.)?	Yes

Controls in place to address threats

Any new development would be subject to legislative requirements and environmental assessment including the need to comply with the requirements of the Habitats Regulations as well as the Strategic Planning Policy

Statement. The protective measures described in Chapter 5 are incorporated in the draft Plan Strategy and will also have effect.

Mitigation to address threats

The following recommendations, detailed in Chapter 7, apply to all sites: 1. International Sites – Evidence; 2. Cumulative Effects; 3. Screening – General; 4. Screening - Aerial Emissions; 5. Large Rural Development; and 6. International Sites – Recreation. Combined with incorporated measures in the draft Plan Strategy these address the potential impacts identified above.

In-combination effects from other plans or projects that are likely to have significant effects

The assessment found that, with mitigation in place, there will be no adverse effect on site integrity. The need to consider and assess further in-combination effects from other projects or plans, including those of adjacent councils, will be reviewed before the HRA is finalised.

Appropriate Assessment Conclusion

The evidence gathered and assessment undertaken does not enable us to conclude reasonably and objectively that the implementation of the plan, in the absence of mitigation, will not adversely affect selection features or the integrity of this site. Mitigation measures are therefore required to ensure that the plan will not have any effect on the integrity of these sites. These mitigation measures are identified above. Their incorporation in the Plan Strategy is discussed in Chapter 5 and additional measures are discussed in Chapter 7.

Adverse Effect on Site Integrity (AESI) Finding

Feature	AESI before mitigation	AESI after mitigation
Active raised bog	Potential AESI	No AESI

It is therefore concluded that the draft Plan Strategy, in conjunction with the recommendations in Chapter 7, will not have an adverse effect on site integrity of Black Bog SAC or Black Bog Ramsar site.

Carn-Glenshane Pass SAC

Status:	Designated Special Area of Conservation	**Site Code:**	UK0030110
Year:	2005	**Area:**	1941 ha
Map:	Appendix 7, Map 11		

STAGE 1: TEST OF LIKELY SIGNIFICANCE

Summary Site Description

Carn/Glenshane Pass extends over the uplands to the north-east of the Sperrin Mountains, between Maghera and Dungiven. With an area of largely intact blanket bog, estimated to be just over 1650 ha, it is one of the few remaining examples of good quality blanket bog within this region of Northern Ireland.

The peatland complex is comprised of a series of raised and flushed peat bog units within an all encompassing mantle of blanket peat. The blanket bog is somewhat degraded in places with large blocks eroded, other sections drained and still other areas overgrazed. Nevertheless, the peatland supports good *Sphagnum*-rich blanket bog vegetation with high dwarf-shrub cover. The site also includes a well-patterned hummock, hollow and pool complex. Localised pockets of wet heath occur on the steeper slopes. The boundary rationale and management considerations are detailed in the Conservation Objectives.

Location and connectivity with the plan area

The eastern slopes of the SAC extend into the council area representing a quarter of the SAC. Maghera is 4km to the east at its nearest point.

Plan Designations

The SAC in Mid Ulster is within the AOCWTHS, ACMD and SCA. Carntogher DRC is 1.5km to the east.

Selection Features

Feature type	Feature	Global Status	Size/extent/population
Habitat	Blanket bog	B	1651 ha

Conservation Objectives

The Conservation Objective for this site is:

> To maintain (or restore where appropriate) the blanket bog to favourable condition.

The SAC selection feature component objectives for the active blanket bog are:

- Maintain the extent of intact blanket bog and actively regenerating blanket bog vegetation.
- Maintain and enhance the quality of the blanket bog community types including the presence of notable species.
- Seek to expand the extent of actively regenerating blanket bog vegetation into degraded (non-active) areas of cutover bog.
- Maintain the diversity and quality of other habitats associated with the blanket bog especially where these exhibit natural transition to the blanket bog.
- Maintain the hydrology of the intact blanket bog peat mass.
- Seek nature conservation management over suitable areas immediately outside the SAC where there may be potential for blanket bog rehabilitation.

Main Threats, Pressures and Activities with Impacts on the Site

Both on-site and off-site activities can potentially affect the site. The following is a summary of the most likely factors that are either affecting the site, or could affect it in the future: peat cutting, burning, drainage, grazing, nitrogen deposition, fly-tipping, changes to surrounding land use and climate change.

Sensitivities of Selection Features to plan

Potential impacts arising from the Plan Strategy, as identified in Chapter 5, are listed in the following table which identifies those that could affect the selection features of this site.

Potential Impacts Arising From Plan	Pathway for Impact to affect this site?	Comment	Features that may be affected
Habitat Loss	On site development	Peat cutting, windfarm development, facilities for access. Habitat loss due to other factors is considered below.	Blanket bog
Direct Disturbance	None	The selection feature is not vulnerable to disturbance.	
Indirect Disturbance	None		
Introduced Species	None		
Aerial Emissions	Aerial	Potential nitrogen deposition from intensive agriculture or traffic could cause degradation or loss of habitat.	Blanket bog
Water Pollution	None	There is no drainage onto the site.	
Hydrological Change	Adjacent/nearby development	Could increase drainage and lead to drying out of the bog.	Blanket bog

Potential for Cumulative Impacts

Cumulative impacts could arise from proliferation of agricultural development, substantial increase in traffic on the A6, or drainage works and will be considered in Stage 2: Appropriate Assessment.

Screening conclusion

Under the precautionary approach it was deemed that Appropriate Assessment is required for this site to consider the impacts of habitat loss, aerial emissions and hydrological change on blanket bog as a site selection feature.

STAGE 2: APPROPRIATE ASSESSMENT

Site specific evidence sources

Carn-Glenshane Pass SAC Conservation Objectives V2.1, 10/10/2017
ASSI: Carn/Glenshane Pass

Condition assessment

The most recent condition assessment, in 2015, found the condition to be Unfavourable: Un-classified. This was reported as being due to over-grazing (including deer browsing).

Impacts that may arise as a result of the plan

This section considers those impacts which are most likely to arise as a result of the LDP in more detail in relation to the main threats, pressures and activities with impacts on the site identified in the conservation objectives.

In recent times mechanised peat cutting has taken place in some areas and has encroached onto the intact surface of the blanket bog. There is still some localised mechanical peat extraction taking place within the SAC boundary.

Drainage works associated with development outside of the site's boundaries could potentially impact upon the bog's hydrology.

Excess nitrogen deposition can directly damage plants and also favour the growth of competitive plants leading to changes in ecosystem structure or function and to a reduction in biodiversity. The 3 year average 2013-2015 of 19 kg N/ha/yr is above the lower and upper critical loads of 5-10 kg N/ha/yr. The 3 year average 2013-2015 ammonia concentration was 0.91 µg/m^3 which is below the critical level for this habitat of 1 µg/m^3. Construction in support of intensive agriculture can increase nitrogen deposition from the development site

or as a result of land spreading of litter, slurry, manure or digestate. Road development leading to a significant increase in traffic could increase the deposition of nitrogen from traffic however there are no major roads close to this site.

Any changes in local land-use e.g. drainage, road improvements, afforestation, agricultural intensification and development may be detrimental to the SAC. The draft Plan Strategy does not promote any form of development adjacent to the SAC. Any applications that may come forward would have to be assessed through project level HRA.

Potential Impacts on Site Integrity in the Absence of Mitigation

The following checklist indicates the impacts that the draft Plan Strategy could have in the absence of protective measures.

Does the plan have the potential to:	Yes/No
• cause delays in progress towards achieving the conservation objectives of the site?	Yes
• interrupt progress towards achieving the conservation objectives of the site?	Yes
• disrupt those factors that help to maintain the favourable conditions of the site?	Yes
• interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site?	Yes
Other indicators: Does the plan have the potential to:	**Yes/No**
• cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?	Yes
• change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site?	Yes
• interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)?	Yes
• reduce the area of key habitats?	Yes
• reduce the population of key species?	Yes
• change the balance between key species?	Yes
• reduce diversity of the site?	Yes
• result in disturbance that could affect population size or density or the balance between key species?	No
• result in fragmentation?	Yes
• result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding , etc.)?	Yes

Controls in place to address threats

Any new development would be subject to legislative requirements and environmental assessment including the need to comply with the requirements of the Habitats Regulations as well as the Strategic Planning Policy Statement. The protective measures described in Chapter 5 are incorporated in the draft Plan Strategy and will also have effect.

Mitigation to address threats

The following recommendations, detailed in Chapter 7, apply to all sites: 1. International Sites – Evidence; 2. Cumulative Effects; 3. Screening – General; 4. Screening - Aerial Emissions; 5. Large Rural Development; and 6. International Sites – Recreation. Combined with incorporated measures in the draft Plan Strategy these address the potential impacts identified above.

In-combination effects from other plans or projects that are likely to have significant effects

The assessment found that, with mitigation in place, there will be no adverse effect on site integrity. There are no road schemes proposed adjacent to the site which will increase the capacity for traffic and associated aerial emissions and the dualling of the A6 to the west and east was not identified as having any impact on this site. The need to consider and assess further in-combination effects from other projects or plans, including those of adjacent councils, will be reviewed before the HRA is finalised.

Appropriate Assessment Conclusion

The evidence gathered and assessment undertaken does not enable us to conclude reasonably and objectively that the implementation of the plan, in the absence of mitigation, will not adversely affect

selection features or the integrity of this site. Mitigation measures are therefore required to ensure that the plan will not have any effect on the integrity of these sites. These mitigation measures are identified above. Their incorporation in the Plan Strategy is discussed in Chapter 5 and additional measures are discussed in Chapter 7.

Adverse Effect on Site Integrity (AESI) Finding

Feature	AESI before mitigation	AESI after mitigation
Blanket bog	Potential AESI	No AESI

It is therefore concluded that the draft Plan Strategy, in conjunction with the recommendations in Chapter 7, will not have an adverse effect on site integrity of Carn-Glenshane Pass SAC.

Tonnagh Beg Bog SAC

Status:	Designated Special Area of Conservation	**Site Code:**	UK0030325
Year:	2005	**Area:**	56 ha
Map:	Appendix 7, Map 3		

STAGE 1: TEST OF LIKELY SIGNIFICANCE

Summary Site Description

Tonnagh Beg Bog is among the best remaining examples of a lowland raised bog in the west of Northern Ireland. Typical of western bogs, the site is rather irregular in shape, with deep peat encircling a small drumlin of grassland on mineral soil.

The uncut surface has a well-developed microtopography, consisting of a pool complex interspersed by well-formed hummocks, wet lawns and a soakway. Despite some burning in the past, the surface has an extremely high *Sphagnum* moss cover and a notable *Sphagnum* moss hummock development.

The bog supports a very high frequency of the rare mosses, *Sphagnum imbricatum* and *S. fuscum*, which form well-developed hummocks over the wet surface. Cranberry *Vaccinium oxycoccus* is locally frequent, growing over the surface of the highest hummocks.

Hand cutting has been confined to the periphery of the site and around the central drumlin, leaving the majority of the bog intact. Recent burning has taken place over parts of the surface. The boundary rationale and management considerations are detailed in the Conservation Objectives.

Location and connectivity with the plan area

4.5km to the west of the council area with no hydrological connection. No Mid Ulster settlements within 10km.

Plan Designations

The site is outside Mid Ulster and there are no plan designations close to this site.

Selection Features

Feature type	Feature	Global Status	Size/extent/population
Habitat	Active raised bog	B	103.1 ha

Conservation Objectives

The Conservation Objective for this site is:

To maintain (or restore where appropriate) the active raised bog to favourable condition.

The SAC selection feature component objectives for the active raised bog are:

- Maintain the extent of intact lowland raised bog and actively regenerating raised bog vegetation.
- Maintain and enhance the quality of the lowland raised bog community types including the presence of notable species.
- Seek to expand the extent of actively regenerating raised bog vegetation into degraded (non-active) areas of cutover bog.
- Maintain the diversity and quality of other habitats associated with the active raised bog, e.g. acid grassland, fen and swamp, especially where these exhibit natural transition to the raised bog.
- Maintain the hydrology of the raised bog peat mass.
- Seek nature conservation management over suitable areas immediately outside the SAC where there may be potential for lowland raised bog rehabilitation.

Main Threats, Pressures and Activities with Impacts on the Site

Both on-site and off-site activities can potentially affect the site. The following is a summary of the most likely factors that are either affecting the site, or could affect it in the future: peat cutting, burning, drainage,

grazing, scrub encroachment, fly-tipping, nitrogen deposition, changes to surrounding land use and climate change.

Sensitivities of Selection Features to plan

Potential impacts arising from the Plan Strategy, as identified in Chapter 5, are listed in the following table which identifies those that could affect the selection features of this site.

Potential Impacts Arising From Plan	Pathway for Impact to affect this site?	Comment	Features that may be affected
Habitat Loss	None	There will be no development within the site. Habitat loss as a result of other factors is considered below.	
Direct Disturbance	None	The selection feature is not vulnerable to disturbance.	
Indirect Disturbance	None		
Introduced Species	None		
Aerial Emissions	Aerial	Potential nitrogen deposition from intensive agriculture could cause degradation or loss of habitat.	Active raised bog
Water Pollution	None	There is no drainage onto the site.	
Hydrological Change	None	Outside council area so no potential for this impact.	

Potential for Cumulative Impacts

Cumulative impacts could arise from proliferation of agricultural development will be considered in Stage 2: Appropriate Assessment.

Screening conclusion

Under the precautionary approach it was deemed that Appropriate Assessment is required for this site to consider the impacts of aerial emissions on active raised bog as a site selection feature.

STAGE 2: APPROPRIATE ASSESSMENT

Site specific evidence sources

Tonnagh Beg Bog SAC Conservation Objectives V2.0, 01/04/2015
ASSI: Tonnagh Beg Bog

Condition assessment

The most recent condition assessment, in 2011, found the condition to be Unfavourable: Un-classified. This was reported as being due to water management (including drainage, dredging or alterations to the water table. Could be too much water or too little)

Impacts that may arise as a result of the plan

This section considers those impacts which are most likely to arise as a result of the LDP in more detail in relation to the main threats, pressures and activities with impacts on the site identified in the conservation objectives.

Drainage works associated with development outside of the site's boundaries could potentially impact upon the bog's hydrology.

Excess nitrogen deposition can directly damage plants and also favour the growth of competitive plants leading to changes in ecosystem structure or function and to a reduction in biodiversity. The 3 year average 2013-2015 of 18.76 kg N/ha/yr is above the lower and upper critical loads of 5-10 kg N/ha/yr. The 3 year average 2013-2015 ammonia concentration was 2.31 µg/m^3 which exceeds the critical level for this habitat of 1 µg/m^3. Construction in support of intensive agriculture can increase nitrogen deposition from the development site or as a result of land spreading of litter, slurry, manure or digestate.

Any changes in local land-use e.g. drainage, road improvements, afforestation, agricultural intensification and development may be detrimental to the SAC. The draft Plan Strategy does not promote any form of development adjacent to the SAC. Any applications that may come forward would have to be assessed through project level HRA.

Potential Impacts on Site Integrity in the Absence of Mitigation

The following checklist indicates the impacts that the draft Plan Strategy could have in the absence of protective measures.

Does the plan have the potential to:	Yes/No
• cause delays in progress towards achieving the conservation objectives of the site?	Yes
• interrupt progress towards achieving the conservation objectives of the site?	Yes
• disrupt those factors that help to maintain the favourable conditions of the site?	Yes
• interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site?	Yes
Other indicators: Does the plan have the potential to:	**Yes/No**
• cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?	Yes
• change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site?	No
• interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)?	Yes
• reduce the area of key habitats?	Yes
• reduce the population of key species?	Yes
• change the balance between key species?	Yes
• reduce diversity of the site?	Yes
• result in disturbance that could affect population size or density or the balance between key species?	No
• result in fragmentation?	No
• result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding , etc.)?	No

Controls in place to address threats

Any new development would be subject to legislative requirements and environmental assessment including the need to comply with the requirements of the Habitats Regulations as well as the Strategic Planning Policy Statement. The protective measures described in Chapter 5 are incorporated in the draft Plan Strategy and will also have effect.

Mitigation to address threats

The following recommendations, detailed in Chapter 7, apply to all sites: 1. International Sites – Evidence; 2. Cumulative Effects; 3. Screening – General; 4. Screening - Aerial Emissions; 5. Large Rural Development; and 6. International Sites – Recreation. Combined with incorporated measures in the draft Plan Strategy these address the potential impacts identified above.

In-combination effects from other plans or projects that are likely to have significant effects

The assessment found that, with mitigation in place, there will be no adverse effect on site integrity. The need to consider and assess further in-combination effects from other projects or plans, including those of adjacent councils, will be reviewed before the HRA is finalised.

Appropriate Assessment Conclusion

The evidence gathered and assessment undertaken does not enable us to conclude reasonably and objectively that the implementation of the plan, in the absence of mitigation, will not adversely affect selection features or the integrity of this site. Mitigation measures are therefore required to ensure that the plan will not have any effect on the integrity of these sites. These mitigation measures are identified above. Their incorporation in the Plan Strategy is discussed in Chapter 5 and additional measures are discussed in Chapter 7.

Adverse Effect on Site Integrity (AESI) Finding

Feature	AESI before mitigation	AESI after mitigation
Active raised bog	Potential AESI	No AESI

It is therefore concluded that the draft Plan Strategy, in conjunction with the recommendations in Chapter 7, will not have an adverse effect on site integrity of Tonnagh Beg Bog SAC.

Peatlands Park SAC

Status:	Designated Special Area of Conservation	**Site Code:**	UK0030236
Year:	2005	**Area:**	208 ha
Map:	Appendix 7, Map 3		

STAGE 1: TEST OF LIKELY SIGNIFICANCE

Summary Site Description

Peatlands Park represents a large area of cutover bog and woodland, remnant of an extensive lowland raised bog complex, lying just south of Washing Bay in the south-western corner of Lough Neagh. It is located between the M1 motorway and the village of Maghery. Peatlands Park is a complex site with a wide range of habitats and associated flora and fauna that includes a number of rare and notable species. The site consists of a number of low wooded drumlins covered by mature Oak Woodland interspersed by a series of flat plains covered by both intact and cutover raised bog and bog woodland. Derryadd Lough situated in the south-eastern corner of the site, adds additional interest with its marginal swamp and poor acid fen.

The drumlins are comprised of glacial drift overlying Lough Neagh Clays and the woodlands they support are mildly acidic in type. The wet bog woodlands have developed in the inter-drumlin hollows and are dominated by Birch and Willow. The peatland consists of an extensive lowland raised bog that has been largely cutover. Remaining peat depths average around 5 m. and the vegetation is highly variable, reflecting the degree of wetness in the cuttings. Although most of the peatland has been cutover, relict areas of intact bog with deeper peat still occur. The range of habitats displayed throughout Peatlands Park supports a rich flora and fauna, including a number of rare species. The boundary rationale and management considerations are detailed in the Conservation Objectives.

Location and connectivity with the plan area

The SAC is less than 1km east of Mid Ulster but there is no hydrological pathway to it. Parts of the SAC are also within 100m of the M1. The nearest settlement in our District is Tamnamore 1km west. Tamnamore extends to within 0.5km in Armagh, Banbridge and Craigavon. Dungannon, Coalisland and a number of villages are within 7km of Peatlands Park SAC.

Plan Designations

The site is outside Mid Ulster. The Policy area for holders of commercial fishing licences extends to within 2km of the SAC. The SCA is within 3km and Washing Bay TOZ within 4km of Peatlands Park.

Selection Features

Feature type	Feature	Global Status	Size/extent/population
Habitat	Degraded raised bog	B	117.2 ha
Habitat	Bog Woodland	B	6.1 ha
Habitat	Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles	C	42.5 ha
Habitat	Active raised bog	C	21.8 ha

Conservation Objectives

The Conservation Objective for this site is:

To maintain (or restore where appropriate) the

- Degraded Raised Bog
- Bog Woodland
- Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles
- Active Raised Bog

to favourable condition.

The SAC selection feature component objectives are:

Degraded Raised Bog still capable of natural regeneration:

- No loss in extent of degraded raised bog to agricultural reclamation, scrub encroachment, development or further peat cutting.
- Expand the extent of actively regenerating cutover bog vegetation into areas of degraded (non-active) areas of cutover bog.
- Ensure that the hydrology of the cutover raised bog is favourable for active bog regeneration.
- Maintain and enhance the quality of actively regenerating cutover bog community types (*Sphagnum* moss, *Eriophorum* spp. and ericoid cover) including the presence of notable species.
- Maintain the diversity and quality of other habitats of conservation interest.
- Seek nature conservation management over suitable areas immediately outside the SAC where there may be potential for further raised bog regeneration.

Bog Woodland:

- Maintain and where appropriate expand the existing area of bog woodland.
- Maintain and enhance bog woodland species diversity and structural diversity.
- Maintain the diversity and quality of habitats associated with the bog woodland, e.g. fen, swamp (especially where these exhibit natural transition to swamp woodland).
- Seek nature conservation management over suitable areas immediately outside the ASSI where there may be potential for woodland expansion.

Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles:

- Maintain and where appropriate expand the existing area of oak woodland.
- Maintain and enhance Oak woodland species diversity and structuraldiversity.
- Maintain the diversity and quality of habitats associated with the Oak woodland, e.g. fen, swamp, grasslands, scrub, especially where these exhibit natural transition to Oak woodland.
- Seek nature conservation management over suitable areas immediately outside the ASSI where there may be potential for woodland expansion.

Active raised bog:

- Maintain the extent of intact lowland raised bog and actively regenerating raised bog vegetation.
- Maintain and enhance the quality of the lowland raised bog community types including the presence of notable species.
- Seek to expand the extent of actively regenerating raised bog vegetation into degraded (non-active) areas of cutover bog.
- Maintain the diversity and quality of other habitats associated with the active raised bog, e.g. acid grassland, fen and swamp, especially where these exhibit natural transition to the raised bog.
- Maintain the hydrology of the raised bog peat mass.
- Seek nature conservation management over suitable areas immediately outside the SAC where there may be potential for lowland raised bog rehabilitation.

Main Threats, Pressures and Activities with Impacts on the Site

Both on-site and off-site activities can potentially affect the site. The following is a summary of the most likely factors that are either affecting the site, or could affect it in the future: invasion by exotics, scrub encroachment, drainage and peat cutting, fly-tipping, burning, nitrogen deposition, changes to surrounding land use and climate change.

Sensitivities of Selection Features to plan

Potential impacts arising from the Plan Strategy, as identified in Chapter 5, are listed in the following table which identifies those that could affect the selection features of this site.

Potential Impacts Arising From Plan	Pathway for Impact to affect this site?	Comment	Features that may be affected
Habitat Loss	None	There will be no development within the site. Habitat loss as a result of other factors is considered below.	
Direct Disturbance	None	The selection feature is not vulnerable to disturbance.	
Indirect Disturbance	None		
Introduced Species	None	This is a threat to the site however will not arise from development in Mid Ulster.	
Aerial Emissions	Aerial	Potential nitrogen deposition from intensive agriculture or traffic could cause degradation or loss of habitat.	All features
Water Pollution	None	There is no drainage onto the site.	
Hydrological Change	None	Outside council area so no potential for this impact.	

Potential for Cumulative Impacts

Cumulative impacts could arise from proliferation of agricultural development, substantial increase in traffic on the M1, or drainage works and will be considered in Stage 2: Appropriate Assessment.

Screening conclusion

Under the precautionary approach it was deemed that Appropriate Assessment is required for this site to consider the impacts of aerial emissions on all site selection features.

STAGE 2: APPROPRIATE ASSESSMENT

Site specific evidence sources

Peatlands Park SAC Conservation Objectives V2.0, 01/04/2015
ASSI: Peatlands Park

Condition assessment

The most recent condition assessment of the bog features, in 2013, found the condition of both features to be Unfavourable: Un-classified. This was reported as being due to invasive species (including bracken or scrub); active raised bog also due to burning; degraded raised bog also due to water management (including drainage, dredging or alterations to the water table. Could be too much water or too little).

The most recent condition assessment of the woodland features, in 2017, found the condition of both features to be Unfavourable: Un-classified. This was reported as being due to the presence of alien species (mainly Beech, Sycamore and Rhododendron).

Impacts that may arise as a result of the plan

This section considers those impacts which are most likely to arise as a result of the LDP in more detail in relation to the main threats, pressures and activities with impacts on the site identified in the conservation objectives.

Excess nitrogen deposition can directly damage plants and also favour the growth of competitive plants leading to changes in ecosystem structure or function and to a reduction in biodiversity. The 3 year average 2013-2015 of 18.51 kg N/ha/yr is above the lower and upper critical loads of 5-10 kg N/ha/yr for the bog features. The 3 year average 2013-2015 of 32.52 kg N/ha/yr is above the lower and upper critical loads of 5-10 kg N/ha/yr for the bog woodland and 10-15 kg N/ha/yr for the old sessile oak woods. The 3 year average 2013-2015 ammonia concentration was 1.29 µg/m^3 which exceeds the critical level for all the site features of 1 µg/m^3. Construction in support of intensive agriculture can increase nitrogen deposition from the development site or as a result of land spreading of litter, slurry, manure or digestate.

Any changes in local land-use e.g. drainage, road improvements, afforestation, agricultural intensification and development may be detrimental to the SAC. The draft Plan Strategy does not promote any form of development adjacent to the SAC. Any applications that may come forward would have to be assessed through project level HRA.

Potential Impacts on Site Integrity in the Absence of Mitigation

The following checklist indicates the impacts that the draft Plan Strategy could have in the absence of protective measures.

Does the plan have the potential to:	Yes/No
• cause delays in progress towards achieving the conservation objectives of the site?	Yes
• interrupt progress towards achieving the conservation objectives of the site?	Yes
• disrupt those factors that help to maintain the favourable conditions of the site?	Yes
• interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site?	Yes
Other indicators: Does the plan have the potential to:	**Yes/No**
• cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?	Yes
• change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site?	No
• interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)?	Yes
• reduce the area of key habitats?	Yes
• reduce the population of key species?	Yes
• change the balance between key species?	Yes
• reduce diversity of the site?	Yes
• result in disturbance that could affect population size or density or the balance between key species?	No
• result in fragmentation?	No
• result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding , etc.)?	No

Controls in place to address threats

Any new development would be subject to legislative requirements and environmental assessment including the need to comply with the requirements of the Habitats Regulations as well as the Strategic Planning Policy Statement. The protective measures described in Chapter 5 are incorporated in the draft Plan Strategy and will also have effect.

Mitigation to address threats

The following recommendations, detailed in Chapter 7, apply to all sites: 1. International Sites – Evidence; 2. Cumulative Effects; 3. Screening – General; 4. Screening - Aerial Emissions; 5. Large Rural Development; and 6. International Sites – Recreation. Combined with incorporated measures in the draft Plan Strategy these address the potential impacts identified above.

In-combination effects from other plans or projects that are likely to have significant effects

The assessment found that, with mitigation in place, there will be no adverse effect on site integrity. The need to consider and assess further in-combination effects from other projects or plans, including those of adjacent councils, will be reviewed before the HRA is finalised.

Appropriate Assessment Conclusion

The evidence gathered and assessment undertaken does not enable us to conclude reasonably and objectively that the implementation of the plan, in the absence of mitigation, will not adversely affect selection features or the integrity of this site. Mitigation measures are therefore required to ensure that the plan will not have any effect on the integrity of these sites. These mitigation measures are identified above. Their incorporation in the Plan Strategy is discussed in Chapter 5 and additional measures are discussed in Chapter 7.

Adverse Effect on Site Integrity (AESI) Finding

Feature	AESI before mitigation	AESI after mitigation
Degraded raised bog	Potential AESI	No AESI
Bog Woodland	Potential AESI	No AESI
Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles	Potential AESI	No AESI
Active raised bog	Potential AESI	No AESI

It is therefore concluded that the draft Plan Strategy, in conjunction with the recommendations in Chapter 7, will not have an adverse effect on site integrity of Peatlands Park SAC.

Banagher Glen SAC

Status:	Designated Special Area of Conservation	**Site Code:**	UK0030083
Year:	2005	**Area:**	88 ha
Map:	Appendix 7, Map 14		

STAGE 1: TEST OF LIKELY SIGNIFICANCE

Summary Site Description

The site consists of a complex system of river valleys with wooded areas surrounding the main Owenrigh River valley and its three tributary valleys all to the south. The site has a history of continuous woodland cover, with the present woodland being over 200 years old. Due to the underlying geology the site supports examples of both acid Oak woodland and a smaller component of base-rich Ash woodland. The boundary rationale and management considerations are detailed in the Conservation Objectives.

Location and connectivity with the plan area

This site is outside the council area 4km to the northwest. There is a very small part of its catchment within Mid Ulster. Moneyneaney is 10km away.

Plan Designations

The site is outside the council area and the closest part of Mid Ulster to Banagher Glen SAC is designated as AOCWTHS, ACMD and SCA. These designations extend approximately 1.5km into Mid Ulster.

Selection Features

Feature type	Feature	Global Status	Size/extent/population
Habitat	Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles	B	60.4 ha
Habitat	*Tilio-Acerion* forests of slopes, screes and ravines	C	17.5 ha

Conservation Objectives

The Conservation Objective for this site is:

> To maintain (or restore where appropriate) the Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles and *Tilio-Acerion* forests of slopes, screes and ravines to favourable condition.

The SAC selection feature component objectives are:

Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles

- Maintain and where feasible expand the extent of existing oak woodland but not at the expense of other SAC (ABC) features. (There are area of degraded heath, wetland and damp grassland which have the potential to develop into oak woodland)
- Maintain and enhance Oak woodland species diversity and structural diversity.
- Maintain the diversity and quality of habitats associated with the Oak woodland, e.g. fen, swamp, grasslands, scrub, especially where these exhibit natural transition to Oak woodland
- Seek nature conservation management over adjacent forested areas outside the ASSI where there may be potential for woodland rehabilitation.
- Seek nature conservation management over suitable areas immediately outside the ASSI where there may be potential for woodland expansion.

Tilio-Acerion forests of slopes, screes and ravines

- Maintain and where feasible expand the extent of existing ash woodland, but not at the expense of other SAC (ABC) features (There is an area of degraded bog, wetland and damp grassland which have the potential to develop into ash woodland.
- Maintain and enhance ash woodland species diversity and structural diversity.

- Maintain the diversity and quality of habitats associated with the ash woodland, e.g. scrub, especially where these exhibit natural transition.
- Seek nature conservation management over adjacent forested areas outside the ASSI where there may be potential for woodland rehabilitation.
- Seek nature conservation management over suitable areas immediately outside the ASSI where there may be potential for woodland expansion.

Main Threats, Pressures and Activities with Impacts on the Site

Both on-site and off-site activities can potentially affect the site. The following is a summary of the most likely factors that are either affecting the site, or could affect it in the future: grazing/poaching/tree barking and browsing, invasion by exotics, slumping/landslides/erosion, dead wood removal, woodland clearance/felling, fly-tipping, nitrogen deposition, changes to surrounding land use and climate change.

Sensitivities of Selection Features to plan

Potential impacts arising from the Plan Strategy, as identified in Chapter 5, are listed in the following table which identifies those that could affect the selection features of this site.

Potential Impacts Arising From Plan	Pathway for Impact to affect this site?	Comment	Features that may be affected
Habitat Loss	None	There will be no development within the site. Habitat loss as a result of other factors is considered below.	
Direct Disturbance	None	The selection features are not vulnerable to disturbance.	
Indirect Disturbance	None		
Introduced Species	None	This is a threat to the site however will not arise from development in Mid Ulster.	
Aerial Emissions	Aerial	Potential nitrogen deposition from intensive agriculture could cause degradation or loss of habitat.	All features
Water Pollution	None	Could not affect the site selection features	
Hydrological Change	None	Could not affect the site selection features	

Potential for Cumulative Impacts

Cumulative impacts could arise from proliferation of agricultural development and will be considered in Stage 2: Appropriate Assessment.

Screening conclusion

Under the precautionary approach it was deemed that Appropriate Assessment is required for this site to consider the impacts of aerial emissions on Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles and *Tilio-Acerion* forests of slopes, screes and ravines as site selection features.

STAGE 2: APPROPRIATE ASSESSMENT

Site specific evidence sources

Banagher Glen SAC Conservation Objectives V2.0, 01/04/2015
ASSIs: Banagher Glen, River Roe and Tributaries

Condition assessment

Selection Feature	Most recent CA	Year	Adverse activity
Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles	Unfavourable: No change	2011	Over-grazing (including deer browsing)

Selection Feature	Most recent CA	Year	Adverse activity
Tilio-Acerion forests of slopes, screes and ravines	Unfavourable: No change	2011	Invasive species (including bracken or scrub)

Impacts that may arise as a result of the plan

This section considers those impacts which are most likely to arise as a result of the LDP in more detail in relation to the main threats, pressures and activities with impacts on the site identified in the conservation objectives.

Excess nitrogen deposition can directly damage plants and also favour the growth of competitive plants leading to changes in ecosystem structure or function and to a reduction in biodiversity. Construction in support of intensive agriculture can increase nitrogen deposition from the development site or as a result of land spreading of litter, slurry, manure or digestate. The following table presents 3 year averages 2013-2015 in comparison with critical loads and levels for each habitat or species. Given the extent of the SAC it is more meaningful to report ranges for nitrogen deposition and ammonia concentration rather than averages.

Selection Feature	Critical Load kg N/ha/yr.	Nitrogen Deposition (kg N/ha/yr.)	Ammonia critical level (µg/m3)	Ammonia concentration (µg/m3)
Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles	10-15	Maximum: 27.16 Minimum: 25.62 Average: 25.85	1	Maximum: 1.25 Minimum: 0.76 Average: 1.18
Tilio-Acerion forests of slopes, screes and ravines	15-20	Maximum: 27.16 Minimum: 25.62 Average: 25.85	3	Maximum: 1.25 Minimum: 0.76 Average: 1.18

Potential Impacts on Site Integrity in the Absence of Mitigation

The following checklist indicates the impacts that the draft Plan Strategy could have in the absence of protective measures.

Does the plan have the potential to:	Yes/No
• cause delays in progress towards achieving the conservation objectives of the site?	Yes
• interrupt progress towards achieving the conservation objectives of the site?	No
• disrupt those factors that help to maintain the favourable conditions of the site?	No
• interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site?	No
Other indicators: Does the plan have the potential to:	**Yes/No**
• cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?	Yes
• change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site?	No
• interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)?	No
• reduce the area of key habitats?	No
• reduce the population of key species?	No
• change the balance between key species?	No
• reduce diversity of the site?	Yes
• result in disturbance that could affect population size or density or the balance between key species?	No
• result in fragmentation?	No
• result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding , etc.)?	No

Controls in place to address threats

Any new development would be subject to legislative requirements and environmental assessment including the need to comply with the requirements of the Habitats Regulations as well as the Strategic Planning Policy

Statement. The protective measures described in Chapter 5 are incorporated in the draft Plan Strategy and will also have effect.

Mitigation to address threats

The following recommendations, detailed in Chapter 7, apply to all sites: 1. International Sites – Evidence; 2. Cumulative Effects; 3. Screening – General; 4. Screening - Aerial Emissions; 5. Large Rural Development; and 6. International Sites – Recreation. Combined with incorporated measures in the draft Plan Strategy these address the potential impacts identified above.

In-combination effects from other plans or projects that are likely to have significant effects

The assessment found that, with mitigation in place, there will be no adverse effect on site integrity. The need to consider and assess further in-combination effects from other projects or plans, including those of adjacent councils, will be reviewed before the HRA is finalised.

Appropriate Assessment Conclusion

The evidence gathered and assessment undertaken does not enable us to conclude reasonably and objectively that the implementation of the plan, in the absence of mitigation, will not adversely affect selection features or the integrity of this site. Mitigation measures are therefore required to ensure that the plan will not have any effect on the integrity of these sites. These mitigation measures are identified above. Their incorporation in the Plan Strategy is discussed in Chapter 5 and additional measures are discussed in Chapter 7.

Adverse Effect on Site Integrity (AESI) Finding

Feature	AESI before mitigation	AESI after mitigation
Old Sessile Oak woods with *Ilex* and *Blechnum* in the British Isles	Potential AESI	No AESI
Tilio-Acerion forests of slopes, screes and ravines	Potential AESI	No AESI

It is therefore concluded that the draft Plan Strategy, in conjunction with the recommendations in Chapter 7, will not have an adverse effect on site integrity of Banagher Glen SAC.

River Roe and Tributaries SAC

Status:	Designated Special Area of Conservation	**Site Code:**	UK0030360
Year:	2010	**Area:**	408 ha
Map:	Appendix 7, Map 15		

STAGE 1: TEST OF LIKELY SIGNIFICANCE

Summary Site Description

The area is of special scientific interest because of the physical features of the river and its associated riverine flora and fauna. The River Roe and Tributaries ASSI includes the River Roe and its tributaries the Curly River, the Gelvin River, the Bovevagh River (and its tributary the Altahullion Burn), the Wood Burn, the Owenbeg (and is tributary the Clogherna Burn), the Owenrigh River, the Black Burn (and its tributary the Currawable Burn) and the Owenalena River. In total, the area encompasses approximately 87km of watercourse and is notable for the physical diversity and naturalness of the banks and channels, especially in the upper reaches, and the richness and naturalness of its plant and animal communities, in particular the population of Atlantic Salmon *Salmo salar*, which is of International importance and in the extent of Upland Oakwood present.

The qualifying features are its Internationally important population of Atlantic Salmon *Salmo salar*, its *Ranunculus* community, which is found in middle and lower reaches of the River Roe and its regionally important old sessile oak woodland.

The upper limits for all the tributaries and sub-tributaries are determined by the known limits of good spawning and nursery habitat or woodland, except for the Owenrigh River which starts at the lower end of Banagher Glen SAC. The latter site also includes salmon spawning habitat although salmon are not a designation feature.

Location and connectivity with the plan area

The nearest part of this SAC is just under 1.5km west of Mid Ulster. There is a very small portion of the river's catchment in Mid Ulster and the land is largely undeveloped upland bog. The nearest settlements are Glen at 6.5km and Maghera at 7.5km.

Plan Designations

The SAC is outside the council area. Its catchment in Mid Ulster is designated as AOCWTHS, SCA and ACMD.

Selection Features

Feature type	Feature	Global Status	Size/extent/population
Species	Atlantic Salmon *Salmo salar*	B	1,000- 10,000
Habitat	Water courses of plain to montane levels with the *Ranunculus fluitans* and *Callitricho-Batrachion* vegetation	C	20km or 20% of channel length
Habitat	Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles	C	145.45ha
Species	Otter *Lutra lutra*	C	C

Conservation Objectives

The Conservation Objective for this site is:

To maintain (or restore where appropriate) the

- Atlantic Salmon *Salmo salar*
- Water courses of plain to montane levels with the *Ranunculus fluitans* and *Callitricho-Batrachion* vegetation
- Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles
- Otter *Lutra lutra*

to favourable condition.

The SAC selection feature component objectives are:

Atlantic Salmon *Salmo salar*

- Maintain and if possible expand existing population numbers and distribution (preferably through natural recruitment), and improve age structure of population.
- Maintain and if possible enhance the extent and quality of suitable Salmon habitat - particularly the chemical and biological quality of the water and the condition of the river channel and substrate.

Water courses of plain to montane levels with the *Ranunculus fluitans* and *Callitricho-Batrachion* vegetation

- Maintain and if possible enhance extent and composition of community.
- Improve water quality
- Improve channel substrate quality by reducing siltation.
- Maintain and if feasible enhance the river morphology

Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles

- Maintain and where feasible expand the extent of existing oak woodland but not at the expense of other SAC (ABC) features. (There are areas of degraded heath, wetland and damp grassland which have the potential to develop into Oak woodland)
- Maintain and enhance Oak woodland species diversity and structural diversity.
- Maintain the diversity and quality of habitats associated with the Oak woodland, e.g. fen, swamp, grasslands, scrub, especially where these exhibit natural transition to Oak woodland
- Seek nature conservation management over adjacent forested areas outside the ASSI where there may be potential for woodland rehabilitation.
- Seek nature conservation management over suitable areas immediately outside the ASSI where there may be potential for woodland expansion.

Otter *Lutra lutra*

- Maintain and if possible increase population numbers and distribution.
- Maintain the extent and quality of suitable Otter habitat, in particular the chemical and biological quality of the water and all associated wetland habitats

Main Threats, Pressures and Activities with Impacts on the Site

Both on-site and off-site activities can potentially affect the site. The following is a summary of the most likely factors that are either affecting the site, or could affect it in the future. RIVER: water quality/eutrophication, channel and bank modification, substrate siltation, water abstraction, fly-tipping, alien species. WOODLAND: grazing/poaching/tree barking and browsing, invasion by exotics, slumping/landslides/erosion, dead wood removal, woodland clearance/felling, fly-tipping. ALL: nitrogen deposition, changes to surrounding land use and climate change.

Sensitivities of Selection Features to plan

Potential impacts arising from the Plan Strategy, as identified in Chapter 5, are listed in the following table which identifies those that could affect the selection features of this site.

Potential Impacts Arising From Plan	Pathway for Impact to affect this site?	Comment	Features that may be affected
Habitat Loss	None	There will be no development within the site. Habitat loss as a result of other factors is considered below.	
Direct Disturbance	None	Not within Mid Ulster	
Indirect Disturbance	Yes	Potential for disturbance of mobile species.	Otter

Potential Impacts Arising From Plan	Pathway for Impact to affect this site?	Comment	Features that may be affected
Introduced Species	None	This is a threat to the site however will not arise from development in Mid Ulster.	
Aerial Emissions	Aerial	Potential nitrogen deposition from intensive agriculture could cause degradation or loss of habitat.	All features
Water Pollution	Hydrological	Potential impacts from construction and operation of development hydrologically connected with the SAC or its tributaries.	Aquatic species and habitat
Hydrological Change	None	A very small portion of the catchment is in Mid Ulster	

Potential for Cumulative Impacts

Cumulative impacts could arise from proliferation of agricultural developments or development in Causeway Coast and Glens Borough Council and will be considered in Stage 2: Appropriate Assessment.

Screening conclusion

Under the precautionary approach it was deemed that Appropriate Assessment is required for this site to consider the impacts of indirect disturbance, aerial emissions and water pollution on the site selection features as detailed above.

STAGE 2: APPROPRIATE ASSESSMENT

Site specific evidence sources

River Roe and Tributaries SAC Conservation Objectives V3.0, 27/07/2017
ASSI: River Roe and Tributaries

Condition assessment

Selection Feature	Most recent CA	Year	Adverse activity
Salmo salar	Favourable: Un-classified	2011	
Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles	Unfavourable: Un-classified	2011	Invasive species (including bracken or scrub); Agricultural operations (e.g. ploughing, fertiliser, pesticides)
Lutra lutra	Favourable: Un-classified	2010	
Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation	Unfavourable: Un-classified	2011	Not specified

Impacts that may arise as a result of the plan

This section considers those impacts which are most likely to arise as a result of the LDP in more detail in relation to the main threats, pressures and activities with impacts on the site identified in the conservation objectives.

Water quality is the most important factor for most of the SAC selection features, with both point and diffuse sources of pollution potentially damaging. These are dependent on human activities throughout the catchment. Sand wash from a number of commercial sandpits in the upper reaches of the tributary rivers has resulted in siltation of the riverbed downstream.

Excess nitrogen deposition can directly damage plants and also favour the growth of competitive plants leading to changes in ecosystem structure or function and to a reduction in biodiversity. Construction in support of intensive agriculture can increase nitrogen deposition from the development site or as a result of land spreading of litter, slurry, manure or digestate. Road development leading to a significant increase in

traffic could increase the deposition of nitrogen from traffic however there are no major roads near this SAC within Mid Ulster.

Potential Impacts on Site Integrity in the Absence of Mitigation

The following checklist indicates the impacts that the draft Plan Strategy could have in the absence of protective measures.

Does the plan have the potential to:	Yes/No
• cause delays in progress towards achieving the conservation objectives of the site?	Yes
• interrupt progress towards achieving the conservation objectives of the site?	Yes
• disrupt those factors that help to maintain the favourable conditions of the site?	Yes
• interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site?	Yes
Other indicators: Does the plan have the potential to:	**Yes/No**
• cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?	Yes
• change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site?	No
• interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)?	No
• reduce the area of key habitats?	No
• reduce the population of key species?	Yes
• change the balance between key species?	Yes
• reduce diversity of the site?	Yes
• result in disturbance that could affect population size or density or the balance between key species?	No
• result in fragmentation?	No
• result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding , etc.)?	No

Controls in place to address threats

Any new development would be subject to legislative requirements and environmental assessment including the need to comply with the requirements of the Habitats Regulations as well as the Strategic Planning Policy Statement. The protective measures described in Chapter 5 are incorporated in the draft Plan Strategy and will also have effect.

Mitigation to address threats

The following recommendations, detailed in Chapter 7, apply to all sites: 1. International Sites – Evidence; 2. Cumulative Effects; 3. Screening – General; 4. Screening - Aerial Emissions; 5. Large Rural Development; and 6. International Sites – Recreation. Combined with incorporated measures in the draft Plan Strategy these address the potential impacts identified above.

In-combination effects from other plans or projects that are likely to have significant effects

The assessment found that, with mitigation in place, there will be no adverse effect on site integrity. The need to consider and assess further in-combination effects from other projects or plans, including those of adjacent councils, will be reviewed before the HRA is finalised.

Appropriate Assessment Conclusion

The evidence gathered and assessment undertaken does not enable us to conclude reasonably and objectively that the implementation of the plan, in the absence of mitigation, will not adversely affect selection features or the integrity of this site. Mitigation measures are therefore required to ensure that the plan will not have any effect on the integrity of these sites. These mitigation measures are identified above. Their incorporation in the Plan Strategy is discussed in Chapter 5 and additional measures are discussed in Chapter 7.

Adverse Effect on Site Integrity (AESI) Finding

Feature	AESI before mitigation	AESI after mitigation
Water courses of plain to montane levels with the *Ranunculus fluitans* and *Callitricho-Batrachion* vegetation	Potential AESI	No AESI
Old Sessile Oak woods with *Ilex* and *Blechnum* in the British Isles	Potential AESI	No AESI
Otter *Lutra lutra*	Potential AESI	No AESI
Atlantic Salmon *Salmo salar*	Potential AESI	No AESI

It is therefore concluded that the draft Plan Strategy, in conjunction with the recommendations in Chapter 7, will not have an adverse effect on site integrity of River Roe and Tributaries SAC.

Owenkillew River SAC

Status:	Designated Special Area of Conservation	**Site Code:**	UK0030233
Year:	2005	**Area:**	214 ha
Map:	Appendix 7, Map 12		

STAGE 1: TEST OF LIKELY SIGNIFICANCE

Summary Site Description

The SAC includes the river (42 km stretch) and its associated riverine flora and fauna and adjacent semi-natural vegetation, primarily woodland flora and fauna. The river rises at an altitude of 415m and flows into the Strule at an altitude of 35m. It is a fast-flowing spate river; notable for the physical diversity and naturalness of the bank and channel, the richness and naturalness of its plant and animal communities, which includes extensive beds of Stream Water Crowfoot *Ranunculus penicillatus* var. *penicillatus* and the largest Northern Ireland population of the now rare Fresh Water Pearl Mussel *Margaritifera margaritifera*. In addition, the river is important for Otter *Lutra lutra* and Atlantic Salmon *Salmo salar*.

Adjacent woodlands which form part of the SAC include Drumlea and Mullan Woods ASSI and the Owenkillew and Glenelly Woods ASSI, two of the largest stands of Oak woodland in Northern Ireland. An area of localised waterlogging in the former woodland has resulted in the development of Bog Woodland.

In the upper reaches, the river flows through a predominantly upland peatland landscape used for rough grazing. The river channel is generally unenclosed. The main SAC qualifying features are *Margaritifera margaritifera* and *Ranunculus* communities, which are confined to the main channel. The upper limits of the site have been determined by the restricted size of the channel. Downstream limit is at the confluence with the Strule, where the site joins with the adjacent River Foyle and Tributaries SAC.

Location and connectivity with the plan area

The upper reaches of the SAC arise in Davagh Forest. It runs about 10km through Mid Ulster and extends a further 20km west through Fermanagh and Omagh and into Derry and Strabane District Councils. The nearest settlement is Dunnamore 3km to the south.

Plan Designations

There are several plan designations around Owenkillew River SAC. These are a DRC, ASAI, ACMD, TCZ and TOZ. The most extensive designation is the ACMD which incorporates all the other designations. This includes most of the SAC other than its southern bank of its lowermost 1.5km reach which is forestry. Although less extensive the ASAI has a similar relation to the SAC as the ACMD. The remaining designations adjoin but do not overlap each other. The TOZ is centred on Davagh Forest and includes 1.7km of the northern tributary of the SAC. Davagh TCZ has two components the western part being adjacent to the upper tributaries of the SAC. The DRC is downstream of the TOZ and includes the greater part of this SAC that is within Mid Ulster.

Selection Features

Feature type	Feature	Global Status	Size/extent/population
Species	Freshwater Pearl Mussel *Margaritifera margaritifera*	B	10,000
Habitat	Water courses of plain to montane levels with the *Ranunculus fluitans* and *Callitricho-Batrachion* vegetation	B	83% of channel length
Habitat	Old Sessile Oak woods with *Ilex* and *Blechnum* in the British Isles	B	79ha
Habitat	Bog Woodland	C	1.5ha
Species	Otter *Lutra lutra*	C	
Species	Atlantic Salmon *Salmo salar*	C	2,700

Conservation Objectives

The Conservation Objective for this site is:

To maintain (or restore where appropriate) the

- Fresh Water Pearl Mussel *Margaritifera margaritifera*
- Water courses of plain to montane levels with the *Ranunculus fluitans* and *Callitricho-Batrachion* vegetation
- Old Sessile Oak woods with *Ilex* and *Blechnum* in the British Isles
- Bog Woodland
- Otter *Lutra lutra*
- Atlantic Salmon *Salmo salar*

to favourable condition.

The SAC selection feature component objectives are:

Freshwater Pearl Mussel *Margaritifera margartifera*

- Maintain and if feasible enhance population numbers through natural recruitment.
- Improve age structure of population.
- Improve water quality.
- Improve channel substrate quality by reducing siltation.
- Ensure host fish population is adequate for recruitment.
- Increase the amount of shading through marginal tree cover along those sections of river currently supporting this species.

Water courses of plain to montane levels with the *Ranunculus fluitans* and *Callitricho-Batrachion* vegetation

- Maintain and if feasible enhance extent and composition of community.
- Improve water quality
- Improve channel substrate quality by reducing siltation.
- Maintain and if feasible enhance the river morphology

Old Sessile Oak woods with *Ilex* and *Blechnum* in the British Isles

- Maintain and expand the extent of existing oak woodland. (There is an area of degraded bog, wetland and damp grassland which have the potential to develop into oak woodland
- Maintain and enhance Oak woodland species diversity and structural diversity.
- Maintain the diversity and quality of habitats associated with the Oak woodland, e.g. fen, swamp, grasslands, scrub, especially where these exhibit natural transition to Oak woodland
- Seek nature conservation management over adjacent forested areas outside the ASSI where there may be potential for woodland rehabilitation.
- Seek nature conservation management over suitable areas immediately outside the ASSI where there may be potential for woodland expansion.

Bog Woodland

- Maintain and expand the extent of existing bog woodland. (There is an area of degraded bog, wetland and damp grassland that have the potential to develop into bog woodland.
- Maintain and enhance bog woodland species diversity and structural diversity.
- Maintain the diversity and quality of habitats associated with the bog woodland, e.g. fen, swamp, especially where these exhibit natural transition to swamp woodland.
- Seek nature conservation management over adjacent forested areas outside the ASSI where there may be potential for woodland rehabilitation.
- Seek nature conservation management over suitable areas immediately outside the ASSI where there may be potential for woodland expansion.

Otter *Lutra lutra*

- Population numbers and distribution to be maintained and if possible, expanded.
- Maintain the extent and quality of suitable Otter habitat, in particular the chemical and biological quality of the water, and all associated wetland habitats

Atlantic Salmon *Salmo salar*

- Maintain and if possible, expand existing population numbers and distribution
- Maintain and where possible, enhance the extent and quality of suitable Salmon habitat, in particular the chemical and biological quality of the water

Main Threats, Pressures and Activities with Impacts on the Site

Both on-site and off-site activities can potentially affect the site. The following is a summary of the most likely factors that are either affecting the site, or could affect it in the future. RIVER HABITATS AND SPECIES: water quality/eutrophication, channel and bank modification, substrate siltation, sand extraction, fish farms, water extraction, fly-tipping, alien species. WOODLAND HABITATS AND SPECIES: grazing/poaching/tree barking and browsing, invasion by exotics. ALL: nitrogen deposition, changes to surrounding land use and climate change.

Sensitivities of Selection Features to plan

Potential impacts arising from the Plan Strategy, as identified in Chapter 5, are listed in the following table which identifies those that could affect the selection features of this site.

Potential Impacts Arising From Plan	Pathway for Impact to affect this site?	Comment	Features that may be affected
Habitat Loss	Yes	Direct or indirect damage to river habitat including modification of channel or banks.	All features
Direct Disturbance	Yes	Direct disturbance to species due to works in/adjacent to river	Aquatic species
Indirect Disturbance	Yes	Indirect disturbance to species due to works in/adjacent to river	Aquatic species
Introduced Species	Yes	Spread of species during construction works	All features
Aerial Emissions	Aerial	Potential nitrogen deposition from intensive agriculture could cause degradation or loss of habitat	All features
Water Pollution	Yes	Potential impacts from construction and operation of development hydrologically connected with the SAC or its tributaries.	Aquatic species and habitat
Hydrological Change	Adjacent/nearby development	Potential change of flow from development which alters flows through abstraction, discharges or modification of channel or banks.	Aquatic species and habitat, bog woodland

Potential for Cumulative Impacts

Cumulative impacts could arise from proliferation of housing, agricultural or other development, forestry management or drainage works, and will be considered in Stage 2: Appropriate Assessment.

Screening conclusion

Under the precautionary approach it was deemed that Appropriate Assessment is required for this site to consider the impacts of habitat loss, direct disturbance, indirect disturbance, invasive species, aerial emissions, water pollution and hydrological change on the site selection features as detailed above.

STAGE 2: APPROPRIATE ASSESSMENT

Site specific evidence sources

Owenkillew River SAC Conservation Objectives V3.0, 27/07/2017
ASSIs: Owenkillew and Glenelly Woods, Drumlea and Mullan Woods, Owenkillew River, River Foyle and Tributaries

Condition assessment

Selection Feature	ASSI Name	Most recent CA	Year	Adverse activity
Bog woodland	Drumlea and Mullan Woods	Unfavourable: Recovering	2012	Over-grazing (including deer browsing)
Lutra lutra	Owenkillew River	Favourable: Un-classified	2015	
Margaritifera margaritifera	Owenkillew River	Unfavourable: Un-classified	2016/ 2017	Water quality (including silt, water pollution (direct or diffuse), run-off, nutrient enrichment, eutrophication etc.)
Old sessile oak woods	Drumlea and Mullan Woods	Unfavourable: Recovering	2012	Over-grazing (including deer browsing)
Old sessile oak woods	Owenkillew and Glenelly Woods	Unfavourable: Un-classified	2016	Invasive species (including bracken or scrub)
Salmo salar	Owenkillew River	Unfavourable: Un-classified	2011	Other (not specified)
Water courses with vegetation	Owenkillew River	Unfavourable: Un-classified	2011	Other (not specified)

Impacts that may arise as a result of the plan

This section considers those impacts which are most likely to arise as a result of the LDP in more detail in relation to the main threats, pressures and activities with impacts on the site identified in the conservation objectives.

Water quality is the most important factor for most of the SAC selection features, with both point and diffuse sources of pollution potentially damaging. These are dependent on human activities throughout the catchment.

Channel and bank modification can directly affect the habitat. The Owenkillew River has been extensively altered by man in the past, especially along the upper reach of the river, resulting in a reduction of the natural channel area available to *M. margaritifera* and macrophyte communities. The river has recovered somewhat from the effects of resectioning.

Siltation is detrimental to aquatic selection features. A significant portion of the area is afforested (especially the upper catchments), with a potential risk of sediment release during forestry operations, especially clear-felling. Sand wash from a number of commercial sandpits in the upper reaches of the river has resulted in siltation of the riverbed downstream. Trampling by livestock has an obvious direct impact but in some sections of the river, trampling and poaching of the river bank and channel have caused erosion, resulting in siltation of the riverbed downstream.

Fish farms can have a very serious impact on rivers. Fish farms normally abstract water from the river and release effluent downstream. Given that the portion of the SAC in Mid Ulster is in the headwaters this is unlikely to be a threat. Any other forms of development requiring water abstraction could have an adverse effect on aquatic selection features.

Excess nitrogen deposition can directly damage plants and also favour the growth of competitive plants leading to changes in ecosystem structure or function and to a reduction in biodiversity. Construction in support of intensive agriculture can increase nitrogen deposition from the development site or as a result of land spreading of litter, slurry, manure or digestate. Road development leading to a significant increase in

traffic could increase the deposition of nitrogen from traffic however there are no major roads near this SAC within Mid Ulster. The following table presents 3 year averages 2013-2015 in comparison with critical loads and levels for each habitat or species.

Selection Feature	Critical Load kg N/ha/yr.	Nitrogen Deposition (kg N/ha/yr.)	Ammonia critical level (µg/m3)	Ammonia concentration (µg/m3)
Bog woodland	5-10	Maximum: 27.72 Minimum: 23.94	Site specific advice should be sought	Maximum: 1.99 Minimum: 1.1
Old sessile oak woods	10-15	Maximum: 27.72 Minimum: 23.94	Site specific advice should be sought	Maximum: 1.99 Minimum: 1.1
Lutra lutra	No comparable habitat with established critical load estimate available	Maximum: 17.36 Minimum: 10.08	3	Maximum: 1.99 Minimum: 1.1
Margaritifera margaritifera	No comparable habitat with established critical load estimate available	Maximum: 17.36 Minimum: 10.08	3	Maximum: 1.99 Minimum: 1.1
Salmo salar	No comparable habitat with established critical load estimate available	Maximum: 17.36 Minimum: 10.08	3	Maximum: 1.99 Minimum: 1.1
Water courses with vegetation	No comparable habitat with established critical load estimate available	Maximum: 17.36 Minimum: 10.08	Site specific advice should be sought	Maximum: 1.99 Minimum: 1.1

Any changes in local land-use e.g. drainage, road improvements, afforestation, agricultural intensification and development may be detrimental to the SAC.

Visitor impact is not identified as a potential pressure however the draft Plan Strategy does identify the area as a destination for visitors.

Potential Impacts on Site Integrity in the Absence of Mitigation

The following checklist indicates the impacts that the draft Plan Strategy could have in the absence of protective measures.

Does the plan have the potential to:	Yes/No
• cause delays in progress towards achieving the conservation objectives of the site?	Yes
• interrupt progress towards achieving the conservation objectives of the site?	Yes
• disrupt those factors that help to maintain the favourable conditions of the site?	Yes
• interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site?	Yes
Other indicators: Does the plan have the potential to:	**Yes/No**
• cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?	Yes
• change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site?	Yes
• interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)?	Yes
• reduce the area of key habitats?	Yes
• reduce the population of key species?	Yes
• change the balance between key species?	Yes
• reduce diversity of the site?	Yes
• result in disturbance that could affect population size or density or the balance between key species?	Yes
• result in fragmentation?	Yes
• result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding , etc.)?	Yes

Controls in place to address threats

Any new development would be subject to legislative requirements and environmental assessment including the need to comply with the requirements of the Habitats Regulations as well as the Strategic Planning Policy Statement. The protective measures described in Chapter 5 are incorporated in the draft Plan Strategy and will also have effect.

Mitigation to address threats

The following recommendations, detailed in Chapter 7, apply to all sites: 1. International Sites – Evidence; 2. Cumulative Effects; 3. Screening – General; 4. Screening - Aerial Emissions; 5. Large Rural Development; and 6. International Sites – Recreation. The following recommendations will address potential disturbance impacts from development for recreation, water quality impacts from development in the DRC and potential direct impacts on the river from development in or adjacent to the SAC: 7. TOZs - Recreation Impacts; 9. Wastewater Treatment; 10. Artificial Modification of Watercourses; 11. Rivers - Physical/Flow; 13. Rivers - Development Pressure; 14; TOZs - Development Pressure. Combined with incorporated measures in the draft Plan Strategy these address the potential impacts identified above.

In-combination effects from other plans or projects that are likely to have significant effects

The assessment found that, with mitigation in place, there will be no adverse effect on site integrity. The need to consider and assess further in-combination effects from other projects or plans, including those of adjacent councils, will be reviewed before the HRA is finalised.

Appropriate Assessment Conclusion

The evidence gathered and assessment undertaken does not enable us to conclude reasonably and objectively that the implementation of the plan, in the absence of mitigation, will not adversely affect selection features or the integrity of this site. Mitigation measures are therefore required to ensure that the plan will not have any effect on the integrity of these sites. These mitigation measures are identified above. Their incorporation in the Plan Strategy is discussed in Chapter 5 and additional measures are discussed in Chapter 7.

Adverse Effect on Site Integrity (AESI) Finding

Feature	AESI before mitigation	AESI after mitigation
Fresh Water Pearl Mussel Margaritifera margaritifera	Potential AESI	No AESI
Water courses of plain to montane levels with the *Ranunculus fluitans* and *Callitricho-Batrachion* vegetation	Potential AESI	No AESI
Old Sessile Oak woods with *Ilex* and *Blechnum* in the British Isles	Potential AESI	No AESI
Bog Woodland	Potential AESI	No AESI
Otter *Lutra lutra*	Potential AESI	No AESI
Atlantic Salmon *Salmo salar*	Potential AESI	No AESI

It is therefore concluded that the draft Plan Strategy, in conjunction with the recommendations in Chapter 7, will not have an adverse effect on site integrity of Owenkillew River SAC.

Upper Ballinderry River SAC

Status:	Designated Special Area of Conservation	**Site Code:**	UK0030296
Year:	2005	**Area:**	59 ha
Map:	Appendix 7, Map 13		

STAGE 1: TEST OF LIKELY SIGNIFICANCE

Summary Site Description

The SAC includes the river and its associated riverine flora and fauna and adjacent semi-natural vegetation, primarily woodland flora and fauna. This 24.1km of river rises at an altitude of 195m and flows through Cookstown at an altitude of 45m. It is a fast-flowing spate river, notable for the physical diversity and naturalness of the bank and channel, and the richness and naturalness of its plant and animal communities. These include White-clawed Crayfish *Austropotamobius pallipes*, beds of Stream Water Crowfoot *Ranunculus penicillatus* var. *penicillatus* and one of the largest Northern Ireland population of the now rare Freshwater Pearl Mussel *Margaritifera margaritifera*. The adjacent semi-natural vegetation is typically Blanket Bog in the upper catchment and woodlands in the lower. However, the woodland is very fragmented and variable but includes Oak, Alluvial and Ash woodland types which contain notable species such as Rough Horsetail *Equisetum hyemale* and Wood Fescue *Festuca altissima*, in addition to a rich fungi community. The SAC qualifying features of *Margaritifera margaritifera* and the *Ranunculus* community are confined to the main channel.

Location and connectivity with the plan area

The SAC follows the border northwards between Fermanagh and Omagh and Mid Ulster for approximately 4km. Just north of the A505 it bears east and continues about 20km to end where it meets the A505 within the Cookstown settlement limits. The lower 1km runs along and into Cookstown settlement limit. Dunnamore is within 0.2km north of the SAC and Kileenan 0.6km south. Other settlements within the catchment are Goracladdy and Orritor.

Plan Designations

The AOCWTHS, ACMD, TCZ are just over 1km to the north of the SAC and include a small portion of its Ballinderry River (Dunamore) and Tulnacross River catchments. The TOZ includes a very small part of the Tulnacross River catchment. Within the Cookstown settlement limit there is an area zoned for recreation and open space. The ACMD around the Upper Ballinderry which was identified in the Cookstown Area Plan 2010 has not been brought forward. This is based on the extent of sand and gravel extraction in this area.

Selection Features

Feature type	Feature	Global Status	Size/extent/population
Species	Freshwater Pearl Mussel *Margaritifera margaritifera*	B	1000
Habitat	Water courses of plain to montane levels with the *Ranunculus fluitans* and *Callitricho-Batrachion* vegetation	B	95% of channel length
Species	Otter *Lutra lutra*	C	

Conservation Objectives

The Conservation Objective for this site is:

To maintain (or restore where appropriate) the

- Fresh Water Pearl Mussel *Margaritifera margaritifera*
- Water courses of plain to montane levels with the *Ranunculus fluitans* and *Callitricho-Batrachion* vegetation
- Otter *Lutra lutra*

to favourable condition.

The SAC selection feature component objectives are:

Freshwater Pearl Mussel *Margaritifera margartifera*

- Maintain and if feasible enhance population numbers through natural recruitment.
- Improve age structure of population.
- Improve water quality.
- Improve channel substrate quality by reducing siltation.
- Ensure host fish population is adequate for recruitment.

Water courses of plain to montane levels with the *Ranunculus fluitans* and *Callitricho-Batrachion* vegetation

- Maintain and if feasible enhance extent and composition of community.
- Improve water quality
- Improve channel substrate quality by reducing siltation.
- Maintain and if feasible enhance the river morphology

Old Sessile Oak woods with *Ilex* and *Blechnum* in the British Isles

- Maintain and expand the extent of existing oak woodland. (There is an area of degraded bog, wetland and damp grassland which have the potential to develop into oak woodland
- Maintain and enhance Oak woodland species diversity and structural diversity.
- Maintain the diversity and quality of habitats associated with the Oak woodland, e.g. fen, swamp, grasslands, scrub, especially where these exhibit natural transition to Oak woodland
- Seek nature conservation management over adjacent forested areas outside the ASSI where there may be potential for woodland rehabilitation.
- Seek nature conservation management over suitable areas immediately outside the ASSI where there may be potential for woodland expansion.

Otter *Lutra lutra*

- Population numbers and distribution to be maintained and if possible, expanded.
- Maintain the extent and quality of suitable Otter habitat, in particular the chemical and biological quality of the water, and all associated wetland habitats

Main Threats, Pressures and Activities with Impacts on the Site

Both on-site and off-site activities can potentially affect the site. The following is a summary of the most likely factors that are either affecting the site, or could affect it in the future: fish farms, water extraction, water quality/eutrophication, channel and bank modification, substrate siltation, trampling, fly-tipping, alien species, nitrogen deposition, changes to surrounding land use and climate change.

Sensitivities of Selection Features to plan

Potential impacts arising from the Plan Strategy, as identified in Chapter 5, are listed in the following table which identifies those that could affect the selection features of this site.

Potential Impacts Arising From Plan	Pathway for Impact to affect this site?	Comment	Features that may be affected
Habitat Loss	Yes	Direct or indirect damage to river habitat including modification of channel or banks.	All features
Direct Disturbance	Yes	Direct disturbance to species due to works in/adjacent to river	All features
Indirect Disturbance	Yes	Indirect disturbance to species due to works in/adjacent to river	All features
Introduced Species	Yes	Spread of species during construction works	All features

Potential Impacts Arising From Plan	Pathway for Impact to affect this site?	Comment	Features that may be affected
Aerial Emissions	Aerial	Potential nitrogen deposition from intensive agriculture could cause degradation or loss of habitat	All features
Water Pollution	Yes	Potential impacts from construction and operation of development hydrologically connected with the SAC or its tributaries.	All features
Hydrological Change	Adjacent/nearby development	Potential change of flow from development which alters flows through abstraction, discharges or modification of channel or banks.	All features

Potential for Cumulative Impacts

Cumulative impacts could arise from proliferation of housing, agricultural or other development, forestry management or drainage works, and will be considered in Stage 2: Appropriate Assessment.

Screening conclusion

Under the precautionary approach it was deemed that Appropriate Assessment is required for this site to consider the impacts of habitat loss, direct disturbance, indirect disturbance, invasive species, aerial emissions, water pollution and hydrological change on all site selection features.

STAGE 2: APPROPRIATE ASSESSMENT

Site specific evidence sources

Upper Ballinderry River SAC Conservation Objectives V2.0, 01/04/2015
ASSI: Upper Ballinderry River

Condition assessment

Selection Feature	Most recent CA	Year	Adverse activity
Lutra lutra	Favourable: Maintained	2016	
Margaritifera margaritifera	Unfavourable: Un-classified	2016/ 2017	Water quality (including silt, water pollution (direct or diffuse), run-off, nutrient enrichment, eutrophication etc.)
Water courses with vegetation	Unfavourable: Un-classified	2011	Not specified

Impacts that may arise as a result of the plan

This section considers those impacts which are most likely to arise as a result of the LDP in more detail in relation to the main threats, pressures and activities with impacts on the site identified in the conservation objectives.

Fish farms normally abstract water from the river and release effluent downstream and can have a variety of impacts water quality and flow. Any other forms of development requiring water abstraction could have an adverse effect on aquatic selection features.

Water quality is the most important factor in the enhancement of the Ballinderry catchment and is affected from both point and diffuse source pollution.

Channel and bank modification can directly affect the habitat. The Ballinderry river has been extensively altered by man in the recent past, however the river continues to recover from the effects of modification.

Siltation is detrimental to aquatic selection features. Sand wash from a number of commercial sandpits in the upper reach of the river has resulted in siltation of the riverbed downstream of the access points. Given the sensitivity of the site features it is essential that any new/extended minerals extraction has high and secure standards of water treatment and complies with discharge consents.

Giant Hogweed *Heracleum mantegazzianum* is present along the riverbanks in the lower reach of the river, close to Cookstown.

Excess nitrogen deposition can directly damage plants and also favour the growth of competitive plants leading to changes in ecosystem structure or function and to a reduction in biodiversity. Construction in support of intensive agriculture can increase nitrogen deposition from the development site or as a result of land spreading of litter, slurry, manure or digestate. The following table presents 3 year averages 2013-2015 in comparison with critical loads and levels for each habitat or species. Given the extent of the SAC it is more meaningful to report ranges for nitrogen deposition and ammonia concentration rather than averages.

Selection Feature	Critical Load kg N/ha/yr.	Nitrogen Deposition (kg N/ha/yr.)	Ammonia critical level (µg/m3)	Ammonia concentration (µg/m3)
Lutra lutra	No comparable habitat with established critical load estimate available	Maximum: 13.72 Minimum: 10.92	3	Maximum: 4.75 Minimum: 1.37
Margaritifera margaritifera	No comparable habitat with established critical load estimate available	Maximum: 13.72 Minimum: 10.92	3	Maximum: 4.75 Minimum: 1.37
Water courses with vegetation	No comparable habitat with established critical load estimate available	Maximum: 13.72 Minimum: 10.92	Site specific advice should be sought	Maximum: 4.75 Minimum: 1.37

Any changes in local land-use e.g. drainage, road improvements, afforestation, agricultural intensification and development may be detrimental to the SAC.

Potential Impacts on Site Integrity in the Absence of Mitigation

The following checklist indicates the impacts that the draft Plan Strategy could have in the absence of protective measures.

Does the plan have the potential to:	Yes/No
• cause delays in progress towards achieving the conservation objectives of the site?	Yes
• interrupt progress towards achieving the conservation objectives of the site?	Yes
• disrupt those factors that help to maintain the favourable conditions of the site?	Yes
• interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site?	Yes
Other indicators: Does the plan have the potential to:	**Yes/No**
• cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?	Yes
• change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site?	Yes
• interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)?	Yes
• reduce the area of key habitats?	Yes
• reduce the population of key species?	Yes
• change the balance between key species?	Yes
• reduce diversity of the site?	Yes
• result in disturbance that could affect population size or density or the balance between key species?	Yes
• result in fragmentation?	Yes
• result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding , etc.)?	Yes

Controls in place to address threats

Any new development would be subject to legislative requirements and environmental assessment including the need to comply with the requirements of the Habitats Regulations as well as the Strategic Planning Policy Statement. The protective measures described in Chapter 5 are incorporated in the draft Plan Strategy and will also have effect.

Mitigation to address threats

The following recommendations, detailed in Chapter 7, apply to all sites: 1. International Sites – Evidence; 2. Cumulative Effects; 3. Screening – General; 4. Screening - Aerial Emissions; 5. Large Rural Development; and 6. International Sites – Recreation. The following recommendations will address potential water quality impacts from development in the catchment and potential direct impacts on the river from development in or adjacent to the SAC: 9. Wastewater Treatment; 10. Artificial Modification of Watercourses; 11. Rivers - Physical/Flow; 13. Rivers - Development Pressure. Combined with incorporated measures in the draft Plan Strategy these address the potential impacts identified above.

In-combination effects from other plans or projects that are likely to have significant effects

The assessment found that, with mitigation in place, there will be no adverse effect on site integrity The Ballinderry River Enhancement Programme has worked to improve the habitat of the SAC and some tributaries. Planning decisions should be informed by this project to ensure that development does not work against the enhancement programme. The need to consider and assess further in-combination effects from other projects or plans, including those of adjacent councils, will be reviewed before the HRA is finalised.

Appropriate Assessment Conclusion

The evidence gathered and assessment undertaken does not enable us to conclude reasonably and objectively that the implementation of the plan, in the absence of mitigation, will not adversely affect selection features or the integrity of this site. Mitigation measures are therefore required to ensure that the plan will not have any effect on the integrity of these sites. These mitigation measures are identified above. Their incorporation in the Plan Strategy is discussed in Chapter 5 and additional measures are discussed in Chapter 7.

Adverse Effect on Site Integrity (AESI) Finding

Feature	AESI before mitigation	AESI after mitigation
Fresh Water Pearl Mussel *Margaritifera margaritifera*	Potential AESI	No AESI
Water courses of plain to montane levels with the *Ranunculus fluitans* and *Callitricho-Batrachion* vegetation	Potential AESI	No AESI
Otter *Lutra lutra*	Potential AESI	No AESI

It is therefore concluded that the draft Plan Strategy, in conjunction with the recommendations in Chapter 7, will not have an adverse effect on site integrity of Upper Ballinderry River SAC.

Slieve Beagh SAC and Ramsar Site

Status:	Designated Special Area of Conservation	**Site Code:**	UK0016622
Year:	2005	**Area:**	1888 ha
Status:	Designated Ramsar Site	**Site Code:**	UK12020
Year:	1999	**Area:**	1885 ha
Map:	Appendix 7, Map 16		

STAGE 1: TEST OF LIKELY SIGNIFICANCE

Summary Site Description

Slieve Beagh SAC

Slieve Beagh is an upland area lying approximately 6 km south of Clogher in County Tyrone, with the southern most projection extending into County Fermanagh. The upland area also extends across the border into Co. Monaghan. Within Northern Ireland, the upland topography undulates to a maximum height of 380 m at Doocarn, but generally lies between 200 and 350 m. The blanket bog, which covers most of the area, is the third largest intact bog in Northern Ireland.

Peat depth is variable and consequently the peatland structure is highly diverse with hummock, lawn and pool complexes on the deepest peats grading into large expenses of blanketing peats on low gradients to heathland communities on the steepest and more exposed slopes. Typically, the peatland vegetation supports good *Sphagnum*-rich blanket bog vegetation with high dwarf-shrub cover. Several lakes, on site have characteristically un-enriched waters with some conforming to EU 'Habitats Directive' Annex I types. Slieve Beagh SAC shares the Slieve Beagh Ramsar boundary and is contained within the larger Slieve Beagh SPA. The boundary rationale and management considerations are detailed in the Conservation Objectives.

Slieve Beagh Ramsar Site

The peatland exhibits a number of notable structural features, which include occasional well developed hummock and lawn complexes, a few small localised pool complexes, as well as soakways and flushes. The general vegetation is characterised by *Sphagnum* mosses, ericoid dwarf-shrubs and sedges, with the composition and abundance of these components dependent on local edaphic conditions, in particular the water table and relief.

The peatland flora includes a number of rare and unusual species including cowberry *Vaccinium vitisidaea* and the mosses *Sphagnum fuscum* and *S. imbricatum*.

Several upland, base-poor lakes occur within the complex. The most common type is characterised by the aquatic mosses *Sphagnum cuspidatum*, *S. denticulatum*, *Drepanocladus* spp. and the liverwort *Jungermannia* spp. The floating and marginal vegetation associated with these waterbodies tends to be sparse and restricted, and consists of a scattered swamp and poor acid fen fringe.

The area supports a breeding population of red grouse *Lagopus lagopus*. In addition, it is regularly used throughout the year by golden plover *Pluvialis apricaria* and hen harrier *Circus cyaneus*.

Contemporary geomorphological processes include limited piping, sinks and collapsed hollows in the peat and a number of substantial bog-bursts.

Location and connectivity with the plan area

The majority of the SAC is in Mid Ulster with the remainder in Fermanagh and Omagh District. The nearest settlements is Clogher at 6km.

Plan Designations

There are three overlapping plan designations around Slieve Beagh SAC and Ramsar site. The ACMD and AOCWTHS share the same boundary other than for a small area to the west where the ACMD extends further. The SCA shares the western and northeastern boundary of the AOCWTHS, however it does not extend as far north as the other designations. The AOCWTHS includes the SAC and Ramsar site other than a small area on

its western boundary. The SAC and Ramsar site are included in the ACMD other than a tiny area on its southwestern boundary. The SAC and Ramsar site are included in the SCA other than a small fringe to the north west. In places to the north and east, the SCA extends beyond the SAC and Ramsar site.

Selection Features

Slieve Beagh SAC

Feature type	Feature	Global Status	Size/extent/population
Habitat	Active blanket bog	B	1112 ha
Habitat	Natural dystrophic lakes and pools	B	2> 4 ha lake, 2> 1 ha, 5< 1 ha total est. 15.3 ha
Habitat	European dry heaths	C	80 ha

Slieve Beagh Ramsar Site

Ramsar Criterion 1: The site is a large and relatively intact example of a blanket bog and one of the best examples of this habitat in the UK. It also contains nationally important examples of transitional and alkaline fen and oligotrophic/mesotrophic lakes.

Conservation Objectives

The Conservation Objective for this site is:

To maintain (or restore where appropriate) the

- Active Blanket Bog
- Natural dystrophic lakes and pools
- European Dry Heaths

to favourable condition.

The SAC selection feature component objectives are:

Active Blanket Bog

- Maintain the extent of intact blanket bog and actively regenerating blanket bog vegetation.
- Maintain and enhance the quality of the blanket bog community types including the presence of notable species.
- Seek to expand the extent of actively regenerating blanket bog vegetation into degraded (non-active) areas of cutover bog.
- Maintain the diversity and quality of other habitats associated with the blanket bog, especially where these exhibit natural transition to the blanket bog.
- Maintain the hydrology of the intact blanket bog peat mass.
- Seek nature conservation management over suitable areas immediately outside the SAC where there may be the potential for blanket bog rehabilitation.

Natural dystrophic lakes and pools

- Maintain the open water area of ponds and lakes.
- Maintain the extent of pool complexes and the numbers of pools within.
- Maintain the lakes/ponds nutrients poor status and ensure it does not fluctuate outside normal limits.
- Characteristic aquatic vegetation to remain present.
- Minimal negative impacts from artificial structures.
- Minimal negative impacts from recreation.
- Identify the main areas of transition mires and quaking bog and describe and delineate them with more precision.

European Dry Heaths

- Maintain the extent of existing European dry Heath vegetation.
- Maintain and enhance the quality of the European dry heath community types.
- Seek to expand the extent of the dry heath communities into degraded areas of species poor, dry acid grassland.
- Maintain the diversity and quality of other habitats of conservation interest, especially where these exhibit natural transition to the dry heath.
- Seek nature conservation management over suitable areas immediately outside the SAC where there may be the potential for dry heath rehabilitation.

Main Threats, Pressures and Activities with Impacts on the Site

Both on-site and off-site activities can potentially affect the site. The following is a summary of the most likely factors that are either affecting the site, or could affect it in the future: peat cutting, burning, drainage, grazing, supplementary stock feeding, afforestation, nitrogen deposition, damaging recreational activities, fly-tipping, dumping/spreading of alum sludge, changes to surrounding land use and climate change.

Sensitivities of Selection Features to plan

Potential impacts arising from the Plan Strategy, as identified in Chapter 5, are listed in the following table which identifies those that could affect the selection features of this site.

Potential Impacts Arising From Plan	Pathway for Impact to affect this site?	Comment	Features that may be affected
Habitat Loss	Yes	Peat cutting, windfarm development, facilities for access. Habitat loss due to other factors is considered below.	All
Direct Disturbance	No	The selection features ares not vulnerable to disturbance	
Indirect Disturbance	No	The selection features ares not vulnerable to disturbance	
Introduced Species	Yes	Spread of species during construction works	All
Aerial Emissions	Aerial	Potential nitrogen deposition from intensive agriculture could cause degradation or loss of habitat	All
Water Pollution	Yes	Potential impacts from development on site.	Lakes and pools
Hydrological Change	Yes	Potential drainage due to development on or adjacent to site.	All

Potential for Cumulative Impacts

Cumulative impacts could arise from proliferation of agricultural development, forestry management or development in neighbouring councils and will be considered in Stage 2: Appropriate Assessment.

Screening conclusion

Under the precautionary approach it was deemed that Appropriate Assessment is required for this site to consider the impacts of habitat loss, introduced species, aerial emissions, water pollution and hydrological change on the site selection features as detailed above.

STAGE 2: APPROPRIATE ASSESSMENT

Site specific evidence sources

Slieve Beagh SAC Conservation Objectives V2.1, 11/10/2017
Slieve Beagh Ramsar Information Sheet 31 V3.0, 13/06/2008
ASSI: Slieve Beagh

Condition assessment

Selection Feature	Most recent CA	Year	Adverse activity
Blanket bogs	Unfavourable: Un-classified	2008	Other
European dry heaths	Unfavourable: Un-classified	2008	Burning
Natural dystrophic lakes and ponds	Favourable: Un-classified	2006	

Impacts that may arise as a result of the plan

This section considers those impacts which are most likely to arise as a result of the LDP in more detail in relation to the main threats, pressures and activities with impacts on the site identified in the conservation objectives.

Slieve Beagh SAC

Drainage works outside of the site's boundaries could potentially impact upon the bog's hydrology.

Excess nitrogen deposition can directly damage plants and also favour the growth of competitive plants leading to changes in ecosystem structure or function and to a reduction in biodiversity. Construction in support of intensive agriculture can increase nitrogen deposition from the development site or as a result of land spreading of litter, slurry, manure or digestate. The following table presents 3 year averages 2013-2015 in comparison with critical loads and levels for each habitat or species. Given the extent of the SAC it is more meaningful to report ranges for nitrogen deposition and ammonia concentration rather than averages.

European Feature	Critical Load kg N/ha/yr.	Nitrogen Deposition (kg N/ha/yr.)	Ammonia critical level (µg/m3)	Ammonia concentration (µg/m3)
Active Blanket Bog	5-10	Maximum: 16.52 Minimum: 14	1	Maximum: 1.69 Minimum: 1.09
Natural dystrophic lakes and pools	3-10	Maximum: 17.64 Minimum: 15.26	Site specific advice should be sought	Maximum: 1.69 Minimum: 1.09
European Dry Heaths	10-20	Maximum: 16.52 Minimum: 14	1	Maximum: 1.69 Minimum: 1.09

Recreational activities such as the use of four-wheel drive vehicles can cause localised vegetation loss, that can cause significant erosion, particularly on vulnerable sloping areas.

Any changes in local land-use e.g. drainage, road improvements, afforestation, agricultural intensification and development may be detrimental to the SAC.

Slieve Beagh Ramsar Site

Conservation objectives for the site have been developed. These highlight the need to address overgrazing. Positive Grazing Management schemes are being introduced. A new cross-border management initiative is currently being planned. This will also address the overgrazing issue.

Potential Impacts on Site Integrity in the Absence of Mitigation

The following checklist indicates the impacts that the draft Plan Strategy could have in the absence of protective measures.

Does the plan have the potential to:	Yes/No
• cause delays in progress towards achieving the conservation objectives of the site?	Yes
• interrupt progress towards achieving the conservation objectives of the site?	Yes
• disrupt those factors that help to maintain the favourable conditions of the site?	Yes
• interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site?	Yes
Other indicators: Does the plan have the potential to:	**Yes/No**
• cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?	Yes

Does the plan have the potential to:	Yes/No
• change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site?	Yes
• interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)?	Yes
• reduce the area of key habitats?	Yes
• reduce the population of key species?	Yes
• change the balance between key species?	Yes
• reduce diversity of the site?	Yes
• result in disturbance that could affect population size or density or the balance between key species?	No
• result in fragmentation?	Yes
• result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding , etc.)?	Yes

Controls in place to address threats

Any new development would be subject to legislative requirements and environmental assessment including the need to comply with the requirements of the Habitats Regulations as well as the Strategic Planning Policy Statement. The protective measures described in Chapter 5 are incorporated in the draft Plan Strategy and will also have effect.

Mitigation to address threats

The following recommendations, detailed in Chapter 7, apply to all sites: 1. International Sites – Evidence; 2. Cumulative Effects; 3. Screening – General; 4. Screening - Aerial Emissions; 5. Large Rural Development; and 6. International Sites – Recreation. Combined with incorporated measures in the draft Plan Strategy these address the potential impacts identified above.

In-combination effects from other plans or projects that are likely to have significant effects

The assessment found that, with mitigation in place, there will be no adverse effect on site integrity. The need to consider and assess further in-combination effects from other projects or plans, including those of adjacent councils, will be reviewed before the HRA is finalised.

Appropriate Assessment Conclusion

The evidence gathered and assessment undertaken does not enable us to conclude reasonably and objectively that the implementation of the plan, in the absence of mitigation, will not adversely affect selection features or the integrity of this site. Mitigation measures are therefore required to ensure that the plan will not have any effect on the integrity of these sites. These mitigation measures are identified above. Their incorporation in the Plan Strategy is discussed in Chapter 5 and additional measures are discussed in Chapter 7.

Adverse Effect on Site Integrity (AESI) Finding

Feature	AESI before mitigation	AESI after mitigation
Active Blanket Bog	Potential AESI	No AESI
Natural dystrophic lakes and pools	Potential AESI	No AESI
European Dry Heaths	Potential AESI	No AESI

It is therefore concluded that the draft Plan Strategy, in conjunction with the recommendations in Chapter 7, will not have an adverse effect on site integrity of Slieve Beagh SAC and Slieve Beagh Ramsar Site.

Slieve Beagh-Mullaghfad-Lisnaskea SPA and Slieve Beagh (Ireland) SPA

Status:	Classified Special Protection Area	**Site Code:**	UK9020302
Year:	2006	**Area:**	8942 ha
Status:	Classified Special Protection Area	**Site Code:**	IE0004167
Year:	2007	**Area:**	3455 ha
Map:	Appendix 7, Map 17		

STAGE 1: TEST OF LIKELY SIGNIFICANCE

Summary Site Description

Slieve Beagh-Mullaghfad-Lisnaskea SPA

The Slieve Beagh SPA comprises an area of land extending between Slatbeg in the north-east and Coolnasillagh in the south-west and incorporating the Slieve Beagh massif, Mullaghfad Forest and Lisnaskea Forest. Slightly more than half the south-eastern boundary is formed by the border with the Republic of Ireland. Habitat within the site is a mosaic of upland heath, blanket bog, commercial forestry and largely unimproved grassland.

The boundary has taken into account the distribution of Hen Harrier nesting attempts and site-fidelity over the past 15 years together with foraging distribution, habitat availability and current land-use. It does not however include all lands used by foraging Hen Harrier during the breeding season which may exceed 10km from nesting sites. The boundary rationale and management considerations are detailed further in the Conservation Objectives.

Slieve Beagh (Ireland) SPA

The Slieve Beagh SPA comprises much of the eastern and south-eastern sectors of the Slieve Beagh upland area that extends from County Monaghan into Northern Ireland. The site consists of mountain blanket bog, which is well developed at the higher altitudes and especially at Eshbrack (peak of 365m). In places the bog is cutover and there are also wet and dry heaths present. The mid-slopes are afforested, with plantations of various ages. The remainder of the site is rough or marginal grassland. Some of the old fields system support species-rich wet grassland vegetation dominated by soft rush. Several small dystrophic lakes are present within the site.

The SPA is one of the strongholds for Hen Harrier in the country, representing over 1% of the all-Ireland total. However, when the Northern Ireland sector of Slieve Beagh is considered, there were a total of 10 breeding pairs in 2005. The mix of forestry and open areas provides optimum habitat conditions for this rare bird. The early stage of new and second-rotation conifer plantation are the most frequently used nesting sites, though some pairs may still nest in tall heather of unplanted bog and heath. Merlin have also been recorded within the site.

Location and connectivity with the plan area

Slieve Beagh-Mullaghfad-Lisnaskea SPA

The Slieve Beagh-Mullaghfad-Lisnaskea SPA is much more extensive than the Slieve Beagh SAC and extends 20km to the southwest as far as Lisnaskea forest in Fermanagh and Omagh with an area of over 4km^2. In Mid Ulster the SPA is centred on Slieve Beagh and extends beyond the SAC boundary by up to 2km. The nearest settlements are Fivemiletown at 3.5km, Clogher at 3.5km and Augher at 6km.

Slieve Beagh (Ireland) SPA

The Slieve Beagh SPA Ireland adjoins Slieve Beagh-Mullaghfad-Lisnaskea SPA. The nearest settlements are Fivemiletown at 4km, Clogher at 4.5km and Augher at 7km.

Plan Designations

There are three overlapping plan designations around Slieve Beagh-Mullaghfad-Lisnaskea SPA. The ACMD and AOCWTHS share the same boundary other than for a small area to the west where the ACMD extends further. The SCA shares the western and northeastern boundary of the AOCWTHS, however it does not extend as far

north as the other designations. The AOCWTHS includes the majority of the SPA however there are portions of the SPA outside the AOCWTHS and ACMD. The SCA is smaller, incorporating about 80 percent of the SPA within Mid Ulster.

The AOCWTHS, ACMD and SCA boundaries extend along the boundary of Slieve Beagh (Ireland) SPA except for 1km at its northeastern extreme.

Selection Features

Slieve Beagh-Mullaghfad-Lisnaskea SPA

Feature type	Feature	Global Status	Size/extent/population
Species	Hen Harrier breeding population	B	10 pairs

Slieve Beagh (Ireland) SPA

Hen harrier breeding population.

Conservation Objectives

Slieve Beagh-Mullaghfad-Lisnaskea SPA

The Conservation Objective for this site is:

> To maintain each feature in favourable condition.

The SPA selection feature objectives are:

- To maintain or enhance the population of the qualifying species
- Fledging success sufficient to maintain or enhance population
- To maintain or enhance the range of habitats utilised by the qualifying species
- To ensure that the integrity of the site is maintained
- To ensure there is no significant disturbance of the species and
- To ensure that the following are maintained in the long term:
    - Population of the species as a viable component of the site
    - Distribution of the species within site
    - Distribution and extent of habitats supporting the species
    - Structure, function and supporting processes of habitats supporting the species

The SPA selection feature component objective are as above and:

- Fledging success sufficient to maintain or enhance population

Slieve Beagh (Ireland) SPA

To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA: hen harrier, *Circus cyaneus.*

The favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Main Threats, Pressures and Activities with Impacts on the Site

Both on-site and off-site activities can potentially affect the site. The following is a summary of the most likely factors that are either affecting the site, or could affect it in the future: agricultural reclamation, forestry expansion/management, disturbance, predation, research. management activities, grouse management, windfarms.

Sensitivities of Selection Features to plan

Potential impacts arising from the Plan Strategy, as identified in Chapter 5, are listed in the following table which identifies those that could affect the selection features of this site.

Potential Impacts Arising From Plan	Pathway for Impact to affect this site?	Comment	Features that may be affected
Habitat Loss	Yes	Peat cutting, windfarm development, facilities for access. Habitat loss due to other factors is considered below.	Hen harrier
Direct Disturbance	Yes	Recreation on site.	Hen harrier
Indirect Disturbance	Yes	Recreation or development in supporting habitat	Hen harrier
Introduced Species	No	Would not affect supporting habitat	Hen harrier
Aerial Emissions	Yes	Potential nitrogen deposition from intensive agriculture could cause degradation or loss of habitat	Hen harrier
Water Pollution	No	Would not affect supporting habitat	All
Hydrological Change	Yes	Could lead to habitat deterioration	Hen harrier

Potential for Cumulative Impacts

Cumulative impacts could arise from proliferation of agricultural development, forestry management or development in neighbouring councils and will be considered in Stage 2: Appropriate Assessment. Fermanagh and Omagh District Council, in its Wind Energy Strategy, has identified some areas with capacity in terms of landscape for wind energy within the range of hen harrier from the SPA. If wind energy development is allowed hen harrier supporting habitat it could impact on the population as a whole.

Screening conclusion

Under the precautionary approach it was deemed that Appropriate Assessment is required for this site to consider the impacts of habitat loss, direct disturbance, indirect disturbance, Introduced Species, aerial emissions and hydrological change on the site selection feature and supporting habitat.

STAGE 2: APPROPRIATE ASSESSMENT

Site specific evidence sources

Slieve Beagh-Mullaghfad-Lisnaskea SPA

Slieve Beagh SPA Conservation Objectives V3.0, 01/04/2015
ASSI: Slieve Beagh

Slieve Beagh (Ireland) SPA

Conservation objectives for Slieve Beagh SPA 21/02/2018
Slieve Beagh SPA Natura 2000 - Standard Data Form
Slieve Beagh SPA Site Synopsis

Condition assessment

Slieve Beagh-Mullaghfad-Lisnaskea SPA

Selection Feature	Most recent CA	Year	Adverse activity
Hen Harrier	Favourable: Un-classified	2014	NA

Species	1998	2004	2010	CSM	5 yr. mean	%CSM	Status
Hen Harrier	8	10	16	8	16	200	Favourable

Slieve Beagh (Ireland) SPA

Region	Total pairs 1998 - 2000	Total pairs 2005	Total pairs 2010
Slieve Beagh (Monaghan)	3	4	5-6

Impacts that may arise as a result of the plan

This section considers those impacts which are most likely to arise as a result of the LDP in more detail in relation to the main threats, pressures and activities with impacts on the site identified in the conservation objectives.

Slieve Beagh-Mullaghfad-Lisnaskea SPA

Specific management issues for the SPA that could arise are as follows.

Issue	Threat/comments	Local considerations	Action
Forestry areas – nest sites - disturbance	Disturbance to nesting birds through non-forestry activities on forestry property. Apart from disturbance of birds themselves, breeding birds, especially are vulnerable to disturbance as absence of adults can often result in predation or chilling of young with a reduction/loss in fledging success.	Selection of routes e.g. for public access or motorcar trials must take the needs of breeding birds into account.	Liaise with Forest Service, private forestry sector, local authorities and other relevant parties.
Research activities.	Census and ringing activities especially have the potential to impact on bird populations, particularly at breeding sites. These are however necessary for population monitoring and developing a better understanding of species ecology.	Assessed as part of regular programme of raptor monitoring.	Census and ringing activities to be undertaken by competent individuals, appropriately trained. In case of ringers, appropriate license must be held.

The conservation objectives for the SPA also highlight that wind farms represent a potential threat through loss of foraging habitat, disturbance to nest and roosting sites, risk of collision and providing access to previously remote areas. Careful consideration is required at the planning stage having regard to Hen Harrier distribution and pre-development assessment.

The following impacts for the SAC are also relevant as they may lead to loss or degradation of supporting habitat for hen harrier.

Drainage works outside of the site's boundaries could potentially impact upon the bog's hydrology.

Nitrogen deposition is not cited as an impact on the SPA feature in the conservation objectives however APIS does provide guideline values for supporting habitat. Excess nitrogen deposition can directly damage plants and also favour the growth of competitive plants leading to changes in ecosystem structure or function and to a reduction in biodiversity. Construction in support of intensive agriculture can increase nitrogen deposition from the development site or as a result of land spreading of litter, slurry, manure or digestate. The following table presents 3 year averages 2013-2015 in comparison with critical loads and levels. Given the extent of the SPA it is more meaningful to report ranges for nitrogen deposition and ammonia concentration rather than averages.

Selection Feature	Critical Load kg N/ha/yr.	Nitrogen Deposition (kg N/ha/yr.)	Ammonia critical level (µg/m3)	Ammonia concentration (µg/m3)
Hen Harrier (Breeding)	10-20 (based on wet heath)	Maximum: 16.52 Minimum: 14	3	Maximum: 1.69 Minimum: 1.09

Nitrogen and ammonia levels are those cited for the SAC blanket bog and dry heath.

Recreational activities such as the use of four-wheel drive vehicles can cause localised vegetation loss, that can cause significant erosion, particularly on vulnerable sloping areas. Recreation can also be a source of disturbance that could deter successful nesting.

Any changes in local land-use e.g. drainage, road improvements, afforestation, agricultural intensification and development may be detrimental to the SPA.

Slieve Beagh (Ireland) SPA

The main threat to the long-term survival of Hen Harriers within the site is further afforestation, which would reduce and fragment the area of foraging habitat, resulting in possible reductions in breeding density and productivity.

The hen harrier populations in Slieve Beagh SPA appeared to have increased substantially and was one of two areas that also contain the highest proportion of heather nesting hen harriers. Hen harriers in Slieve Beagh were reported to be much less successful than in Slieve Bloom which may be due to high levels of disturbance and mechanised turf-cutting in close proximity to remnant areas of suitable habitat in which the Slieve Beagh harriers are nesting (C. McGeough & M. Ruddock, personal observation). This situation also applies to the contiguous Northern Ireland Slieve Beagh – Mullaghfad – Lisnaskea SPA.

Potential Impacts on Site Integrity in the Absence of Mitigation

The following checklist indicates the impacts that the draft Plan Strategy could have in the absence of protective measures.

Does the plan have the potential to:	Yes/No
• cause delays in progress towards achieving the conservation objectives of the site?	Yes
• interrupt progress towards achieving the conservation objectives of the site?	Yes
• disrupt those factors that help to maintain the favourable conditions of the site?	Yes
• interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site?	Yes
Other indicators: Does the plan have the potential to:	**Yes/No**
• cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?	Yes
• change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site?	Yes
• interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)?	Yes
• reduce the area of key habitats?	Yes
• reduce the population of key species?	Yes
• change the balance between key species?	Yes
• reduce diversity of the site?	Yes
• result in disturbance that could affect population size or density or the balance between key species?	Yes
• result in fragmentation?	Yes
• result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding , etc.)?	Yes

Controls in place to address threats

Any new development would be subject to legislative requirements and environmental assessment including the need to comply with the requirements of the Habitats Regulations as well as the Strategic Planning Policy Statement. The protective measures described in Chapter 5 are incorporated in the draft Plan Strategy and will also have effect.

Mitigation to address threats

The following recommendations, detailed in Chapter 7, apply to all sites: 1. International Sites – Evidence; 2. Cumulative Effects; 3. Screening – General; 4. Screening - Aerial Emissions; 5. Large Rural Development; and 6. International Sites – Recreation. The following recommendation will inform assessment of potential impacts from development in the range of hen harrier: 12. Hen Harrier Range. Combined with incorporated measures in the draft Plan Strategy these address the potential impacts identified above.

In-combination effects from other plans or projects that are likely to have significant effects

The assessment found that, with mitigation in place, there will be no adverse effect on site integrity from development within our council as development will be constrained in some areas and subject to HRA. The need to consider and assess further in-combination effects from other projects or plans, including those of adjacent councils, will be reviewed before the HRA is finalised.

Appropriate Assessment Conclusion

The evidence gathered and assessment undertaken does not enable us to conclude reasonably and objectively that the implementation of the plan, in the absence of mitigation, will not adversely affect selection features or the integrity of this site. Mitigation measures are therefore required to ensure that the plan will not have any effect on the integrity of these sites. These mitigation measures are identified above. Their incorporation in the Plan Strategy is discussed in Chapter 5 and additional measures are discussed in Chapter 7.

Adverse Effect on Site Integrity (AESI) Finding

Feature	AESI before mitigation	AESI after mitigation
Hen harrier	Potential AESI	No AESI

It is therefore concluded that the draft Plan Strategy, in conjunction with the recommendations in Chapter 7, will not have an adverse effect on site integrity of Slieve Beagh-Mullaghfad-Lisnaskea SPA and Slieve Beagh (Ireland) SPA.

Lough Neagh and Lough Beg SPA and Ramsar Site

Status:	Classified Special Protection Area	**Site Code:**	UK9020091
Year:	1996	**Area:**	40857 ha*
Status:	Designated Ramsar Site	**Site Code:**	UK12016
Year:	1976	**Area:**	50166 ha
Map:	Appendix 7, Map		

*based on Standard Data Form (Conservation Objectives 41188 ha)

STAGE 1: TEST OF LIKELY SIGNIFICANCE

Summary Site Description

Lough Neagh and Lough Beg SPA

Lough Neagh is a large, shallow, eutrophic lake contained within Counties Antrim, Down, Londonderry and Tyrone. Lough Neagh is the largest freshwater lake in the UK and is one of the top ten sites in the UK for wintering waterfowl (based on annual mean numbers). The SPA also includes the smaller lakes, Lough Beg and Portmore Lough. The main habitats within the SPA are open water with beds of submerged aquatic vegetation, species-rich wet grassland, reedbed, islands, swamp, fen and carr woodland. The SPA supports internationally important numbers of wintering waterfowl and is Internationally important for a number of wildfowl species including Whooper Swan, Bewick's Swan, Pochard, Tufted Duck, Scaup and Goldeneye. It is also internationally important for breeding Common Tern. Adjoining agriculturally improved areas utilised by swans have not been included but are important as supporting habitat.

The boundary rationale and management considerations are detailed further in the Conservation Objectives.

Lough Neagh and Lough Beg Ramsar Site

Lough Neagh is situated in the centre of Northern Ireland. It is the largest freshwater lake in the United Kingdom covering an area of 383 km^2 with a longest length of 30.5 km and narrowest width of 12.1 km across the middle. The lake is very shallow for its size, with a mean depth of 8.9 metres. At its deepest point it extends down to 34 metres. The 125 km shoreline is mostly exposed with wave beaten rocks and stones but there are also some sheltered, sandy bays with better-developed marginal vegetation including some reedbeds.

This site also contains a smaller lake, Lough Beg (1,125 ha) to the north, as well as a small satellite lake, Portmore Lough (286 ha) which is situated to the east of Lough Neagh. Lough Beg (meaning 'little lough') is essentially a widening of the Lower Bann River just downstream from where it leaves Lough Neagh. Lough Beg is very shallow, with a mean depth of 1-2 metres and a surface area of km^2. About 200 ha of the west shore is unimproved wet grassland that is largely inundated with floodwater each winter.

Rivers flowing into Lough Neagh drain about 43% of Northern Ireland, plus part of County Monaghan in the Republic of Ireland.

Location and connectivity with the plan area

Lough Neagh and Lough Beg SPA

Mid Ulster borders the western boundary of Lough Neagh and Lough Beg SPA. The council boundary also includes approximately a third of the Lough. The majority of the settlements in the council area, including all the main and local towns, are within the catchment of Lough Neagh. Ballyronan and Moortown are directly on its shore and parts of the settlement limits are within the International designations. Bellaghy is within the catchment of Lough Beg. The relationship with the Ramsar site is described below.

Lough Neagh and Lough Beg Ramsar Site

Mid Ulster borders the western boundary of Lough Neagh and Lough Beg Ramsar site. The Ramsar site overall extends significantly beyond the SPA to the south and south east of Lough Neagh. Otherwise there are smaller variations in the boundaries with the Ramsar site generally being more extensive than the SPA however there are a few areas where the SPA extends beyond the Ramsar site. Within Mid Ulster the Ramsar extends as far

south as the M1. There are small variations between the SPA and Ramsar site boundaries on the western shore of Lough Neagh with the Ramsar site extending further inland, for example around Kinturk Flat but not including some areas in the SPA such as the ponds at Traad Point. The Ramsar site and SPA are largely the same to the west of Lough Beg however the Ramsar site incorporates a larger area south of the lough. The relationship with Mid Ulster settlements is the same as for the SPA.

Plan Designations

Policy area for holders of commercial fishing licence: extends inland from the SPA and Ramsar site between 4km and 8km but does not overlap these designations. The eastern boundary of the policy area abuts but does not overlap the Special Countryside Area (SCA). The SCA includes all of the Lough Beg shoreline and the majority of the Lough Neagh shoreline. It incorporates the majority of the SPA and Ramsar site on this shore and in places extends beyond. Four Tourism Opportunity zones have been identified on the shore of Lough Neagh at Washing Bay, Mountjoy, The Battery, and Traad Point (Map 19). All in part overlap the SPA along the shoreline. Other than at Traad Point, where a third of the TOZ is in the Ramsar site, the larger part of all the other TOZs overlaps the Ramsar site.

Selection Features

Lough Neagh and Lough Beg SPA

Feature Type (i.e. habitat or species)	Feature	Population at time of designation (SPA)	SPA Review population
Species	Common Tern breeding population	200 pairs	185
Species	Great Crested Grebe breeding population	New feature	500
Species	Great Crested Grebe passage population	New feature	2440
Species	Whooper Swan wintering population	923	1031
Species	Bewick's Swan wintering population	251	136
Species	Golden Plover wintering population[b]	Not listed	5298
Species	Great Crested Grebe wintering population	741	1821
Species	Pochard wintering population	32165	26341
Species	Tufted Duck wintering population	23476	22372
Species	Scaup wintering population	2557	3798
Species	Goldeneye wintering population	12479	10776
Assemblage species	Little Grebe wintering population	390	465
Assemblage species	Cormorant wintering population	781	728
Assemblage species	Greylag Goose wintering population	129	176
Assemblage species	Shelduck wintering population	165	159
Assemblage species	Wigeon wintering population	3447	3117
Assemblage species	Gadwall wintering population	114	166
Assemblage species	Teal wintering population	1868	1596
Assemblage species	Mallard wintering population	4982	5256
Assemblage species	Shoveler wintering population	173	148
Assemblage species	Coot wintering population	6676	6993
Assemblage species	Lapwing wintering population	Not listed	6899
Waterfowl assemblage	Waterfowl Assemblage wintering population[a] (Component species: Whooper Swan, Bewick's Swan, Golden Plover, Great Crested Grebe (wintering) Pochard, Tufted Duck, Scaup, Goldeneye, Little Grebe, Cormorant, Greylag Goose, Shelduck, Wigeon, Gadwall, Teal, Mallard, Shoveler, Coot, Lapwing)	79915	99221

Lough Neagh and Lough Beg Ramsar Site

Ramsar Criterion 1: A particularly good representative example of natural or near-natural wetlands, common to more than one biogeographic region. The site is the largest freshwater lake in the United Kingdom. Lough

Neagh a relatively shallow body of water supporting beds of submerged aquatic vegetation fringed by associated species-rich damp grassland, reedbeds, islands, fens, marginal swampy woodland and pasture. Other interesting vegetation types include those associated with pockets of cut-over bog, basalt rock outcrops and boulders, and the mobile sandy shore.

Ramsar Criterion 2: Supports an appreciable assemblage of rare, vulnerable or endangered species or sub-species of plant or animal or an appreciable number of individuals of any one of these species. The site supports over 40 rare or local vascular plants which have been recorded for the site since 1970, the most notable are eight-stamened waterwort *Elatine hydropiper*, marsh pea *Lathyrus palustris*, Irish lady's tresses *Spiranthes romanzoffiana*, alder buckthorn *Frangula alnus*, narrow small-reed *Calamagrostis stricta* and holy grass *Hierochloe odorata*. The Lough and its margin are also home to a large number of rare or local invertebrates, including two aquatic and two terrestrial molluscs, a freshwater shrimp *Mysis relicta*, eight beetles, five hoverflies, seven moths and two butterflies. Of the rare beetles recorded two, *Stenus palposus* and *Dyschirius obscurus*, have their only known Irish location around the Lough. The Lough also supports twelve species of dragonfly.

Ramsar Criterion 3: This site is of special value for maintaining the genetic and ecological diversity of a region because of the quality and peculiarities of its flora and fauna. The site regularly supports substantial numbers of individuals from particular groups of waterfowl which are indicative of wetland values, productivity and diversity. In addition, this site is of special value for maintaining the genetic and ecological diversity of Northern Ireland because of the quality and peculiarities of its flora and fauna. A large number of plants and animal species are confined or almost confined to this area within Northern Ireland.

Ramsar Criterion 4: This site is of special value as the habitat of plants or animals at a critical stage of their biological cycles. The site supports an important assemblage of breeding birds including the following species with which occur in nationally important numbers: great crested grebe *Podiceps cristatus*, gadwall *Anas strepera*, pochard *Aythya ferina*, tufted duck *Aythya fuligula*, snipe *Gallinago gallinago* and redshank *Tringa totanus*. Other important breeding wetland species include shelduck *Tadorna tadorna*, teal *Anas crecca*, shoveler *Anas clypeata*, lapwing *Vanellus vanellus* and curlew *Numenius arquata*.

Ramsar Criterion 5: Assemblages of International importance: Species with peak counts in winter: 86639 waterfowl (5 year peak mean 1998/99-2002/2003)

Ramsar Criterion 6: Species/populations occurring at levels of International importance. Qualifying Species/populations (as identified at designation):

Species with peak counts in spring/autumn:

- Tundra swan, Cygnus *columbianus bewickii*, NW Europe
- Species with peak counts in winter:
- Whooper swan , *Cygnus cygnus*, Iceland/UK/Ireland
- Common pochard, *Aythya ferina*, NE & NW Europe
- Tufted duck, *Aythya fuligula*, NW Europe
- Greater scaup, *Aythya marila marila*, W Europe
- Common goldeneye , *Bucephala clangula clangula*, NW & C Europe

Species/populations identified subsequent to designation for possible future consideration under criterion 6.

Species with peak counts in spring/autumn:

- Great cormorant , *Phalacrocorax carbo carbo*
- Mute swan , *Cygnus olor*, Britain

Contemporary data and information on waterbird trends at this site and their regional (sub-national) and national contexts can be found in the Wetland Bird Survey report, which is updated annually. See www.bto.org/survey/webs/webs-alerts-index.htm.

Ramsar Criterion 7: The site supports a population of pollan *Coregonus autumnalis*, one of the few locations in Ireland and one of the two known locations in the UK (the other is Lower Lough Erne). It is one of the most important species in Ireland in terms of faunal biodiversity since it occurs nowhere else in Europe, and the Irish populations are all well outside the typical range – the Arctic Ocean drainages of Siberia, Alaska and north-western Canada, where it is known as the Arctic cisco.

Conservation Objectives

The Conservation Objective for this site is:

> To maintain each feature in favourable condition.

The SPA selection feature objectives are:

- To maintain or enhance the population of the qualifying species
- Fledging success sufficient to maintain or enhance population
- To maintain or enhance the range of habitats utilised by the qualifying species
- To ensure that the integrity of the site is maintained,
- To ensure there is no significant disturbance of the species and
- To ensure that the following are maintained in the long term:
    - Population of the species as a viable component of the site
    - Distribution of the species within site
    - Distribution and extent of habitats supporting the species
    - Structure, function and supporting processes of habitats supporting the species

The SPA selection feature component objective are as above and:

Common Tern and Great Crested Grebe

- Fledging success sufficient to maintain or enhance population

Waterfowl Assemblage wintering population

- No significant decrease in population against national trends

Habitat

- To maintain or enhance the area of natural and semi-natural habitats used or potentially usable by Feature bird species subject to natural processes
- Maintain the extent of main habitat components subject to natural processes
- Maintain or enhance sites utilised as roosts

Main Threats, Pressures and Activities with Impacts on the Site

Both on-site and off-site activities can potentially affect the site. The following is a summary of the most likely factors that are either affecting the site, or could affect it in the future: Adjoining habitat, boating activity – commercial, boating activity – recreational, coastal (shoreline) protection schemes, cull of fledglings/young, drainage, enhanced bird competition, fishing - commercial or recreational. Habitat Extent - open water, habitat quality - open water, habitat extent and quality - breeding, introduced species, power cables, predation, recreational activities, research activities, sand dredging – commercial, system dynamics, water abstraction, water level control, wildfowling.

Sensitivities of Selection Features to plan

Potential impacts arising from the Plan Strategy, as identified in Chapter 5, are listed in the following table which identifies those that could affect the selection features of this site.

Potential Impacts Arising From Plan	Pathway for Impact to affect this site?	Comment	Features that may be affected
Habitat Loss	Yes	Development on or adjacent to site leading to direct or indirect damage to habitat features	All
Direct Disturbance	Yes	Recreational activity on open water or in SPA/Ramsar	All
Indirect Disturbance	Yes	Recreational activity adjacent to SPA/Ramsar or supporting habitat.	All
Introduced Species	Yes	Spread of species during construction works or through recreation.	All
Aerial Emissions	Yes	Potential nitrogen deposition from intensive agriculture or traffic could cause degradation or loss of habitat.	All
Water Pollution	Yes	All the main and local towns in Mid Ulster and many other settlements are in the Lough Neagh catchment.	All
Hydrological Change	Yes	Could lead to habitat deterioration	All

Potential for Cumulative Impacts

Cumulative impacts could arise from drainage works, recreational activity, sand extraction, commercial fishing or development in neighbouring councils and will be considered in Stage 2: Appropriate Assessment. The landscape scale Lough Neagh and Lough Beg Vision Projects, illustrated on Map 6, are working to restore and protect wetlands some of which are in or adjacent to the SPA and Ramsar site. There is potential for conflict between planning and these projects.

Screening conclusion

Under the precautionary approach it was deemed that Appropriate Assessment is required for this site to consider the impacts of habitat loss, direct disturbance, indirect disturbance, Introduced Species, aerial emissions, water pollution and hydrological change on the site selection features and supporting habitat.

STAGE 2: APPROPRIATE ASSESSMENT

Site specific evidence sources

Lough Neagh and Lough Beg SPA Conservation Objectives V2.0, 01/04/2015
Lough Neagh and Lough Beg Ramsar Information Sheet V3.0, 13/06/2008
ASSIs: Lough Beg, Portmore Lough, Lough Neagh

Condition assessment

Lough Neagh and Lough Beg SPA Condition Assessment 2014

Species	Year 1	Year 2	Year 3	Year 4	Year 5	CSM	5 yr mean	% CSM	Status
Common Tern (B)	94	79	118	96	98	59	97	164.41	Favourable
Golden Plover	6475	3129	7097	4047	1539	1626	4457.4	274.13	Favourable
Bewick's Swan	0	0	0	0	0	23	0	0.00	Unfavourable
Whooper Swan	515	535	637	388	248	283	464.6	164.17	Favourable
Goldeneye	2993	4626	3684	3003	3437	6700	3548.6	52.96	Unfavourable
Great Crested Grebe (W)	236	1181	733	947	1030	110	825.4	750.36	Favourable
Great Crested Grebe (P)	634	676	nc	561	941	438	703	160.50	Favourable
Pochard	8878	8902	5770	9183	5027	19588	7552	38.55	Unfavourable
Scaup	4348	5587	6335	2989	2257	1215	4303.2	354.17	Favourable

Species	Year 1	Year 2	Year 3	Year 4	Year 5	CSM	5 yr mean	% CSM	Status
Shelduck	131	87	193	188	126	107	145	135.51	Favourable
Tufted Duck	6336	5845	4995	9167	7669	17972	6802.4	37.85	Unfavourable
Waterbird assemblage	47771	48575	43168	43462	35837	75215	43762.6	58.18	Unfavourable

Lough Neagh and Lough Beg Ramsar Site

The following is the condition assessment reported for other features that are monitored for ASSIs in the Ramsar site.

Ramsar Feature	ASSI Name	Most recent CA	Most recent Year	Adverse activity
Breeding bird assemblage	Lough Beg	Favourable: Un-classified	12/02/2008	
Breeding bird assemblage	Portmore Lough	Favourable: Un-classified	12/02/2008	
Breeding bird assemblage (wet woodland)	Lough Neagh	Favourable: Un-classified	12/02/2008	
Breeding wader assemblage	Lough Beg	Unfavourable: Un-classified	31/08/2012	Other - not specified
Breeding wader assemblage	Lough Neagh	Unfavourable: Un-classified	31/07/2012	Other - not specified
Breeding waterbird assemblage	Lough Neagh	Favourable: Un-classified	30/06/2012	
Fens	Lough Neagh	Unfavourable: No-change	11/08/2011	Under-grazing
Freshwater and estuarine fish assemblage	Lough Neagh	Unfavourable: Un-classified	26/03/2008	Water quality (including silt, water pollution (direct or diffuse), run-off, nutrient enrichment, eutrophication etc.)
Higher plant assemblage	Lough Beg	Favourable: Un-classified	14/06/2002	
Higher plant assemblage	Lough Neagh	Unfavourable: Un-classified	11/08/2011	Water quality (including silt, water pollution (direct or diffuse), run-off, nutrient enrichment, eutrophication etc.)
Invertebrate assemblage	Lough Beg	Unfavourable: Un-classified	27/09/2007	Water quality (including silt, water pollution (direct or diffuse), run-off, nutrient enrichment, eutrophication etc.)
Invertebrate assemblage	Lough Neagh	Favourable: Un-classified	12/09/2007	
Invertebrate assemblage	Portmore Lough	Favourable: Un-classified	27/06/2007	
Mallard (Winter)	Lough Neagh	Favourable: Un-classified	31/03/2012	
Purple Moor-grass and rush pastures	Lough Beg	Favourable: Un-classified	13/08/2014	
Purple Moor-grass and rush pastures	Lough Neagh	Unfavourable: No-change	11/08/2011	Agricultural operations (e.g. ploughing, fertiliser, pesticides)
Reedbeds and swamps	Lough Neagh	Unfavourable: No-change	11/08/2011	Water quality (including silt, water pollution (direct or diffuse), run-off, nutrient enrichment, eutrophication etc.)

Ramsar Feature	ASSI Name	Most recent CA	Most recent Year	Adverse activity
Wet woodland	Lough Neagh	Unfavourable: No-change	11/08/2011	Invasive species (including bracken or scrub), Water quality (including silt, water pollution (direct or diffuse), run-off, nutrient enrichment, eutrophication etc.)

Impacts that may arise as a result of the plan

This section considers those impacts which are most likely to arise as a result of the LDP in more detail in relation to the main threats, pressures and activities with impacts on the site identified in the conservation objectives.

Lough Neagh and Lough Beg SPA

Specific management issues for the SPA that could arise are as follows.

Issue	Threat/comments	Local considerations	Action
Adjoining habitat	Particularly important for swans and geese as well as providing high tide roost locations. Significant changes in land management and disturbance are key considerations. Such areas lie without the site making effective management of developments other than those for which planning permission is required, difficult.	Imminent road development through Toome swan fields the effects of which will require monitoring.	Assess planning applications. Identify key areas and promote site management schemes. Review use of Wildfowl Refuges. Consider the collective impact.
Boating activity – commercial	Disturbance and potential for impact from commercial vessels.	No evidence of a significant impact on the selection features of Lough Neagh	Formal consultation likely relating to new schemes. Consider the collective impact.
Boating activity – recreational	Disturbance and potential for impact especially from jet skis. Generally relevant to particularly sensitive areas within site.	A major concern during the breeding season, particularly around the Torpedo platform at Six Mile Water.	Liaise with appropriate authority with codes of good practice, zoning and use of by-laws as necessary. Consider the collective impact.
Coastal (shoreline) protection schemes	Where there is no history of this, it impacts on natural beach systems with loss of habitat.	There is ad hoc dumping around the shoreline, in places this is in response to erosion.	Liaise with Planning Service and other parties with an involvement in coastal management.
Drainage	Potential impact on water flooding regime. Potentially significant in relation to adjoining habitat if it leads to reduction in traditional areas of flooding.	Routine watercourse maintenance programme by Rivers Agency is referred to NIEA for comment.	Identify key areas and promote site management schemes to protect and enhance site features. Consider the collective impact.
Enhanced bird competition	Activities onsite or offsite that influences or results in a shift in balance of species utilising a site.	General issue of gulls during breeding season. Historical high numbers of Black-headed Gull may have been related to access to feeding on a dumpsite (Denny's), now closed.	Liaise with Planning Service. Review wider countryside changes.
Fishing – commercial or recreational	Minimal disturbance consideration but may represent 'competition' for piscivorous birds. Represents a net loss to the system in terms of biomass.	Important long- established commercial eel, coarse fish and salmonid fishery. Concern regarding diving duck taken as by- catch in nets either accidentally or deliberately.	Liaise with DARD and fishing authorities as required. Liaise with commercial fishing interests and angling clubs as required. Netting of diving duck as a Wildlife Order offence –action is dependent on evidence.

Issue	Threat/comments	Local considerations	Action
Habitat extent – open water	Loss likely to be limited but expansion of commercial port facilities can impact on key localities.	Not a concern.	Assess planning applications. Consider the collective impact.
Habitat quality – open water	Alteration of habitat quality through diminution of water quality or invasive species.	Water quality is a concern with progressive eutrophication. Longer term improvement in water quality will reduce productivity and may affect waterfowl populations.	Assess planning applications. Deal with invasive alien species by preventing their spread or reducing their impact. Liaise with Environmental Protection as required with regard to water quality issues and pollution incidents. Consider the collective impact.
Habitat extent and quality-breeding	Alteration of habitat area or quality through inappropriate use or absence of site management.	Terns mainly breed on Torpedo Platform, Six Mile Water, but also on some islands.	Assess needs of breeding species. Liaise with owner or appropriate authority to adjust or introduce site management.
Introduced species	Range of threats from loss of habitat, feeding competition, disease, hosting species presenting a threat outside of the site.	Roach and Ruddy Duck are present, Zebra Mussel must be considered a real threat.	Liaise with appropriate authority. Consider feasibility of elimination. Participate in national/International initiatives.
Power cables	Specifically a problem in relation to swans and geese. Threat is through impact. Need to consider flight lines, as well as feeding and loafing areas, which ideally should be avoided.	Generally lines in the area are well marked. Assess all new proposals and existing network in relation to swan usage.	Liaise with NIE. Minimum need is for line marking based on best current practice. Consider the collective impact.
Predation.	Mainly of concern on bird breeding sites.	Impact from large gulls is deemed to be a problem. Care to be taken as breeding Lesser Black-backed Gull are notable.	Must be dealt with as part of wider countryside management considerations. Carry out appropriate site management.
Recreational activities.	Disturbance is the main consideration. Breeding birds, especially seabirds, are vulnerable to disturbance as absence of adults can often result in predation or chilling of young with a reduction/loss in fledging success.	Breeding birds are particularly vulnerable to disturbance. Cumulative disturbance impacts (e.g. boating, sand dredgers, wildfowlers, walkers, dogs etc.) may also be a significant factor for wintering bird populations	Liaise with local authorities and other managing parties.
Sand dredging - commercial	Issue presently limited to Lough Neagh and subject to current (2015) detailed evaluation	Restricted in area but possibly impacting the more diverse invertebrate assemblages. Possibly a limited disturbance issue.	Liaise with commercial operators, Planning Service and other regulatory authorities.
System dynamics	Cuts across many other issues. Dynamic systems, especially coastal, can be affected by many factors especially engineered structures and significant changes in dominant wind direction or storm frequency. Many systems may indeed still be undergoing responses to historical developments e.g. partial reclamation, seawall construction. Changes may include alteration in sediment grade, shifts in patterns of erosion and deposition etc. Consequences for habitat and species utilisation of the site can be profound.	Historical lowering of the lough level reduced considerably the area subject to flooding but also would have had implications for shore and nearshore morphology particularly the dynamics of sand bar and river mouth shoal complexes. Ongoing sand exploitation could alter lough bed substrate and influence near shore sediment mobility.	Human induced change should be minimised. Assess planning applications and liaise with other relevant authorities. Ad hoc dumping and removal of natural materials should be managed. Major natural shifts in system behaviour may be identified through analysis of aerial photographs and site monitoring. Major and consistent changes to patterns of habitat distribution and bird utilisation of the site should be noted.

Issue	Threat/comments	Local considerations	Action
Water abstraction	Potential impact on water flooding regime. Potentially significant in relation to adjoining habitat if it leads to reduction in traditional areas of flooding.	Lough Neagh is a major source of drinking water with ongoing abstraction together with proposals for increased volumes taken.	Liaise with Water Service and Rivers Agency.
Wildfowling	Has direct effect through bag sizes/bag species and wider disturbance issue. Issue of regulated (through recognised shooting clubs) and ad hoc shooters. Lead shot on grazing lands.	Generally a good relationship with main gun clubs. Overall perception is that lough is heavily shot.	Liaise with relevant shooting bodies to define areas for wildfowling, the development of Wildfowlers Codes of Good Practice and encourage bag returns. Support pressure to stop use of lead shot. Review use of Wildfowl Refuges. Consider the collective impact.

Nitrogen deposition is not cited as an impact on the SPA feature in the conservation objectives however, APIS does provide guideline values for supporting habitat. Excess nitrogen deposition can directly damage plants and favour the growth of competitive plants leading to changes in ecosystem structure or function and to a reduction in biodiversity. Construction in support of intensive agriculture can increase nitrogen deposition from the development site or because of land spreading of litter, slurry, manure or digestate.

Lough Neagh and Lough Beg Ramsar Site

Adverse Factor Category	Description of the problem	On/Off-Site	Action
Eutrophication Pollution – agricultural fertilisers	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.	On-site	Phosphate stripping at appropriate sewage treatment works had begun to address the issue of eutrophication, but the nutrient problem has now been demonstrated to be predominantly due to non-point, agricultural, sources. Water Catchment Management Plan will be developed in context of the Water Framework Directive.

Potential Impacts on Site Integrity in the Absence of Mitigation

The following checklist indicates the impacts that the draft Plan Strategy could have in the absence of protective measures.

Does the plan have the potential to:	Yes/No
• cause delays in progress towards achieving the conservation objectives of the site?	Yes
• interrupt progress towards achieving the conservation objectives of the site?	Yes
• disrupt those factors that help to maintain the favourable conditions of the site?	Yes
• interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site?	Yes
Other indicators: Does the plan have the potential to:	**Yes/No**
• cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?	Yes
• change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site?	Yes
• interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)?	Yes
• reduce the area of key habitats?	Yes
• reduce the population of key species?	Yes

• change the balance between key species?	Yes
• reduce diversity of the site?	Yes
• result in disturbance that could affect population size or density or the balance between key species?	No
• result in fragmentation?	No
• result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding , etc.)?	Yes

Controls in place to address threats

Any new development would be subject to legislative requirements and environmental assessment including the need to comply with the requirements of the Habitats Regulations as well as the Strategic Planning Policy Statement. The protective measures described in Chapter 5 are incorporated in the draft Plan Strategy and will also have effect.

Mitigation to address threats

The following recommendations, detailed in Chapter 7, apply to all sites: 1. International Sites – Evidence; 2. Cumulative Effects; 3. Screening – General; 4. Screening - Aerial Emissions; 5. Large Rural Development; and 6. International Sites – Recreation. The following recommendations will address potential disturbance impacts from development for recreation, development in flight paths or on supporting habitat, water quality impacts and potential direct impacts on the Lough from development in or adjacent to the SPA: 7. TOZs - Recreation Impacts; 8. Waterfowl Supporting Habitat/Flight Paths; 9. Wastewater Treatment; 14; TOZs - Development Pressure. Combined with incorporated measures in the draft Plan Strategy these address the potential impacts identified above.

In-combination effects from other plans or projects that are likely to have significant effects

RSPB is leading the Lough Beg Vision which is integrated with several Government agencies. The Lough Beg Management Plan takes a holistic approach to restoring and managing the landscape in which the wet grassland occurs. The area extends to wetlands associated with some sites such as Curran Bog SAC. A similar project is underway to the south west of Lough Neagh and both are illustrated on Map 6 in Appendix 7. Planning decisions should take account of this to avoid development that conflicts with these projects.

The assessment found that, with mitigation in place, there will be no adverse effect on site integrity. The need to consider and assess further in-combination effects from other projects or plans, including those of adjacent councils, will be reviewed before the HRA is finalised.

Appropriate Assessment Conclusion

The evidence gathered and assessment undertaken does not enable us to conclude reasonably and objectively that the implementation of the plan, in the absence of mitigation, will not adversely affect selection features or the integrity of this site. Mitigation measures are therefore required to ensure that the plan will not have any effect on the integrity of these sites. These mitigation measures are identified above. Their incorporation in the Plan Strategy is discussed in Chapter 5 and additional measures are discussed in Chapter 7.

Adverse Effect on Site Integrity (AESI) Finding

Feature	AESI before mitigation	AESI after mitigation
Common Tern breeding population	Potential AESI	No AESI
Great Crested Grebe breeding population	Potential AESI	No AESI
Great Crested Grebe passage population	Potential AESI	No AESI
Whooper Swan wintering population	Potential AESI	No AESI
Bewick's Swan wintering population	Potential AESI	No AESI
Golden Plover wintering population[b]	Potential AESI	No AESI
Great Crested Grebe wintering population	Potential AESI	No AESI
Pochard wintering population	Potential AESI	No AESI
Tufted Duck wintering population	Potential AESI	No AESI
Scaup wintering population	Potential AESI	No AESI
Goldeneye wintering population	Potential AESI	No AESI
Waterbird assemblage (wintering)	Potential AESI	No AESI
Wetlands (Ramsar Criterion 1)	Potential AESI	No AESI
Rare plant and invertebrates (Ramsar Criterion 2)	Potential AESI	No AESI
Diversity waterfowl, flora, fauna (Ramsar Criterion 3)	Potential AESI	No AESI
Breeding birds (Ramsar Criterion 4)	Potential AESI	No AESI
Wintering waterfowl (Ramsar Criterion 5)	Potential AESI	No AESI
Important bird populations (Ramsar Criterion 6)	Potential AESI	No AESI
Pollan (Ramsar Criterion 7)	Potential AESI	No AESI

It is therefore concluded that the draft Plan Strategy, in conjunction with the recommendations in Chapter 7, will not have an adverse effect on site integrity of Lough Neagh and Lough Beg SPA and Ramsar Site.

7. Outcome and Recommendations

Overview

A draft HRA has been carried out to assess impacts of the draft Plan Strategy proposals on International sites that are within or in close proximity to the Council area, or are connected to it by ecological or infrastructural links. Further assessment will be carried out on the Local Policies Plan (LPP) as it is prepared. This will allow assessment of site specific land use proposals and local policies and identification of mitigation, where necessary, to avoid adverse effects on International sites. Planning applications will also need to be considered in relation to the Habitats Regulations to ensure compliance where it applies. The protective measures in Chapter 5 and recommendations in this chapter will help ensure that prospective applicants are aware of potential constraints and planners can consider impacts of designations at LPP and of individual planning applications through development management.

A total of 22 International sites could be affected by impacts of proposals brought forward under the draft Plan Strategy. These could arise from habitat loss, direct and indirect disturbance, introduced species, aerial emissions, water pollution or hydrological change. Discussion of these impacts with recommendations for mitigation is below. Some recommendations have already been incorporated or will apply to later stages of plan preparation.

Recommendations

Recommendations follow to address the impacts and potential effects discussed below. Each includes a note of what stage it applies to and any related policies. Some of the recommendations will be implemented before the Plan Strategy is adopted and some are to be implemented at later stages. They will enhance the protection for International sites under the LDP and further reduce the risks of adverse effects on site integrity, including from cumulative effects.

The recommendations proposed to avoid adverse effects on site integrity are detailed in Table 5. The following apply to all of the potential impacts and are relevant to all the sites assessed: 1. International Sites – Evidence; 2. Cumulative Effects; 3. Screening – General; 4. Screening - Aerial Emissions; 5. Large Rural Development; and 6. International Sites – Recreation.

Habitat Loss

This represents direct habitat loss in an International site or loss of supporting habitat such as salmon spawning beds or hen harrier foraging areas. Habitat can also become fragmented, for example if development creates a barrier to passage of salmon or otter. Any application within an International site will have to be carefully sited and designed to minimise impacts and avoid an adverse effect on site integrity. It is important to ensure that in-stream or adjacent works do not lead to damage to or deterioration of habitat, such that it can no longer support freshwater selection features. Minerals extraction within or upstream of International sites could lead to direct damage of salmon spawning areas or freshwater pearl mussel beds. Care needs to be taken to avoid encroachment into International sites or damage to supporting habitat for site selection features such that it could cause an adverse effect on site integrity.

The following additional recommendations address the impact of habitat loss: 8. Waterfowl Supporting Habitat/Flight Paths, 10. Artificial Modification of Watercourses, 11. Rivers - Physical/Flow, 12. Hen Harrier Range, 13. Rivers - Development Pressure and 14. TOZs - Development Pressure.

Table 5: Recommendations for Mid Ulster Local Development Plan

Recommendation	Plan Stage	Subject Policy
1. **International Sites - Evidence:** Seek updated information from DAERA to identify any new evidence about International sites, habitats and species before finalising the HRA for the adopted Plan Strategy.	Plan Strategy	NA
2. **Cumulative Effects:** Identify and consider further plans that, in combination, may lead to a cumulative adverse effect on site integrity in the final HRA for the Plan Strategy.	Plan Strategy	NA
3. **Screening - General:** Screen all developments in close proximity to, or with a pathway to, designated sites or supporting habitat and carry out HRA where necessary.	Development Management	NE1
4. **Screening - Aerial Emissions:** Implement DAERA guidance on screening planning applications for aerial emissions and carry out HRA where necessary.	Development Management	AFR1
5. **Large Rural Development:** Encourage pre-application discussions (PADs) for large developments in proximity to International sites in the countryside.	Development Management	ECON2, TOU02 - TOU04
6. **International Sites - Recreation:** Where an exception is made to allow development relating to recreation in any International site potential impacts must be assessed through HRA.	Development Management	TOU4, OS2, SCA1
7. **TOZs - Recreation Impacts:** Developments within the Loughshore and Davagh Forest TOZs must provide information to enable assessment of direct and indirect effects of any increase in recreation resulting from the development.	Development Management	TOU3, TOU4
8. **Waterfowl Supporting Habitat/Flight Paths:** Obtain updated information on supporting habitat and flight paths for waterfowl from DAERA, RSPB and others to inform locations supporting habitat and of development that could disrupt flight such as power cables and wind turbines.	Development Management	TOHS1
9. **Wastewater Treatment:** Land release should be phased to ensure alignment of housing delivery with planned infrastructure investment and development lead-times. New development cannot proceed until there is evidence of adequate wastewater treatment infrastructure or alternative treatment facilities.	Development Management	GP01(g)
10. **Artificial Modification of Watercourses:** Discourage culverting or modification of watercourses in SACs and supporting habitat. Where there is no alternative ensure that it will not lead to loss of supporting habitat, disrupt the passage of site selection features or adversely affect them during construction.	Development Management	FLD5
11. **Rivers - Physical/Flow:** Development within the Owenkillew River SAC and Upper Ballinderry River SAC that requires in-channel works, bank modification or abstraction should not be granted planning permission until the relevant statutory authority confirms the works are acceptable.	Development Management	TOU4, RNW1, HE15
12. **Hen Harrier Range:** Obtain updated information on hen harrier ranges from DAERA to inform locations of development that could impact on hen harrier.	Development Management	TOHS1
13. **Rivers - Development Pressure:** Monitor development pressure in the Owenkillew River SAC and Upper Ballinderry River SAC at each Plan Review.	Plan Review	NA
14. **TOZs - Development Pressure:** Monitor development pressure in the Loughshore and Davagh Forest TOZs at each Plan Review.	Plan Review	NA

Direct Disturbance

Direct disturbance includes noise, vibration or light disturbance arising from a development site during construction, during operational use of a site, or from the presence of people on land zoned or developed for recreational use. Direct disturbance is unlikely to arise during construction however, where it may impact on species such as otters or salmon, works should be planned to avoid causing disturbance at critical times.

Indirect Disturbance

Indirect disturbance occurs beyond a development site but may be caused by activity facilitated or promoted as a result of the development. This could be increased levels of dog walking near a residential area or increased levels of recreation including walking, boating or watersports. It could also come about by impinging on supporting habitat used by a site selection feature such as hen harrier foraging areas.

The following additional recommendations address the impacts of direct and indirect disturbance to birds, mammals, fish and aquatic invertebrates: 7. TOZs - Recreation Impacts, 8. Waterfowl Flight Paths, 10. Artificial Modification of Watercourses, 11. Rivers - Physical/Flow, 12. Hen Harrier Range, 13. Rivers - Development Pressure, 14. TOZs - Development Pressure.

Introduced Species

New development has the potential to introduce invasive or non-native species or cause their spread to other sites. The introduction of invasive species, non-native, competitive or predatory species can adversely affect habitats and species. Watercourses enable the spread of invasive species such as giant hogweed and Himalayan balsam which are easily transferred by water if released as a result of development. Invasive species may also be transported to new sites by machinery. Lough Erne saw the introduction of zebra mussels *Dreissena polymorpha* in the mid-1990s which have had a major impact on its ecology. Development that extends navigable waters or which introduces new boating may also increase the potential for spread of invasive species such as zebra mussels, or waterborne diseases of protected species, to waters where they are not currently present.

Recommendations 1 to 6 that apply to all sites address the potential impacts of introduced species through considering proximity or pathways to designated sites. The following additional recommendations address the impact of introduced species: 11. Rivers - Physical/Flow and 14. TOZs - Development Pressure.

Aerial Emissions

Deposition of aerial pollutants can damage habitats and species through toxic effects and nutrient enrichment. Aerial emissions primarily arise from industry and transport, but domestic fuel and agricultural intensification are also sources. Nitrogen deposition is identified as a threat for many International sites. Nitrogen from transport is largely deposited close to source, so road development close to International sites needs to be assessed. There are places in the Council area where main roads are located close to International sites or supporting habitat.

Livestock production is a significant source of nitrogen deposition in the form of ammonia. Ballynahone Bog SAC has been studied to examine the impacts of ammonia and shows evidence of damage. The information included for nitrogen deposition in the appropriate assessments shows that critical loads for nitrogen and levels for ammonia are exceeded across the District. The current advice from DAERA is that all livestock developments within 7.5km of an International site should be modelled for ammonia distribution. As understanding of susceptibility of sites and their features to the effects of nitrogen deposition grows, the guidance on modelling and mitigating for ammonia emissions may change.

Aerial emissions have been found to have potential impacts on all sites. Recommendation 4. Screening - Aerial Emissions will ensure that aerial emissions will be considered for relevant development in the context of all sites.

Water Pollution

Water pollution causes deterioration of (or failure to improve) water quality, due to direct runoff of pollutants including fuel, chemicals and sediments from development during construction or operation. Indirect

pollution may also occur through inadequacy of wastewater treatment infrastructure or network capacity. All planning applications that indicate mains sewage treatment are referred to NI Water to confirm capacity.

Development on brownfield sites may lead to risk of release of contaminants which needs to be assessed and, where necessary, remediation carried out. For individual developments, water quality impacts can be addressed through HRA and by the conditioning of pollution prevention measures through the requirement to submit, for example, a Construction Environmental Management Plan (CEMP) and/or a Construction Method Statement (CMS). Minerals extraction is a potential source of sediment which can have an adverse effect on sensitive aquatic species such as freshwater pearl mussels.

The following additional recommendations address the impact of water pollution: 9. Wastewater Treatment, 10. Artificial Modification of Watercourses, 11. Rivers - Physical/Flow, 13. Rivers - Development Pressure and 14. TOZs - Development Pressure.

Hydrological Change

There is evidence that water supply will be sufficient for the life of the plan therefore there is not predicted to be a need to expand water supply sources to support proposed development. Any development that requires non-mains water could have a localised effect on hydrology or hydrogeology and will require an abstraction licence which will be subject to HRA.

The following additional recommendations address the impact of hydrological change: 10. Artificial Modification of Watercourses, 11. Rivers - Physical/Flow, 13. Rivers - Development Pressure and 14. TOZs - Development Pressure.

In combination and Cumulative Effects

The draft Plan Strategy could enable a proliferation of development that could have a cumulative impact on a site over time. This could come about from developments that individually have an insignificant effect but could have a significant effect or adverse effect on site integrity in combination.

Potential cumulative effects have been identified in each assessment during screening. There are some locations where there is a particular risk that cumulative effects could, in combination have an adverse effect on site integrity. Examples are raised bog sites which are particularly vulnerable to nitrogen deposition and Owenkillew River and Upper Ballinderry River SACs where degradation of water quality or river habitats could affect sensitive aquatic features. Recreation has the potential to have an adverse effect if it is intensified to a degree that it causes erosion or persistent disturbance, for example at Slieve Beagh or Lough Neagh.

For all sites it was found that there are protective measures and overarching policies in the draft Plan Strategy that will ensure that development causing an adverse effect on site integrity cannot be approved. However it will be important that HRAs for individual developments also consider in combination effects before planning permission is granted.

Conclusions of the HRA

During the HRA process potential risks were identified in so far as they may be reasonably foreseeable and in light of such information as can reasonably be obtained. The appropriate assessments identified that, although effects are uncertain at this strategic stage, potential impacts cannot be ruled out for many plan proposals.

Mitigation is included to address potential for adverse effects on site integrity arising from habitat loss, direct and indirect disturbance, introduced species, aerial emissions, hydrological change and water pollution. Associated mitigation measures have been incorporated where appropriate into the draft Plan Strategy, with the aim of avoiding potential impacts. Mitigation that is more appropriate for inclusion at later stages of plan preparation is detailed in Table 5.

Taking the incorporated mitigation measures and recommended mitigation into account, the integrity of site checklist associated with the appropriate assessment of each of the sites which required appropriate assessment can be revised to read:

Integrity of site checklist

Does the plan have the potential to:	Yes/No
• cause delays in progress towards achieving the conservation objectives of the site?	No
• interrupt progress towards achieving the conservation objectives of the site?	No
• disrupt those factors that help to maintain the favourable conditions of the site?	No
• interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site?	No
Other indicators: Does the plan have the potential to:	**Yes/No**
• cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?	No
• change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site?	No
• interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)?	No
• reduce the area of key habitats?	No
• reduce the population of key species?	No
• change the balance between key species?	No
• reduce diversity of the site?	No
• result in disturbance that could affect population size or density or the balance between key species?	No
• result in fragmentation?	No
• result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding , etc.)?	No

The evidence gathered and assessment undertaken enables us to conclude reasonably and objectively that, subject to included and proposed mitigation, the implementation of the draft Plan Strategy will not adversely affect the integrity of:

Ballynahone Bog SAC
Ballynahone Bog Ramsar site
Banagher Glen SAC
Black Bog SAC
Black Bog Ramsar site
Carn - Glenshane Pass SAC
Curran Bog SAC
Dead Island Bog SAC
Lough Neagh and Lough Beg Ramsar site
Lough Neagh and Lough Beg SPA
Owenkillew River SAC
Peatlands Park SAC
River Roe and Tributaries SAC
Slieve Beagh SAC
Slieve Beagh ROI SPA
Slieve Beagh Ramsar site
Slieve Beagh-Mullaghfad-Lisnaskea SPA
Teal Lough SAC
Teal Lough proposed Ramsar site
Tonnagh Beg Bog SAC
Upper Ballinderry River SAC
Wolf Island Bog SAC

The HRA will be reviewed, updated and finalised following public consultation and independent examination of the draft Plan Strategy and published alongside the adopted Plan Strategy.

Abbreviations

AAP	Areas of Archaeological Potential
ACMD	Areas of Constraint on Minerals Development
AE	Aerial Emissions
AOCWTHS	Area of Constraint on Wind Turbines and High Structures
AoHSV	Area of High Scenic Value
ASAI	Area of Significant Archaeological Interest
ATC	Area of Townscape Character
AVC	Areas of Village Character
CEMP	Construction Environmental Management Plan
CJEU	Court of Justice of the European Union
CMS	Construction Method Statement
cSAC	Candidate Special Area of Conservation
DAERA	The Department of Agriculture, Environment and Rural Affairs
DD	Direct Disturbance
DEFRA	Department for Environment, Food and Rural Affairs
DRC	Dispersed Rural Community
EC	European Commission
EPA	Environmental Protection Agency
FCS	Favourable Conservation Status
HC	Hydrological Change
HL	Habitat Loss
HRA	Habitats Regulations Assessment
ID	Indirect Disturbance
IS	Introduced Species
JNCC	Joint Nature Conservation Committee
KSR	Key Site Requirement
LDP	Local Development Plan
LLPA	Local Landscape Policy Area
LLPA	Local Landscape Policy Area
LPP	Local Policies Plan
MRPA	Mineral Reserve Policy Areas
NA	Not Applicable
NIEA	Northern Ireland Environment Agency
POP	Preferred Options Paper
PPS	Planning Policy Statement
PRC	Primary Retail Core
pSPA	Proposed Special Protection Area
RDS	Regional Development Strategy
RIPA	Rural Industrial Policy Areas
SAC	Special Area of Conservation
SCA	Special Countryside Area
SEA	Strategic Environmental Assessment
SES	Shared Environmental Service
SLNCI	Site of Local Nature Conservation Importance
SLNCI	Site of Local Nature Conservation Importance
SPA	Special Protection Area
SPPS	Strategic Planning Policy Statement
SuDS	Sustainable Drainage Systems
TCZ	Tourism Conservation Zones
TOZ	Tourism Opportunity Zones

WP	Water Pollution
WwTW	Wastewater Treatment Works

Glossary

Adverse effect on site integrity	An effect on the qualifying features of an International site which would undermine the achievement of the conservation objectives for that site and which would have a negative effect on the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitats, complex of habitats and/or the levels of populations of the species for which the site is or will be designated.
Competent Authority	For the purposes of the Habitats Regulations the expression 'competent authority' includes government departments, district councils and statutory undertakers, and any trustees, commissioners, board or other persons who, as a public body and not for their own profit, act under any statutory provision for the improvement of any place or the production or supply of any commodity or service.
Cumulative Impact	A number of developments in a locality or a continuous activity over time that together may have an increased impact on the environment.
De minimis	Having no appreciable effect
Global Status	The global status is an expert judgement of the overall value of the site for the conservation of the relevant Annex I habitat. Sites have been graded A, B or C
International sites	Collective term that includes European SACs, SPAs, cSACs, pSPAs, SCIs and Ramsar sites (although the latter is a wider International designation).
Introduced Species	Invasive species, non-native, competitive or predatory species
Habitats Regulations	The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended)
In combination effect	Refers to effects that may be likely significant effects when considered in combination with effects from other plans or projects.
Likely significant effect	An effect that cannot be ruled out on the basis of objective information. Likely in this context means there is a risk or possibility that an effect will be significant. An effect is significant if it would undermine a site's conservation objectives.
Mitigation measures	Measures to avoid, cancel or reduce the effects of a plan or project on an International site.
Natura 2000 (N2K)	The European network of special areas of conservation and special protection areas under the Wild Birds Directive, provided for by Article 3(1) of the Habitats Directive
Ramsar site	Site listed under the Convention on Wetlands of International Importance adopted at Ramsar, Iran in 1971. As a matter of policy these sites are treated in the same way as International sites.
Special Areas of Conservation (SACs)	Special Areas of Conservation (SACs) are sites that have been adopted by the European Commission and formally designated by the government of each country in whose territory the site lies.
Special Protection Area (SPA)	Area classified under Article 4 of the EU Birds Directive 1979 and 2009.
The Directives	Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora and Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds. These Directives are referred to as the Habitats Directive and the Birds Directive respectively and together are called 'The Directives' for the purposes of this report.

Appendix 1: References and Evidence Sources

In the absence of specific Northern Ireland guidance on carrying out Habitats Regulations Assessment for plans and programmes reference has been made to other sources of guidance and relevant documents including those listed below:

Air Pollution Information System, Centre for Ecology and Hydrology http://www.apis.ac.uk/ (Accessed 15/2/2019)

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 (2001), European Commission Environment DG

DAERA, NIEA (2015 – 2017) Conservation Objectives *(Online) Available at* https://www.daera-ni.gov.uk/landing-pages/protected-areas

DAERA, NIEA (2017) Data Layers for designated and proposed European and Ramsar sites *Available at* https://www.daera-ni.gov.uk/articles/download-digital-datasets

Habitats Regulations Appraisal of Plans Guidance for Plan-Making Bodies in Scotland Version 3.0, (2015) Scottish Natural Heritage (Initially Prepared by David Tyldesley and Associates)

JNCC (Dates vary) Information Sheet on Ramsar Wetlands (RIS). *(Online) Available at* http://jncc.defra.gov.uk/page-1393

JNCC (Dates vary) Standard data form generated from the Natura 2000 Database submitted to the European Commission. *(Online) Available at* http://jncc.defra.gov.uk/page-161

JNCC Standard data forms (2015) generated from the Natura 2000 Database submitted to the European Commission on 22/12/2015. jncc.defra.gov.uk/page-0

NIEA Conservation Objectives www.daera-ni.gov.uk/topics/biodiversity-land-and-landscapes/protected-areas

Spatial NI (2017) Data Layers for Local Government boundaries *(Online) Available at* https://www.spatialni.gov.uk/

Tyldesley, D., and Chapman, C., (2013) *The Habitats Regulations Assessment Handbook*, November 2019 edition UK: DTA Publications Ltd

Appendix 2: The Habitats Regulations

The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended), Regulation 43

Assessment of implications for International site

43.—(1) A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which—

(a) is likely to have a significant effect on an International site in Northern Ireland (either alone or in combination with other plans or projects), and

(b) is not directly connected with or necessary to the management of the site,

shall make an appropriate assessment of the implications for the site in view of that site's conservation objectives.

(2) A person applying for any such consent, permission or other authorisation shall provide such information as the competent authority may reasonably require for the purposes of the assessment.

(3) The competent authority shall for the purposes of the assessment consult the Department and have regard to any representations made by it within such reasonable time as the authority may specify.

(4) The competent authority shall, if it considers it appropriate, take such steps as it considers necessary to obtain the opinion of the general public.

(5) In the light of the conclusions of the assessment, and subject to regulation 44, the authority shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the International site.

(6) In considering whether a plan or project will adversely affect the integrity of the site, the authority shall have regard to the manner in which it is proposed to be carried out or to any conditions or restrictions subject to which it proposed that the consent, permission or other authorisation should be given.

(7) This regulation does not apply in relation to a site which is an International site by reason only of regulation 9(1)*(c)* (site protected in accordance with Article 5(4)).

Appendix 3: Planning Policies for International Designations

For comparison the more detailed policies for International sites are provided here.

Strategic Planning Policy Statement for Northern Ireland (SPPS) DOE(NI) September 2013

Natural Heritage

Regional Strategic Policy

6.173 The following strategic policy must be taken into account in the preparation of Local Development Plans (LDPs) and in the determination of planning applications.

6.174 Planning authorities should apply the precautionary principle when considering the impacts of a proposed development on national or International significant landscape or natural heritage resources.

International Designations

6.175 Development proposals are restricted where they are likely to impact upon the integrity of European or Ramsar sites as these are afforded the highest form of statutory protection. Such designations should be identified in the LDP.

6.176 Planning permission will only be granted for a development proposal that, either individually or in combination with existing and/or proposed plans or projects, is not likely to have a significant effect on:

- an International site (Special Protection Area, proposed Special Protection Area, Special Areas of Conservation, candidate Special Areas of Conservation and Sites of Community Importance), or
- a listed or proposed Ramsar site.

6.177 Where a development proposal is likely to have a significant effect (either alone or in combination) or reasonable scientific doubt remains, the planning authority is required by law to carry out an appropriate assessment of the implications for the site in view of the site's conservation objectives. Only after having ascertained that it will not adversely affect the integrity of the site, can the planning authority agree to the development and impose appropriate mitigation measures in the form of planning conditions.

6.178 A development proposal which could adversely affect the integrity of a European or Ramsar site may only be permitted in exceptional circumstances as laid down in the relevant statutory provisions.

Planning Policy Statement 2 Natural Heritage July 2013

PPS 2 Preceded SPPS and provided greater detail in the policy on International sites which more closely mirrors the requirements of the Habitats Regulations. It will be replaced on adoption of the Plan Strategy.

Policy NH 1 - European and Ramsar Sites - International

Planning permission will only be granted for a development proposal that, either individually or in combination with existing and/or proposed plans or projects, is not likely to have a significant effect on:

- an International site (Special Protection Area, proposed Special Protection Area, Special Areas of Conservation, candidate Special Areas of Conservation and Sites of Community Importance), or
- a listed or proposed Ramsar Site

Where a development proposal is likely to have a significant effect (either alone or in combination) or reasonable scientific doubt remains, the Department shall make an appropriate assessment of the implications for the site in view of the site's conservation objectives. Appropriate mitigation measures in the form of planning conditions may be imposed. In light of the conclusions of the assessment, the Department shall agree to the development only after having ascertained that it will not adversely affect the integrity of the site.

In exceptional circumstances, a development proposal which could adversely affect the integrity of a European or Ramsar Site may only be permitted where:

- there are no alternative solutions, and
- the proposed development is required for imperative reasons of overriding public interest, and
- compensatory measures are agreed and fully secured.

As part of the consideration of exceptional circumstances, where a European or Ramsar site hosts a priority habitat or priority species listed in Annex I or II of the Habitats Directive, a development proposal will only be permitted when:

- it is necessary for reasons of human health or public safety or there is a beneficial consequence of primary importance to the environment, or
- agreed in advance with the European Commission.

5.1 Development proposals are restricted where they are likely to impact upon the integrity of European or Ramsar sites as these are afforded the highest form of statutory protection.

5.2 A list of existing International sites and further information can be found at [www.daera-ni.gov.uk/protected-areas].

Appendix 4: The Approach to Habitats Regulations Assessment for Plans

Stage 1: Screening for likely significant effects

Step 1: Deciding whether a plan should be subject to Habitats Regulations Assessment

This involves considering the nature of the plan and its individual proposals to determine whether there is a requirement to carry out a Habitats Regulations Assessment (HRA).

The following questions help determine whether the document being reviewed is a plan in the context of the Directives.

- Is the whole of the plan directly connected with or necessary to the management of an International site for nature conservation purposes?
- Is the plan a strategic development plan, local development plan, supplementary guidance?
- Is the plan a general statement of policy showing only the general political will or intention of the plan making body, and no effect on any particular International site can reasonably be predicted?
- Does the plan contain a programme, or policies, or proposals which could affect one or more particular International sites?

If in the review there is found to be a requirement for HRA those proposals with potential likely significant effects are identified along with the types of impact that they may have. If on the other hand it is found that the plan is not subject to HRA then it is not necessary to progress beyond this step.

Step 2: Identifying the International sites that should be considered in the Appraisal

International sites that are within the plan area, within a zone of influence beyond the plan area or connected to the plan area though ecology or infrastructure are identified creating a long-list of sites.

Step 3: Gathering information about the International sites

Information for each site on the long-list identified at Step 2 is compiled to include the designation status, qualifying interests, conservation objectives and site condition. Available information on factors currently affecting sites which may be affected and vulnerabilities to potential effects of the plan may be included.

Step 4: Discretionary discussions on the method and scope of the appraisal

The Statutory Nature Conservation Body, represented by the Northern Ireland Environment Agency (NIEA) of the Department of Agriculture, the Environment and Rural Affairs (DAERA) may be consulted informally to ensure that the information at Step 3 is up to date and reflects known issues for the International sites. This provides the opportunity to invite comment on the scope of the HRA and potential in combination considerations.

Step 5: Screening the draft / proposed plan for likely significant effects

This step is divided into a higher level review of proposals against sites followed by a detailed assessment of proposals and their potential impacts against site qualifying features. Presentation of this step may vary according to the complexity and spatial scale of the plan under consideration.

5a. Those proposals identified at Step 1 as having potential likely significant effects are assessed in relation to the long-list of sites from Step 2. This is presented as a matrix of potential impacts against sites in which impacts are categorised as having no likely significant effect, a likely significant effect or an uncertain effect. Some of the potential effects identified at Step 1 may be discounted at this stage if there is no pathway by which they could impact on an International site or its selection features or because the location or scale is such that any effect would be de minimis. The outcome of this part is a short list of proposals and a short list of sites for which more detailed assessment is required.

5b. A detailed assessment considers the potential modes of impacts against all site selection features for short listed sites. This identifies whether there are likely significant effects. In light of the Court of Justice of the European Union (CJEU) judgment, *Case C323/17 (People over Wind & Sweetman)* this step does not take

account of mitigation incorporated in the plan although it can take account of essential features and characteristics without which the plan could not be implemented.

If there are likely significant effects, either alone or in combination, then the sites and features which may be affected and potential impacts should be summarised in preparation for Stage 2.

Stage 2: Appropriate Assessment and the Integrity Test

Step 6: The appropriate assessment

The summary from Step 5 is the starting point for the appropriate assessment. Step 6 assesses whether any likely significant effect could lead to an adverse effect on site integrity for each site. This may be supported with an Integrity of Site Checklist as follows.

INTEGRITY OF SITE CHECKLIST	
Does the plan have the potential to: • cause delays in progress towards achieving the conservation objectives of the site? • interrupt progress towards achieving the conservation objectives of the site? • disrupt those factors that help to maintain the favourable conditions of the site? • interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site?	**Yes/No**
Other indicators: Does the plan have the potential to: • cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem? • change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site? • interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)? • reduce the area of key habitats? • reduce the population of key species? • change the balance between key species? • reduce diversity of the site? • result in disturbance that could affect population size or density or the balance between key species? • result in fragmentation? • result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding , etc.)?	**Yes/No**

Where it is found that there could be an adverse effect then measures are identified to remove any potential for adverse effects. This may include case-specific policy restrictions or caveats, adding mitigation in a further plan that will deliver the current plan, removing proposals that could have an adverse effect on site integrity, specific mitigation plans or a large scale mitigation strategy which includes measures to mitigate adverse effects of the current plan.

Step 7: Amending the plan until there would be no adverse effects on site integrity

Any mitigation identified in Step 6 is incorporated in the plan.

Step 8: Preparing a draft of the HRA Record

This is a draft report which records the HRA and supporting evidence.

Step 9: Consultation

If the HRA is concluded at Stage 1 the HRA Report with a Statement of Finding of No Likely Significant Effects is published. Consultation is not required on this Stage 1 Test of Likely Significance in these circumstances however it is recommended that the record is published as a supporting document for the plan. If the draft

plan is subject to consultation a draft Stage 1 HRA Report may be included in the consultation with a note that it will be updated to take account of any changes in the proposals or International sites before the plan is finalised.

If the HRA progresses to Step 8 then NIEA must be consulted on a draft Stage 2 HRA Report (also known as an Appropriate Assessment). Other stakeholders such as managers of International sites should be consulted where appropriate. Public consultation is not required on the draft Stage 2 HRA Report however it may be included as a supporting document for any public consultation on the draft plan with a note that it will be updated to take account of any changes in the proposals or International sites before the plan is finalised.

Step 10: Proposed modifications

Representations by NIEA and other consultees are recorded with a note on if and how they have been addressed. Further mitigation identified in Step 9 is incorporated in the plan.

Step 11: Modifying and completing the appraisal record

Steps 6 - 8 are updated to reflect any additional mitigation and adverse effects reviewed. If it is found that there are no adverse effects on site integrity then the HRA may be concluded and a Stage 2 HRA Appropriate Assessment Report published to include a Record of No Adverse Effect on the Integrity of Any International site under the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended).

Stage 3: Alternative Solutions

If Stage 2 Appropriate Assessment finds that there would be an adverse effect on site integrity then alternative solutions which are financially, legally and technically feasible need to be considered further.

Alternative solutions are already considered in preparation of many plans, for example through the Preferred Options Paper for Local Development Plans and in carrying out Strategic Environmental Assessment which requires consideration of reasonable alternatives. Compliance with regional policies and strategies also means that environmental effects will have been taken into account. It is therefore rare for HRAs for LDPs to progress beyond Stage 2.

Stage 4: Imperative reasons of overriding public interest and compensatory measures

In the event that there is an imperative reason of public interest which overrides the risk and harm to sites, and priority features where appropriate, then compensatory measures to protect the overall coherence of the Natura 2000 network must be identified, delivery detailed and the government notified. As already noted it is rare for HRAs for LDPs to progress beyond Stage 2.

Criteria for assessing whether a plan is subject to the Habitats Regulations

At Step 1 above the following criteria are used to assess whether an overall plan and its individual proposals require HRA.

1. General Policy Statements

These include:

- General strategic and political aspirations (often includes plan objectives)
- Ambitions which state a direction without details
- General criteria based policies, for example relating to design, social considerations, public safety, which do not relate to measures that may protect or affect International sites.

If the whole plan falls into this category and does not include detail about how it will be delivered then it is reasonable to record that it would not be likely to have a significant effect and not to assess it any further under the Habitats Regulations.

2. Plans or projects referred to but not proposed
    - Existing projects or plans that will support delivery of the current plan (may include infrastructure plans which have a bearing on the current plan but are not delivered by it)

- Projects or plans in preparation or proposed to be prepared to support the current plan but which are not included within it (these should be considered under the Habitats Regulations by the relevant competent authority).
- Existing projects, plans or programmes which are referenced in the current plan but which do not necessarily support its delivery
- Plans or projects that would be likely to proceed under another plan irrespective of the current plan.

If the current plan will influence other projects or plans, for example by adding detail, then further consideration is required. Development that is an inevitable consequence of the current plan also requires further consideration although this may not be necessary if it has been or will be subject to HRA.

3. No likely significant effect
    a. The proposal or policy is intended to protect the environment and in doing so will not be likely to have a significant negative effect.
    b. Proposals or policies that will not lead to development or other change or include a presumption against effects on International sites.
    c. Proposals which may bring about change but could have no conceivable effect for example as there is no pathway to an International site or effects are likely to be positive and could not undermine conservation objectives. Baseline information about International sites should be taken into account to ensure all pathways and links with qualifying features have been considered.
4. Proposals too general to assess
    - The effect cannot be predicted because the policy is too general and, for example, how and where it will be implemented is unknown.
    - Broad proposals where the implementation will be detailed and can be assessed at a later stage

These do not apply if the scale of the proposal or constraints mean it will be difficult to accommodate development without impacting an International site.

5. Potential minor effects
    - Proposals which may bring about change but that change would be insignificant on its own for example due to distance, duration or scale. These will be reviewed for potential in combination effects.
6. Potential significant effects
    - Potential negative effects that cannot be confirmed to be insignificant on the basis of objective information without mitigation for which further assessment is required.

Appendix 5: Review of draft Plan Strategy Proposals and Policies

Plan Proposal	Screening		Screening Comment	Protective Measures
SPATIAL VISION AND PLAN OBJECTIVES				
Spatial Vision	1	Out	Overall aspiration for the District. It acknowledges the importance of Lough Neagh and Lough Beg and that the plan will help protect our natural environment. Delivery of the vision is assessed under the plan objectives, spatial policy framework and subject policies.	NA
Accommodating People and Creating Places				
To build Cookstown, Dungannon and Magherafelt as economic and transportation hubs and as the main service centres for shops, leisure activities, public administrative and community services including health and education. These are the most populated places and the town centres are the most accessible locations for people to travel to including those without a car.	4	In	Promotes development in these locations but too general to assess. The relationship between settlement limits and International sites is considered under SPF3.	NA
To protect and consolidate the role of local towns and villages so that they act as local centres for shops and community services meeting the daily needs of their rural hinterlands.	1	Out	General policy statement to focus development in these locations.	NA
To provide for vital and vibrant rural communities whilst protecting the countryside in which they live by accommodating sustainable growth within the countryside proportionate to the extent of existing rural communities.	1	Out	General policy statement on rural development.	NA

Plan Proposal	Screening		Screening Comment	Protective Measures
To provide for 11,000 new homes by 2030 in a range of housing capable of meeting the needs of families, the elderly and disabled, and single people, at locations accessible to community services, leisure and recreational facilities, for those people with and without a car.	5,6	In	This largely focuses development in settlements and the Housing in the Countryside subject policies constrain housing to limited circumstances. The wastewater infrastructure will be assessed together with the relationship between designated sites and settlements.	NA
To recognise the needs of both growing families and carers of the elderly and disabled by accommodating development which allows people to remain within their own communities and does not lead to significant harm to neighbours or the built and natural environment.	3	Out	This objective is supported by policy CT2 and is considered under that policy.	NA
To facilitate the development of new community facilities at locations accessible to the communities they serve, through a variety of modes of transportation in accordance with the community plan.	1	Out	This is a general policy statement with emphasis on such services in relation to existing communities and new housing. Delivery of this objective is considered under COY1.	NA
To accommodate cultural differences in our communities whilst promoting “shared spaces” to bring people together with equality of opportunity.	1	Out	General policy statement	NA
Creating jobs and promoting prosperity				
To facilitate the creation of at least 8,500 new jobs by 2030 at a variety of locations where they are accessible to all members of the community, including those without a private car.	4	In	The focus is on development within identified settlements. Delivery of this objective is considered under the Economic Development subject policies.	NA

Plan Proposal	Screening		Screening Comment	Protective Measures
To promote diversity in the range of jobs on offer recognising the importance of employment in the primary sector (agriculture forestry and mining), secondary sector (industry and manufacturing) and tertiary sector (administration, commerce, retailing, leisure and tourism).	1	Out	General statement of intent for District.	NA
To recognise and accommodate entrepreneurship, innovation for large, medium and small firms by attracting new firms and accommodating expanding businesses.	4	In	Allows for development but too general to assess.	NA
To recognise the importance of self-employment and home working, particularly in rural locations.	4	In	Allows for development but too general to assess. Delivery of this objective is considered under the Economic Development subject policies.	NA
To encourage energy efficiencies and promote use of renewable energy.	5,6	In	The energy efficiency aspect is addressed in GP1. Renewable energy provision is considered under RNW1.	NA
Enhancing the environment and improving infrastructure				
To reduce contributions and vulnerability to climate change and to reduce flood risk and the adverse consequences of flooding.	4	In	This is generally unlikely to have impacts on International sites. The flood risk element however include exceptions and is considered under the Flood Risk subject policies.	NA
To protect and enhance the natural and built environment as wise custodians of our landscape and to achieve biodiversity, quality design, enhanced leisure and economic opportunity and promote health and wellbeing.	1	Out	This general policy statement seeks to protect and enhance the natural environment.	NA
To accommodate investment in power, water and sewerage infrastructure, and waste management particularly in the interests of public health.	4	In	This objective is too general to assess however delivery is considered under the relevant subject policies.	NA

Plan Proposal	Screening		Screening Comment	Protective Measures
To improve connectivity between and within settlements and their rural hinterland through accommodating investment in transportation to improve travel times, alleviate congestion and improve safety for both commercial and private vehicles as well as more sustainable modes of transport including buses, walking and cycling.	4	In	Population and economic growth are likely to drive a net increase in traffic which has potential for impacts on International sites that are close to transport routes. Delivery of this objective is considered under the Transportation subject policies.	NA
To improve connectivity though telecommunications which both meets the needs of business and private households whilst reducing the need to travel.	4	In	Delivery of this objective is considered under the Telecommunications, Overhead Cables, High Structures and Other Utilities subject policy.	NA
SPATIAL FRAMEWORK				
SPF 1 - Manage growth based on sustainable patterns of development balanced across Mid Ulster, in accordance with the Regional Development Strategy with settlement limits defined for all settlements to provide compact urban forms and to protect the setting of individual settlements.	5,6	In	Retains settlement limits and confirms the hierarchy of settlements. Identifies four new small settlements. Otherwise the settlements are carried forward from existing plans. The appropriate assessment will consider connectivity between settlements and International sites.	States that, in defining settlement limits, consideration will be given to protecting the natural environment including important landscape features and river corridors. More development is focussed on towns and villages with the intention that these should have access to infrastructure for sewage disposal.
SPF 2 – Focus growth within the three main towns/hubs of Cookstown, Dungannon and Magherafelt and strengthen their roles as the main administrative, trade, employment and residential centres within the District.	5,6	In	All the main towns are in the catchment of Lough Neagh and Lough Beg SPA and Ramsar site and Cookstown includes part of the Upper Ballinderry River SAC. The impact of focussing development on these main towns is assessed in relation to these International sites.	There are Key Site Requirements (KSRs) for economic development land which include protection and buffering of watercourses. In selecting land to be zoned for housing, priority will be given to locations which can avail of existing infrastructure such as water, waste and sewerage.

Plan Proposal	Screening		Screening Comment	Protective Measures
SPF 3 - Consolidate the role of the local towns of Coalisland and Maghera as service centres for their hinterlands providing appropriate development opportunities for housing, employment and leisure activities, in keeping with the scale and character of these settlements.	5,6	In	These towns are in the catchment of Lough Neagh and Lough Beg SPA and Ramsar site. The impact of development is these local towns is assessed in relation to these International sites.	No measures specific to policy.
SPF 4 - Maintain and consolidate the role of the villages as local service centres providing opportunity for housing, employment and leisure activities in keeping with the scale and character of individual settlements.	5,6	In	Some villages are within the catchment of International sites or otherwise connected to them. The impact of development in these villages is assessed in relation to these International sites.	No measures specific to policy.
SPF 5 - Provide development opportunities - within small settlements appropriate to their size and scale, allowing for single houses and small groups of houses.	5	In	Four new locations have been identified as small settlements and those are reviewed. The level of development will be low and applications will be assessed on a case by case basis.	No measures specific to policy.
SPF 6 - Accommodate development within the countryside that supports the vitality and viability of rural communities without compromising the landscape or environmental quality and whilst safeguarding our natural and built heritage.	5,6	In	Policy seeks to enable but contain rural development and will be monitored. Based on up to 40% of houses being brought forward in the countryside. Supported by the Housing in the Countryside and Tourism subject policies and ECON2 which are assessed. Designates Rural Industrial Policy Areas (RIPA's) which will protect and consolidate existing areas of rural industry.	No part of the proposed RIPA site should include or be in close proximity to any environmental designation such as a RAMSAR, SPA, SAC, ASI or SLNCI.
SPF 7 – Support rural regeneration in remoter areas through the designation of Dispersed Rural Communities (DRCs).	5,6	In	Dispersed Rural Communities currently exist therefore do not required to be assessed for HRA however the relationship between the DRCs will be assessed under CT4 to consider the subject policy which applies to DRCs.	The identification of DRCs includes a criterion requiring the presence of other facilities or services, such as a shop, public house or sewage treatment works. Where based on sewage treatment works this could help reduces likely significant effects on International sites.

Plan Proposal	Screening		Screening Comment	Protective Measures
SPF 8 – Encourage improvements to public and private transportation provision including railway lines and upgrading of the road network.	5,6	In	This largely relates to improving connectivity and safety. It also seeks to protect disused transport routes and the main rivers while allowing for access and recreation. It is assessed under the Transportation subject policies and OS2.	See relevant subject policies
SPF 9 – Facilitate improvements to the A29 which acts as the transportation spine and link between Mid Ulster's hubs and other trunk roads crossing the District.	5,6	In	The road schemes will be brought forward and assessed by central government, This is further considered under TRAN1.	No measures specific to policy.
SPF 10 – Facilitate the protection of vulnerable landscapes and conservation interests, from inappropriate and over dominant development while promoting adequate provision of open space and landscaping integrated with broader green and blue infrastructure systems.	3	Out	This aims to protect the natural environment. It also provides for the identification of a number of zones, some of which may help to protect International sites. This is assessed under the relevant Historic Environment and Natural Heritage subject policies.	See relevant subject policies
GENERAL PRINCIPLES PLANNING POLICY				
GP1- General Principles Planning Policy	4	In	This policy applies to all development and underpins the subject policies. Many of the criteria address amenity, design and accessibility and do not have likely significant effects. Criterion (g) and (i) help protect International sites and the whole policy is underwritten with a statement that planning permission may be refused where the proposal will cause demonstrable harm to interests of acknowledged importance which includes International sites.	The strategy for this policy include preserving and improving the natural environment. Criterion (g) requires applicants to demonstrate adequate infrastructure is in place to deal with waste, sewerage and drainage or, where main sewerage is not available, to demonstrate that this will not create or add to a pollution problem. It also encourages the use of Sustainable Drainage Systems (SuDS). Criterion (i) requires proposals to respect, protect and/or enhance sites designated for the natural environment. The policy emphasises that planning permission may be refused where the proposal will cause demonstrable harm to interests of acknowledged importance. The J&A refers to applying a precautionary approach where there are significant risks of damage whereby protection will be given priority.
SUBJECT POLICIES				
SOCIAL - Housing in Settlements				
HOU1 - Protection of zoned land for housing.	3	Out	Describes what development can take place rather than location.	NA

Plan Proposal	Screening		Screening Comment	Protective Measures
HOU2 - Quality Residential Development.	3	Out	Relates to the layout and design of housing rather than location.	NA
HOU3 - Residential Extensions	3	Out	This addresses extensions and alterations. Although unlikely, impacts during construction cannot be excluded and would be considered case by case.	NA
HOU4 - Conversion of Existing buildings to flats, apartments or houses in multiple occupation.	3	Out	This relates to the use of existing buildings and does not increase built development. Development is unlikely to arise close to an International site however would be assessed case by case in that situation.	NA
TH1 - Travellers Accommodation	4	In	The priority is for traveller accommodation to be within settlements however development in the countryside cannot be excluded.	No measures specific to policy.
SOCIAL - Housing in the Countryside				
CT1 - General Policy	5,6	In	Development could take place on sites connected to International sites leading to potential issues of runoff during construction or development for which waste water treatment is not adequate.	Need to be 'sensitive to environmental issues' highlighted in policy.
CT2 - Dwellings in the Countryside	5,6	In	This constrains the quantity of housing in the countryside but enables it in case of need as defined by exceptions. Potential issues of runoff during construction or development for which waste water treatment is not adequate.	No measures specific to policy. GP1(g) and NH1 apply.
CT3 - Social and Affordable housing in the countryside	5,6	In	Could lead to new development in unspecified locations the scale of which is not capped. Potential issues of runoff during construction or development for which waste water treatment is not adequate.	No measures specific to policy.

Plan Proposal	Screening		Screening Comment	Protective Measures
CT4 - Dispersed Rural Communities	5,6	In	DRCs could lead to higher levels of development than the wider countryside which may increase pressures where there is a pathway to an International site.	The identification of DRCs includes a criterion requiring the presence of other facilities or services, such as a shop, public house or sewage treatment works. Where based on sewage treatment works this could help reduces likely significant effects on International sites.
CT5 - Temporary/Residential Caravans/Mobile Homes	3	Out	These will be small in number and scale and temporary. The policy in itself cannot have a significant effect.	NA
SOCIAL - Health, Education and Community Uses				
COY1 - Community Uses	5,6	In	Facilities will be in or, in exceptional circumstances, close to settlements.	Where locations are not already identified there are provisions within the policy including the need for satisfactory sewage disposal arrangements.
SOCIAL - Urban Design				
UD1 - Urban Design	3	Out	This relates to design rather than the amount or locations of development.	NA
SOCIAL - Open Space, Recreation and Leisure				
OS1 - Protection of Open Space	3	Out	This constrains alternative uses but does not change the location of or quantity of open space.	NA
OS2 - Protection of River Corridors	3,5,6	In	This relates to specified main rivers Ballinderry, Moyola, Blackwater, Bann and Owenkillew and therefore is closely related to a number of designated sites. Although it does allow for public access and recreation provision this is caveated with a protective criteria. Therefore it is considered that it unlikely to have a significant effect however it is screened in for appropriate assessment.	Policy specifies that there is no unacceptable adverse impact on nature conservation. The requirement for a 10m biodiversity strip will benefit wildlife as described in the J&A and this will also provide a degree of protection for International sites.

Plan Proposal	Screening		Screening Comment	Protective Measures
OS3 - Outdoor Sport and Recreation	5,6	In	Although this promotes development of outdoor recreation and sports facilities in settlements it also provides for such facilities in the countryside and, outside SCAs, enables facilities ancillary to water sports. Such development has potential to lead to a number of significant effects including from disturbance. The policy contains reference to disturbance to wildlife and is subject to a number of protective measures detailed in the J&A.	The policy states that 'there will not be an unacceptable level of disturbance to ... the use of habitats by wildlife.' It also states that 'Outside of the SCA proposals for development of facilities ancillary to water sports adjacent to inland lakes, reservoirs and waterways will accord with the plan provided: ... b) it is demonstrated that there is no conflict with the provisions of any local management plan. 'The J&A highlights that special attention should be given to the impact on the natural environment. It also states that, where exceptions are made, an assessment may be required to demonstrate that the ecology of the area has been fully considered. The J&A further addresses noise generating sports and outdoor recreational activities stating that the development of noisy sports or outdoor recreation activities will generally be inappropriate in or near environmentally sensitive features or locations, such as sites of nature conservation. In relation to watersports it acknowledges that a number of our water bodies are located in areas of national and International environmental designations and within these areas special attention should be given to ensuring the proposals do not impact on the on the sensitivities and integrity of these areas.
OS4 - Indoor Sport and Intensive Outdoor Sport Facilities	5,6	In	This directs intensive sports facilities include stadia, leisure centres, sports halls, swimming pools and other indoor and outdoor sports facilities towards settlements. However it makes exceptions allowing for small scale indoor sport and recreation facilities in the countryside.	The J&A states that all development under this policy should include detailed information on a range of factors including impact on the local environment. It also notes that OS3 will also apply.
ECONOMIC - Economic Development				
ECON1 - Economic Development in Settlements	5,6	In	This applies to settlements however the nature of development brought forward under this policy depends on uses specified and individual applications therefore significant effects cannot be ruled out.	No measures specific to policy. However key site requirements for land zoned for economic use include retention of watercourses and provision of an adequate ecological buffer alongside them.

Plan Proposal	Screening		Screening Comment	Protective Measures
ECON2 - Economic Development in the Countryside	5,6	In	This provides a list of the circumstances in which economic development in the countryside may be permitted. Impacts on International sites cannot be excluded.	The J&A state that it will be the responsibility of the developer to explore all potential environmental impacts, both local and of wider consequence. Consideration will be given to the wider long-term environmental effects of the proposal.
ECON3 - Protection of Zoned Land and Existing Economic Development Sites	3	Out	This specifies how land zoned for economic development may be used. In itself it does not zone land for or promote economic development.	NA
ECON4 - Development Incompatible with Economic Development Uses	3	Out	This controls development that would be incompatible with another economic use and does not zone land for or promote economic development.	NA
ECONOMIC - Retailing, Offices and Town Centres				
RE1 - Development within Town Centres	3	Out	This applies to land within settlement limits. It controls what may be developed rather than the location and quantity of development.	NA
RE2 - Retention of Shop Units in the Primary Retail Core	3	Out	This controls what may be developed rather than the location and quantity of development.	NA
RE3 - Retail and Main town centre uses outside of town centres	3	Out	This controls, within settlement limits, where retail or other town centre uses may be allowed. It will not increase the overall level of development within settlements.	NA
RE4 - Neighbourhood Shops	3	Out	These are small in scale and within settlement limits. The policy will not increase development such that it could have a significant effect.	NA
RE5 - Retail and Related Uses in Villages and Small Settlements	3	Out	This allows for small scale development within settlement limits. The policy will not increase development such that it could have a significant effect.	NA

Plan Proposal	Screening		Screening Comment	Protective Measures
RE6 - Retail and Related Uses in the Countryside	5,6	In	Although the amount and scale of retail development allowed under this policy will be low small (normally 100 sq. metres net floor area) the potential for an impact e.g. from waste water cannot be excluded.	No measures specific to policy
RE7 - Financial and Professional Services, Office/ Business Use Development	3	Out	This controls what may be developed rather than the location and quantity of development.	NA
ECONOMIC - Minerals				
MIN 1 - Mineral Reserve Policy Areas	5,6	In	This limits development that might prejudice exploitation of minerals in specified areas. Any development in these areas would be subject to MIN2.	Subject to MIN2
MIN2 - Extraction and Processing of Hard Rock and Aggregates	5,6	In	This sets out the circumstances where minerals extraction and processing might be permitted. Without controls such development has potential for impacts through pollution, disturbance and hydrological change. There are many limitations on where, and the circumstances in which, development might be approved.	The policy includes a statement that it is subject to environmental considerations and that a precautionary approach will be adopted. This includes a requirement for the developer to demonstrate that the development will not cause harm in relation to seven criteria. The first criterion refers directly to SACs and SPAs and the second to protected species. Turning to the J&A the designated ACMDs serve to protect some International sites e.g. Slieve Beagh SPA, SAC and Ramsar site and Owenkillew River SAC. It is pointed out that regional and national protected areas are effectively also areas of constraint. The Special Countryside Area around the Shores of Lough Neagh also introduces a tight constraint on minerals. It is highlighted that all proposals will be assessed in accordance with Policy GP1 General Principles Planning Policy and other plan policies.

Plan Proposal	Screening		Screening Comment	Protective Measures
MIN3 - Valuable Minerals and Hydrocarbons	5,6	In	This policy takes a precautionary approach to the exploration and extraction of valuable minerals as detailed in the protective measures. If such mitigation was not incorporated such extraction could have a significant effect therefore it will be considered further.	It must be demonstrated that there are no significant environmental impacts or significant risks to human health. A precautionary approach will be adopted to assessing applications for valuable minerals and hydrocarbons and therefore criteria a) - j) in Policy MIN2 will also apply. Unconventional extraction of hydrocarbons and gases, such as hydraulic fracturing ("fracking") or use of biological methods or the extraction of valuable minerals by way of chemical shall not accord with the Plan until there is sufficient and robust evidence on all environmental impacts. The J&A states that full consideration will be given to the potential environmental impacts.
MIN4 - Peat Extraction	5,6	In	Although there are very limited circumstances where commercial extraction of peat could be permitted there is potential for run off of sediment from such workings leading to a likely significant effect on aquatic species.	Presumption against commercial peat extraction other than exceptional cases. Would not allow peat extraction on International sites.
MIN5 - Restoration of Mineral Sites	5,6	In	While this is likely to deliver environmental benefits the restorations works could have potential for e.g. sediment release.	No measures specific to policy. There is a requirement for a site restoration scheme to be submitted which could be assessed for effects on designated sites so that appropriate mitigation is included.
MIN6 - Mines, Shafts and Adits	3	Out	This constrains development for safety reasons and in itself could not have a likely significant effect.	NA
ECONOMIC - Tourism				
TOU1 - Protection of Tourism Assets and Tourism Accommodation	5,6	In	Tourism assets are defined in the J&A and include natural features of intrinsic interest to tourists. They therefore help to protect some International sites however the policy does allow for some recreation infrastructure. Assets include Lough Neagh, Davagh Forest and Seamus Heaney Countryside all of which are connected to International sites.	The policy includes statement that special care should be given to ensure that any proposal should respect and be sensitive to the character of the local landscape, wildlife and heritage interests. The J&A highlights that some tourism assets are also protected through statutory designations.

Plan Proposal	Screening		Screening Comment	Protective Measures
TOU2 - Resort Destination Development	5,6	In	This enables development of a single resort destination in the District. Potential significant effects cannot be assessed as it is not known where such a development might be proposed.	The policy states that it must be sustainable, including in relation to adverse impacts on the wider environment.
TOU3 - Tourism Accommodation	5,6	In	This policy includes a presumption in favour of tourism accommodation in settlements, DRCs and TOZs. For the wider countryside there are a number of circumstances where tourism accommodation would also be approved.	The policy includes a statement that development within a TOZ will need to demonstrate that they will not have, or have mitigated against, significant adverse impacts on Internationally recognised habitats. Within Tourism Opportunity Zones tourism development will accord with the plan provided they are sustainable and environmentally sensitive and result in development of a high design quality. There is statement in the J&A about giving special attention to wildlife and heritage interests.
TOU4 - Other Tourism Facilities / Amenities and Attractions	5,6	In	Enables outdoor tourism facilities, amenities or attractions within a settlement or a Tourist Opportunity Zone or in the open countryside outside a Tourism Conservation Zone or SCA, as well as indoor facilities in limited circumstances.	The policy includes a statement that development within a TOZ will need to demonstrate that they will not have, or have mitigated against, significant adverse impacts on Internationally recognised habitats. There is general reference in the J&A to consideration of impact on heritage.
ECONOMIC - Agriculture, Forestry and Fishing				
AFR1 - Agriculture and Forestry Development and Development Ancillary to Commercial Fishing	5,6	In	This policy enables development associated with agriculture, forestry and commercial fishing subject to constraints on location.	The policy states that proposals for intensive farming and animal husbandry are required to demonstrate that they will not have a significant adverse environmental impact, particularly in relation to ammonia production. For commercial fishing the applicant must hold a valid boat owners licence to fish for scale fish.
AFR2 - Farm Diversification	5,6	In	Enables farm diversification in exceptional circumstances.	No measures specific to policy.
ENVIRONMENTAL - Historic Environment				
HE1 - Beaghmore Stone Circles - Area of Significant Archaeological Interest	3	Out	This policy does not promote development, it is protective of historic environment, presumption against tall structures, large scale development, quarrying and mining.	NA

Plan Proposal	Screening		Screening Comment	Protective Measures
HE2 - Creggandevesky - Area of Significant Archaeological Interest	3	Out	This policy does not promote development, it is protective of historic environment, presumption against tall structures and large scale development.	NA
HE3 - Tullahogue - Area of Signifcant Archaeological Interest	3	Out	This policy does not promote development, it is protective of historic environment, presumption against tall structures, large scale development, quarrying and mining.	NA
HE4 - Archaeological Remains of Regional Importance and their setting	3	Out	This policy does not promote development, it is protective of archaeological remains, presumption against development which would damage or destroy regionally important archaeological remains or have an adverse impact on their setting.	NA
HE5 - Archaeological Remains of Local Importance and their setting	3	Out	This policy does not promote development, it is protective of archaeological remains of local importance.	NA
HE6 - Areas of Archaeological Potential	3	Out	This policy does not promote development, it is protective of historic environment, presumption against tall structures, large scale development, quarrying and mining.	NA
HE7 - Archaeological Assessment, Evaluation and Mitigation	3	Out	This policy does not promote development, it specifies archaeological information that may be required.	NA
HE8 - Registered Historic Parks, Gardens and Demesnes	3	Out	This policy does not promote development, it is protective of Historic Parks, Gardens and Demenses.	NA
HE9 - Change of Use, Alteration or Extension of a Listed Building	4	In	This policy does not promote development, it is protective of listed buildings. There is potential for a listed building such as a mill to be associated with a designated site in which case likely significant effects from the proposal would have to be assessed.	No measures specific to policy.

Plan Proposal	Screening		Screening Comment	Protective Measures
HE10 - Demolition of a Listed Building	4	In	This policy does not promote development however enables demolition in exceptional circumstances. There is potential for a listed building such as a mill to be associated with a designated site in which case likely significant effects from demolition would have to be assessed.	No measures specific to policy.
HE11 - Advertisement on a Listed Building or Structure	3	Out	This policy does not promote new development.	NA
HE12 - Designated Conservation Areas and their Historic Settings	3	Out	This policy does not promote new development but defines what nature of development that is acceptable in conservation areas.	NA
HE13 - Non-listed Historic Venacular Buildings	4	In	This policy does not promote development, it is protective of non-designated historic vernacular buildings or structures. It could lead to development in locations connected to International sites which would have to be assessed on a case by case basis.	No measures specific to policy.
HE14 - Areas of Townscape/Village Character	3	Out	This policy does not promote development, it affects the type and design of development in ATCs/AVCs within settlements.	NA
HE15 - Industrial Heritage Assets	5,6	In	Enables development which facilitates the sensitive retention, active reuse and repair of registered industrial heritage assets. This includes the Ulster Canal which is connected to Lough Neagh and Lough Beg SPA and Ramsar and mills which may be adjacent to rivers that are International sites.	Our local policy plan will provide further policy and supplementary guidance will be a material consideration.

Plan Proposal	Screening		Screening Comment	Protective Measures
HE16 - Local Landscape Policy Areas	5	In	LLPA are generally within settlements and include river banks and shore lines and associated public access areas of local nature conservation interest, including areas of woodland and important tree groups. There is an LLPA alongside the Upper Ballinderry River in Cookstown which affords protection from development. The policy only enables development that does not harm the intrinsic environmental values and assets within LLPAs.	The policy only enables development that does not harm the intrinsic environmental values and assets within LLPA. The policy states Local Planning Policy for each LLPAs will be a material consideration. This can help identify measures to protect International sites that are connected to the LLPA. In designating LLPA's consideration will be given to the DAERA paper on the 'Methodology for Designating Local Landscape Policy Areas'.
ENVIRONMENTAL - Natural Heritage				
SCA1 - Special Countryside Areas	5,6	In	The policy constrains the type of development that could be approved within SCAs. This will largely prevent tall structures thus reducing potential impacts on birds associated with Lough Neagh and Lough Beg SPA and Ramsar site. It will however allow for ancillary open development relating to appropriate recreation/open space uses in all SCAs, Exceptions such as jetties and slipways associated with commercial fishing may be allowed within the Lough Neagh/Lough Beg Special Countryside Area. Within the Slieve Beagh Special Countryside Area the policy may allow an exception for the provision of essential electricity transmission and/or supply infrastructure of regional importance. Therefore although the policy is largely protective it could allow development with a likely significant effect so will be assessed further.	The J&A states, for development relating to recreation/open space, that an assessment may be required to demonstrate that the ecology of the area has been fully considered.

Plan Proposal	Screening		Screening Comment	Protective Measures
NH1 - International Designations	3	Out	The policy and J&A fully incorporate the regional strategic objective for International designations in the SPPS.	The policy reiterates the statutory protection afforded to these sites. In the 'Implementation of this Plan Strategy' section it states that a number of the subject policies apply as appropriate to all development, including land which has been zoned for development including the General Principles Planning Policy and Natural Heritage Policy.
NH2 - Protected Species	3	Out	This affords protection to European protected species some of which are site selection features for International designations and which may also be found on supporting habitat outside International designations.	The policy reiterates the statutory protection afforded to these species.
NH3 - National Designations	3	Out	This affords protection to national sites which often underpin International designations.	The policy reiterates the statutory protection afforded to these sites and goes further as benefits of development must be of regional importance to outweigh impacts.
NH4 - Local Designations	3	Out	This affords protection to local sites (Local Nature Reserves, Wildlife Refuges or Sites of Local Nature Conservation Importance which in some cases may be adjacent to or connected to International designations. There may be potential to provide added protection to International sites through SLNCIs.	Potentially provides additional indirect protection to designated sites.
NH5 - Other Habitats, Species or Features of Natural Importance	3	Out	This affords protection to priority and other habitats and species some of which are site selection features for International designations and which may also be found on supporting habitat outside International designations.	Potentially provides additional indirect protection to designated sites.
NH6 - Areas of Outstanding Natural Beauty	3	Out	This is a protective policy for Sperrin AONB. Carn-Glenshane Pass SAC, Owenkillew SAC, Black Bog SAC and Ramsar site and Teal Lough SAC and proposed Ramsar site are all within the AONB. The policy does not promote development.	No measures specific to the policy.

Plan Proposal	Screening		Screening Comment	Protective Measures
ENVIRONMENTAL - Flood Risk				
FLD1 - Fluvial Floodplains	5,6	In	Largely protective through constraining development including storage of hazardous substances, however does allow for some forms of development in floodplains including mineral extraction and recreational facilities.	The J&A states that development likely to give rise to significant levels of environmental pollution will be discouraged and only be granted planning permission where it is demonstrated that an alternative lower risk location is not available and that adequate provision is made for pollution containment so as to prevent a pollution incident in the event of flooding.
FLD2 - Development and Surface Water (Pluvial) Flood Risk outside Floodplains	5,6	In	This requires drainage assessments (DAs) for development in areas of historic surface water flooding or over certain thresholds. Potentially could be pathways to designated sites through surface flooding. The DA could inform risks and impacts.	Policy includes a requirement for a DA where surface water run-off from the development may adversely impact upon features of importance to nature conservation.
FLD3 - Protection of Flood Defence and Drainage Infrastructure	3	Out	This is a measure to allow for maintenance of flood defence and drainage infrastructure which does not promote development.	The retention of a 5 to 10 metre working strip along watercourses will have added benefits, including increased control over water pollution.
FLD4 - Development in Proximity to Reservoirs	3	Out	Constrains development in potential flood innundation areas and does not promote development.	The policy includes presumption against certain types of development, including storage of hazardous substances in potential flood innundation areas which may reduce risk to International sites.
FLD5 - Artificial Modification of Watercourses	5,6	In	This allows for a maximum length of culverting of up to 10m in limited circumstances. There is potential for culverting to result in habitat loss or to create a barrier to migration of salmon or otter.	The J&A recognises that artificial modification of watercourses can adversely impact upon ecological integrity and biodiversity of watercourses.
ENVIRONMENTAL - Waste Management				

Plan Proposal	Screening		Screening Comment	Protective Measures
WM1 - Waste Management: General Policy	5,6	In	Enables waste management facilities subject to a number of caveats. In the absence of mitigation these could have likely significant effects.	The policy states that such facilities must not result in an unacceptable adverse impact on the environment and that the types of waste and method of disposal or treatment will not pose a serious environmental risk to air, water or soil resources unless these can be prevented or appropriately controlled by mitigating measures. The J&A states that applicants will be required to demonstrate that there will be no unacceptable environmental impacts in terms of natural heritage which may include a requirement for ecological survey.
WM2 - Waste Collection and Treatment Facilities	5,6	In	Enables development of a waste management facility but directs suitable locations.	Policy states that facilities should not have an adverse effect on or be harmful to the environment
WM3 - Waste Disposal	5,6	In	Enables development of a waste disposal facility but directs suitable locations.	The J&A states that the developer will be required to show there will be no environmental impacts.
WM4 - Development in the Vacinity of Waste Management Facilities	3	Out	Controls development in the vicinity of waste management facilities and WWTWs to avoid amenity conflicts.	NA
ENVIRONMENTAL - Telecommunications, Overhead Cables, High Structures and Other Utilities				
TOHS1 - Outside of Areas of Constraint on Wind Turbines and High Structures	5,6	In	This relates to telecommunications development, overhead cables and high structures. There is potential for likely significant effects during installation and operation, the latter through effects on bird flight paths.	The strategy states that key considerations include impact on the environment. The policy does not apply to SCAs. Within AOCWTHS development will be normally be restricted to 15m in height. Exceptions will only be allowed in limited circumstances, not include wind turbines, and be subject to a 25m height limit. Elsewhere, development must not result in an unacceptable impact on environmentally sensitive features and locations and include measures to mitigate environmental impacts. The J&A adds that, wherever possible, telecommunications development should seek to avoid sensitive features and locations of natural heritage value. This includes sites of nature conservation importance, sites where there are protected species, Local Landscape Policy Areas and other environmental designations. Where such locations cannot be avoided extra care will be required to ensure that the environmental impact is minimised.
ENVIRONMENTAL - Renewable Energy				

Plan Proposal	Screening		Screening Comment	Protective Measures
RNW1 - Renewable Energy	5,6	In	This facilitates development of renewable energy development outside SCAs. There is a constraint on wind energy development in AOCWTHSs. There is generally greater emphasis on environmental benefits and visual or over adverse environment impacts other than those on visual protective measures. There are many potential impacts from renewable energy depending on the generation method, scale and location and this policy will be assessed further.	The strategy aims to ensure that adequate opportunities exist for the further development of renewable energy development without causing damage to our natural/built heritage. J&A states that the policy does not apply to development likely to cause harm to our most vulnerable and distinctive natural habitats and species. States for solar farms that a habitat survey is likely to be required for all proposals within a designated site such as a SAC, SPA or Ramsar site.
ENVIRONMENTAL - Transportation				
TRAN1 - New Roads and Road Improvement Schemes	3	Out	Constrains development that could prejudice a transport scheme.	NA
TRAN2 - Disused Transport Routes	5,6	In	This prevents development that might inhibit future use of a disused transport route however enables use for recreation, nature conservation or tourism. One example given is the Ulster Canal. If this was to be restored as a navigable waterway or substantial access was developed alongside it then likely significant effects on Lough Neagh would have to be assessed.	No measures specific to policy.
TRAN3 - Car Parking	3	Out	Purpose is to avoid loss of car parking in the main town centres.	NA
TRAN4 - Access onto Protected Routes and Other Route Ways	3	Out	Constrains access to defined routes.	NA

Appendix 6: Review of draft Plan Strategy Spatial Areas

Spatial Area	Identification	Policies that apply	Existing Plans	Review/ new at dPS	Review/ new at LPP	Comment
Area of Constraint on Wind Turbines and High Structures (AOCWTHS)	Areas of Constraint on Wind Turbines and High Structures (AOCWTHS) in the Sperrins and in the Clogher Valley offer a greater additional layer of protection to our most prominent landscapes, achieved through a presumption against development over 15 metres in height.	SPF10, TOHS1, RNW1	No	Yes	No	Limit development of wind farms which can reduce risk of damage to supporting habitat or collision for species such as whooper swan or hen harrier. newable development with a low impact will be accommodated but development of a height of greater than 15m will be resisted.
Areas of Constraint on Minerals Development (ACMD)	ACMDs are identified in extant plans, other than the Magherafelt Area Plan, in line with regional policy to protect areas of intrinsic landscape amenity, scientific or heritage value. They are identified on the District Proposals Map. They are Beaghmore and the High Sperrins, the Clogher Valley and its escarpment, and Slieve Beagh as it is internationally important as a natural habitat. International and national sites protected for their wildlife, scientific value or heritage interests also act in effect as areas of constraint on mineral development.	MIN2	Yes	Yes	No	Constrain minerals development. Beaghmore ACMD contains Owenkillew River SAC.
Area of Significant Archaeological Interest (ASAI)	Areas of Significant Archaeological Interest are non-statutory designations that seek to identify distinctive areas of the historic landscape in Northern Ireland. The preservation of an archaeological site or monument and its setting is a material consideration in determining planning applications.	HE1, HE2, HE3	Yes	No	No - unlikely	Beaghmore ASAI contains Owekillew River SAC. Constrains development including masts and pylons; wind turbines, large scale development including agricultural sheds, quarrying and mining activities.

Spatial Area	Identification	Policies that apply	Existing Plans	Review/ new at dPS	Review/ new at LPP	Comment
Dispersed Rural Community (DRC)	There are currently three Dispersed Rural Communities (DRCs) within Mid Ulster at Broughderg, Carntogher and Sixtowns and these are retained within this Plan Strategy and they are identified on the District Proposals Map. In preparing the Local Policies Plan consideration will be given to whether there are other locations in our District which could be defined as a DRC.	SPF 7, CT4	Yes	Yes	Yes	Broughderg DRC includes Owenkillew River SAC
Economic Land	There is to be provision of at least 170 hectares of economic development land across the three main towns and additional sites at Dungannon and Granville. Additional Coalisland mixed use opportunity site shown on [Map 1.4]. The majority of economic land will not be designated until the Local Policies Plan, but given the immediate need for economic land in Dungannon, additional zoned economic land is included in this Strategy as an interim measure. The Local Policies Plan (LPP) will explain the range / type of economic development uses that will be acceptable within zoned economic development designations. In smaller settlements, the LPP will not zone land for economic development purposes because of the need to retain a degree of flexibility.	ECON1, ECON3	Yes	Yes	Yes	Largely within settlement limits. Review zonings and KSRs to check whether they address potential pathways.
Housing Zones	Land has been zoned as either Phase 1 or Phase 2 housing land in the main towns; phase 2 housing is to be zoned at LPP for Magherafelt. Phase 2 housing land not be released until it is zoned as phase 1.		Yes	No	Yes	Within settlement limits. Review zonings and KSRs to check whether they address potential pathways.

Spatial Area	Identification	Policies that apply	Existing Plans	Review/ new at dPS	Review/ new at LPP	Comment
Local Landscape Policy Area (LLPA)	Within settlements we give protection to landscape features, habitats and other environmental assets through the designation of Local Landscape Policy Areas (LLPAs). LLPAs designations include river banks and shore lines and associated public access; areas of local nature conservation interest, including areas of woodland and important tree groups.	SPF10, HE16	Yes	No	Yes	
Main River	Rivers identified as main rivers are Ballinderry, Moyola, Blackwater, Bann and Owenkillew and are shown on the District Proposals Map.	OS2	No	Yes	No - unlikely	Relates directly to Owenkillew River SAC and Upper Ballinderry SAC and indirecly to Lough Neagh and Lough Beg SAC and Ramsar site.
Mineral Reserve Policy Areas (MRPA)	We also designate areas where minerals deposits are to be protected; known as Mineral Reserve Policy Areas (MPRA's). The minerals within these areas will be of economic importance and may well be linked to an ongoing industrial operation. Within these areas, surface development will not be permitted because this would prejudice the future extraction of these mineral deposits.	MIN1	Yes	Yes	No	No proposed sites directly connected to MRPAs however could be in the future.
Open Space	As currently defined in existing plans. Possible new areas to be identified at LPP.	OS1	Yes	No	Yes	Potential effects if connected to an International site
Policy Area for Holders of commercial fishing licence	Area west of Lough Neagh identified on the District Proposals Map.	CT2, AFR1	No	Yes	No	The Policy Area is in the hinterland of Lough Neagh.

Spatial Area	Identification	Policies that apply	Existing Plans	Review/ new at dPS	Review/ new at LPP	Comment
Rural Industrial Policy Areas (RIPA)	This Plan Strategy designates Rural Industrial Policy Areas (RIPAs) which will protect and . A RIPA is not a zoning however it will consolidate and contain existing areas of rural industy and large scale expansion would not be permitted. Maps 1.5 and 1.6 in the dPS. They are shown on the layer as an area but we are saying they are not a zone insofar as they are not being brought into settlement limits and they have the role of consolidating and protect but they are not for large scale growth.	SPF6	No	Yes	Yes	No proposed sites directly connected to RIPAs however could be in the future.
Settlement Limits	All shown on District Proposals Map and existing settlement limits remain as contained in the 3 extant Area Plans until the LPP. Aghamullan/Derryloughan, Derrytresk, Tullywiggan and Tullyallen/Edencrannon are new small settlements. Until such times as a settlement limit is identified for them in the Local Policies Plan development within these areas will be considered as being located in the open countryside	SPF1-SPF5, RE4-RE6	Yes	No	Yes	No new designations at PS, other than 4 new small settlements, however relationship between settlements and designated sites will be noted.
Site of Local Nature Conservation Importance (SLNCI)	Sites of Local Nature Conservation Importance contain features in the landscape of value to wildlife and earth science interest and can contain priority habitats and earth science interests. Development proposals which affect these sites may be acceptable only if the benefits of the proposed development outweigh the value of the site. In such cases, appropriate mitigation and/or compensatory measures will be required. The Council will review the existing SLNCIs and bring these forward within the Local Policies Plan and we may also bring forward additional new SLNCIs at the same time.	SPF10, NH4	Yes	No	Yes	Where connected to International sites may provide additional protection.

Spatial Area	Identification	Policies that apply	Existing Plans	Review/ new at dPS	Review/ new at LPP	Comment
Special Countryside Area (SCA)	To give protection in accordance with the RDS, to our internationally and regionally important environmental designations we have introduced protections in the form of a Special Countryside Area (SCA) along the Lough shore, in the high Sperrins and Slieve Beagh to protect them from unnecessary development.	SPF10, SCA1	No	Yes	No	Can provide added protection through constraining development. The SCA will place constraints on all renewable energy development.
Tourism Conservation Zones (TCZ)	TCZ's recognise areas of our District where conservation interests are paramount as tourism development are restricted within them. These areas are located within the Sperrins Area of Outstanding Natural Beauty, and near Beaghmore ASAI where landscape, ecology and heritage are of the utmost importance. The TCZ's are identified on the District Proposals Map.	TOU1	No	Yes	No	Can provide added protection through constraining development.
Tourism Opportunity Zones (TOZ)	TOZ's recognise the areas that have the most to offer, either by way of existing outdoor activities, facilities or due to their location and promotes tourism development within them. TOZ's have been designated at key locations along the shoreline of Lough Neagh at Washingbay, Mountjoy, Traad Point and The Battery. These TOZ's along the lough are identified on Maps 20- 24 and they are also shown on the District Proposals Map. TOZ's are also designated within the Sperrins Area of Outstanding Natural Beauty at Davagh Forest and the Sixtowns Road valley and they are identified on the District Proposals Map.	TOU3, TOU4	No	Yes	No	Can be connected to International sites, for example the Owenkillew River SAC and Lough Beg and Lough Neagh SPA and Ramsar site and have potential for develop to cause likely significant effects.

Appendix 7: Maps

Map 1: Mid Ulster District Council Area and District Settlements

Map 2: SPAs in relation to Mid Ulster District Council

Map 3: SACs in relation to Mid Ulster District Council

Map 4: Ramsar Sites in relation to Mid Ulster District Council

Map 5: Major Catchments within the Mid Ulster District Council area

Map 6a: Lough Beg Vision RSPB

Map 6b: Lough Neagh Vision RSPB

Map 7: Ballynahone Bog SAC and Ramsar Site and Curran Bog SAC

Map 8: Black Bog SAC and Ramsar Site

Map 9: Dead Island Bog SAC and Wolf Island Bog SAC

Map 10: Teal Lough SAC and Proposed Ramsar Site

Map 11: Carn-Glenshane Pass SAC

Map 12: Owenkillew River SAC

Map 13: Upper Ballinderry River SAC

Map 14: Banagher Glen SAC

Map 15: River Roe and Tributaries SAC

Map 16: Slieve Beagh SAC and Ramsar Site

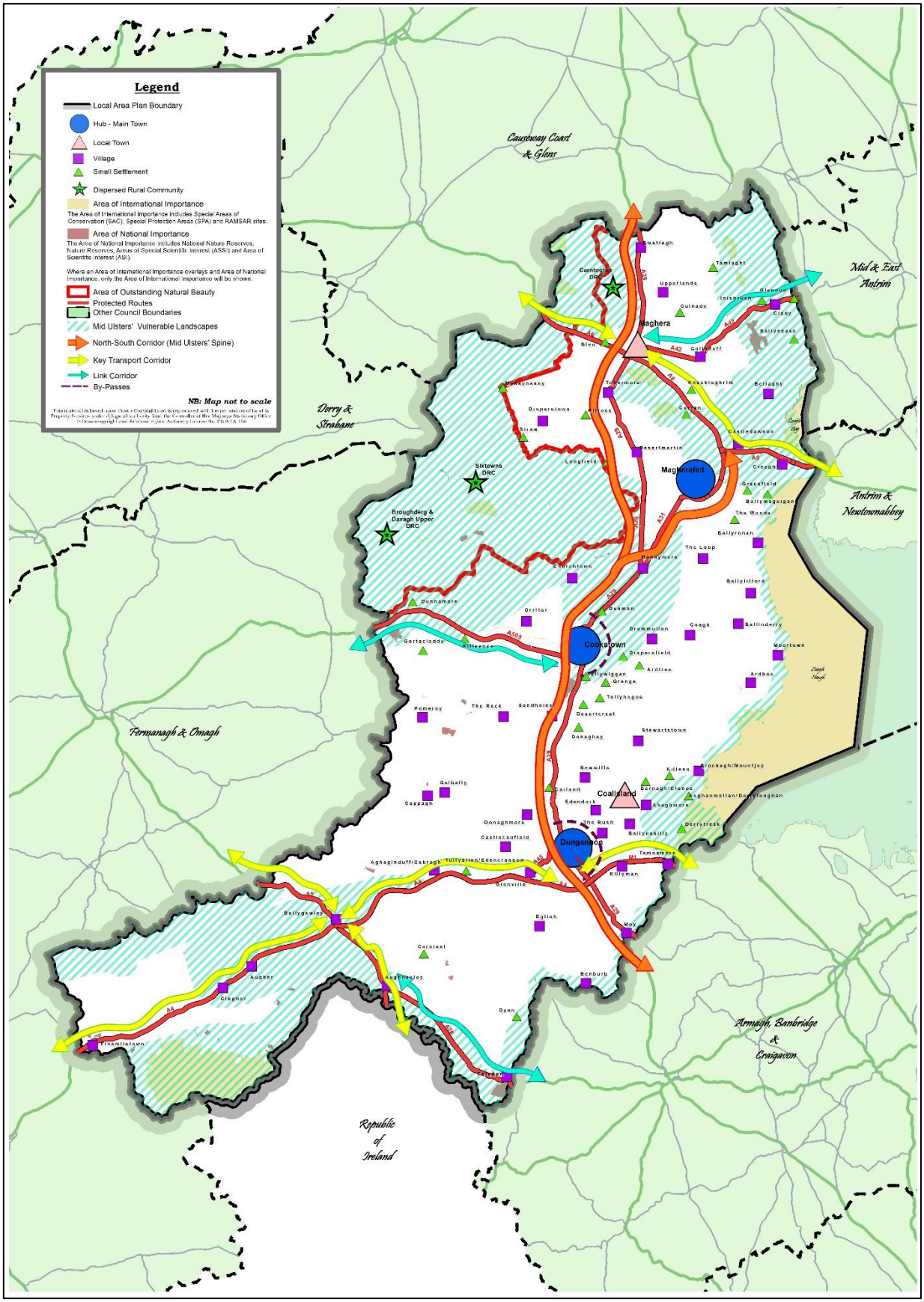
Map 17: Slieve Beagh-Mullaghfad-Lisnaskea SPA and Slieve Beagh (Ireland) SPA

Map 18: Lough Neagh and Lough Beg SPA and Ramsar Site

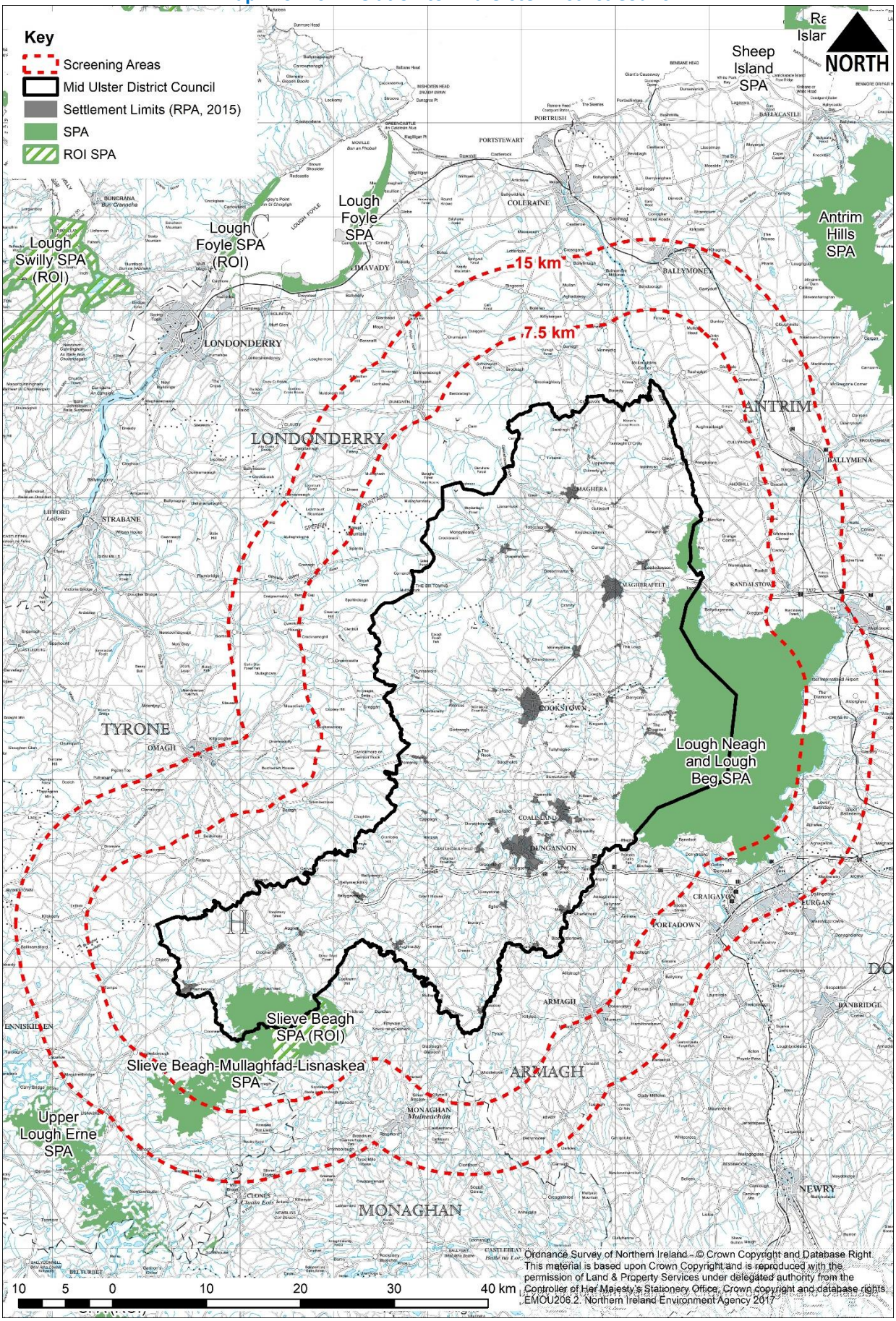
Map 19: Tourism Opportunity Zones

Appendix 7: Maps

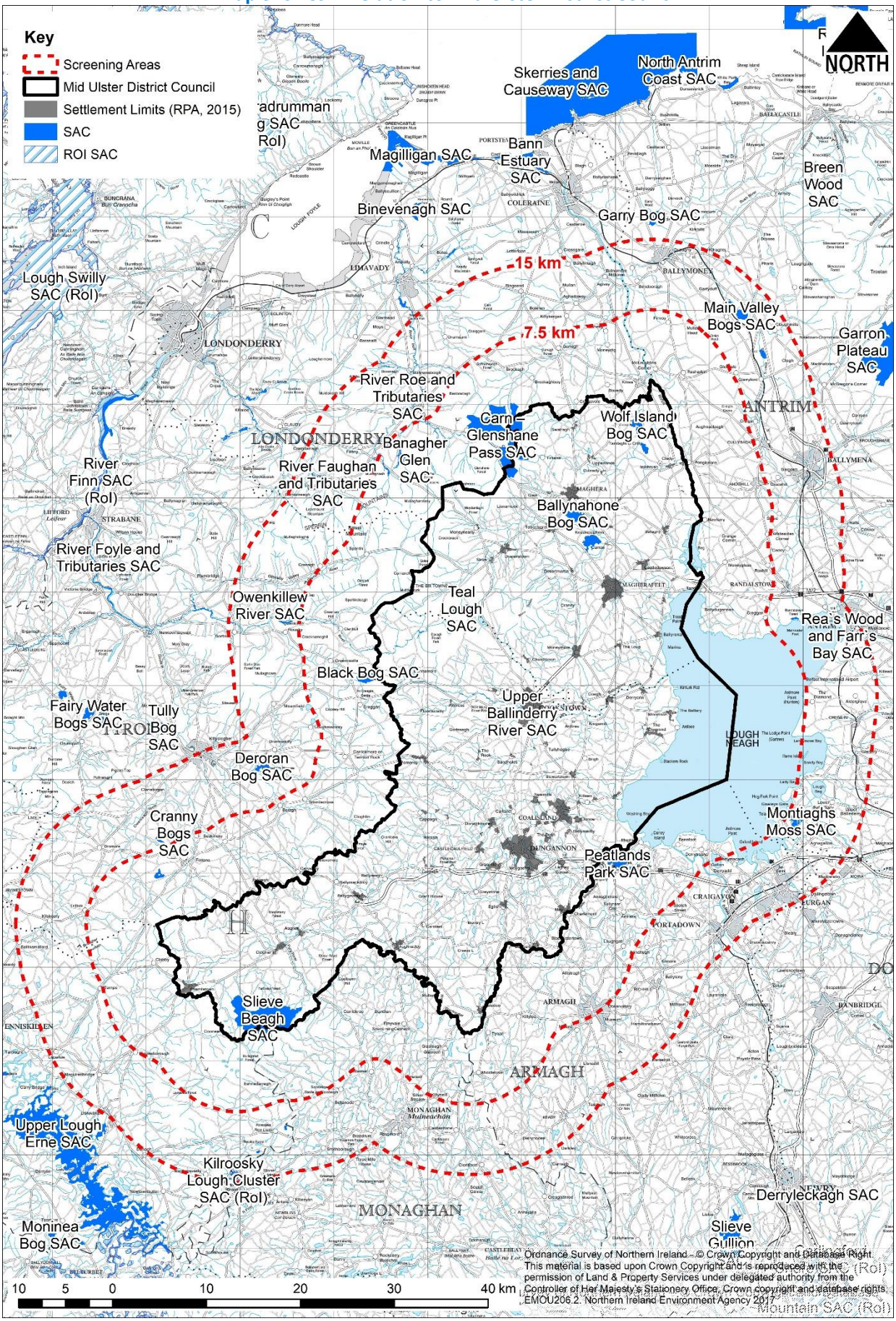
Map 1: Mid Ulster District Council area and District Settlements



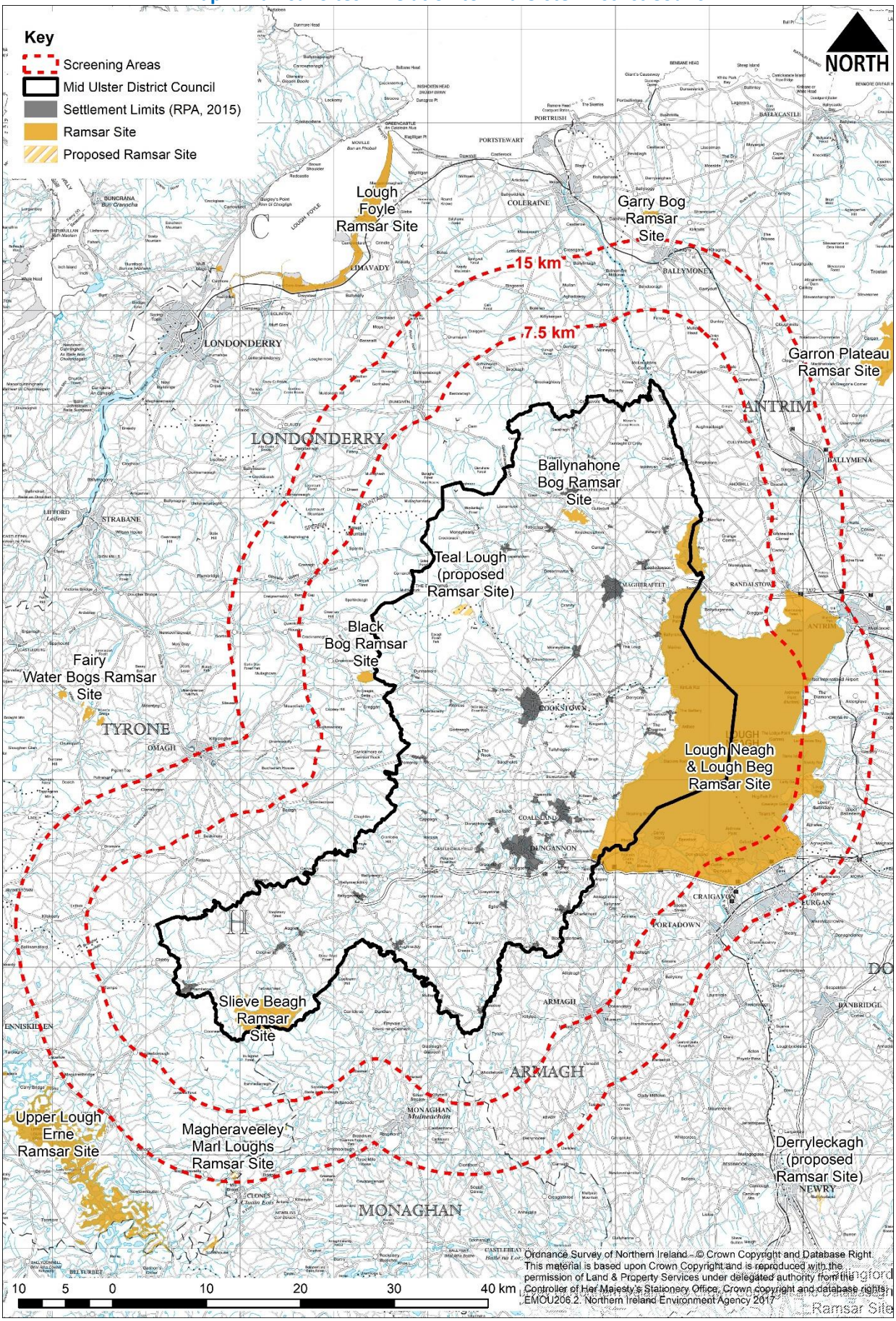
Map 2: SPAs in relation to Mid Ulster District Council



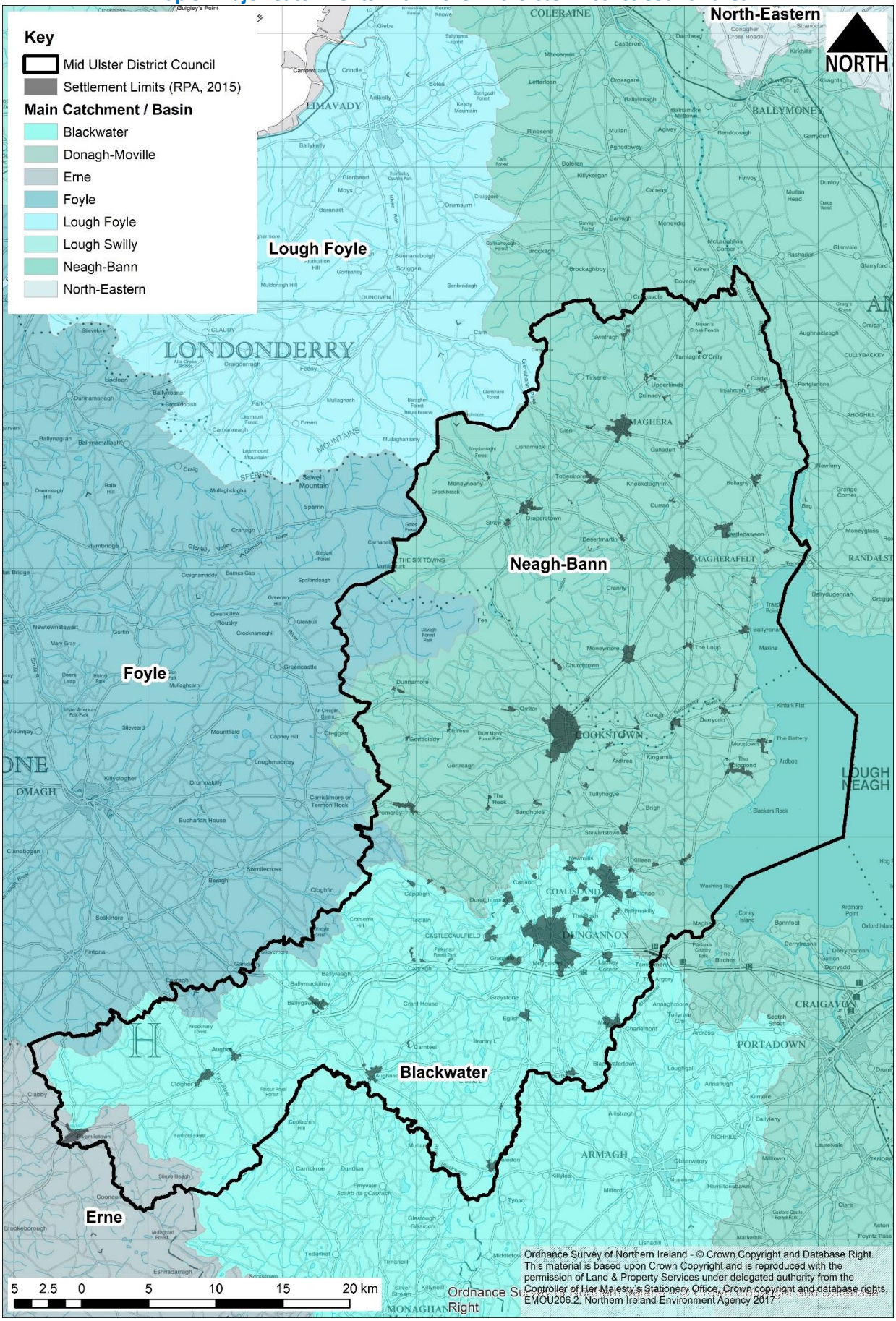
Map 3: SACs in relation to Mid Ulster District Council



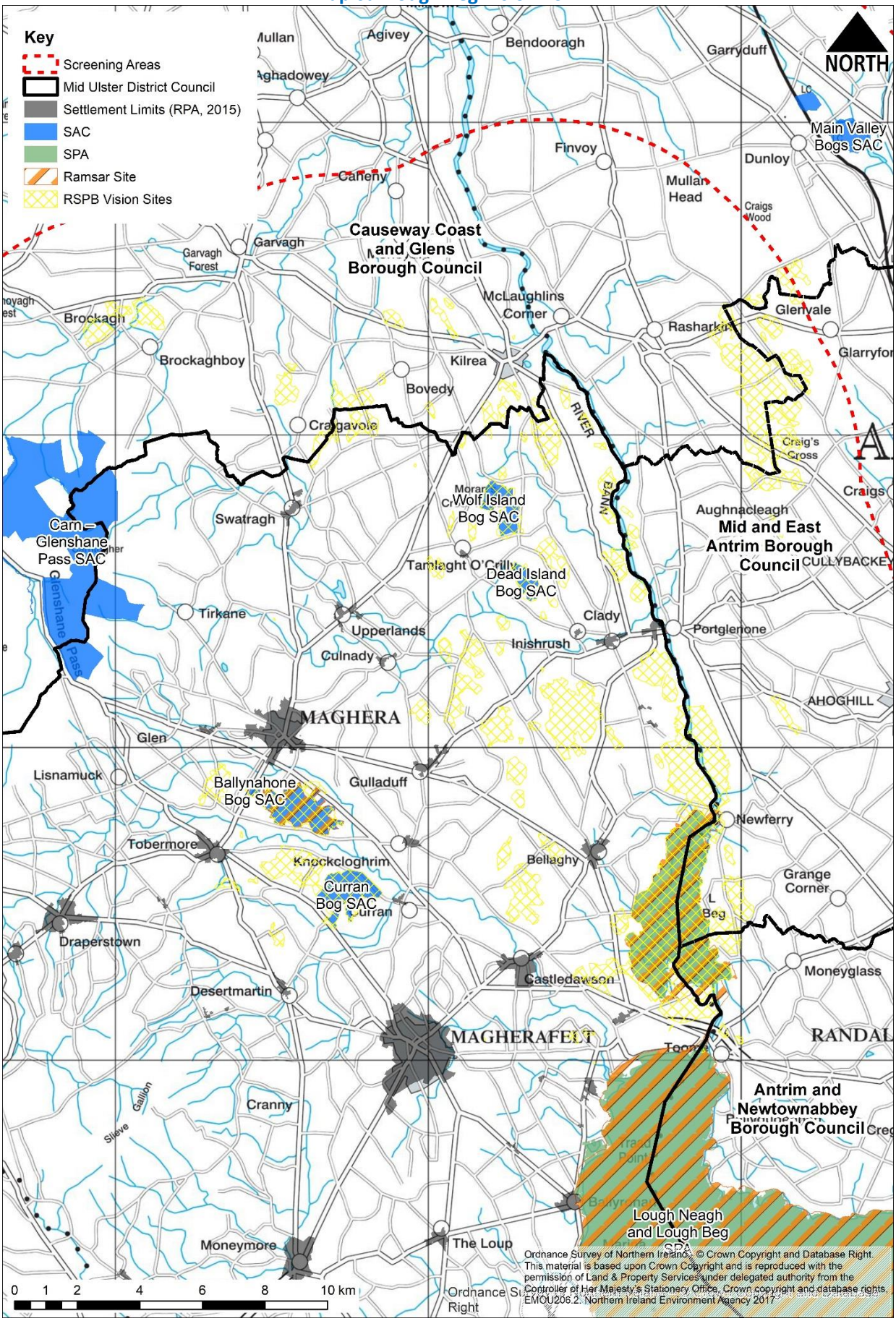
Map 4: Ramsar Sites in relation to Mid Ulster District Council



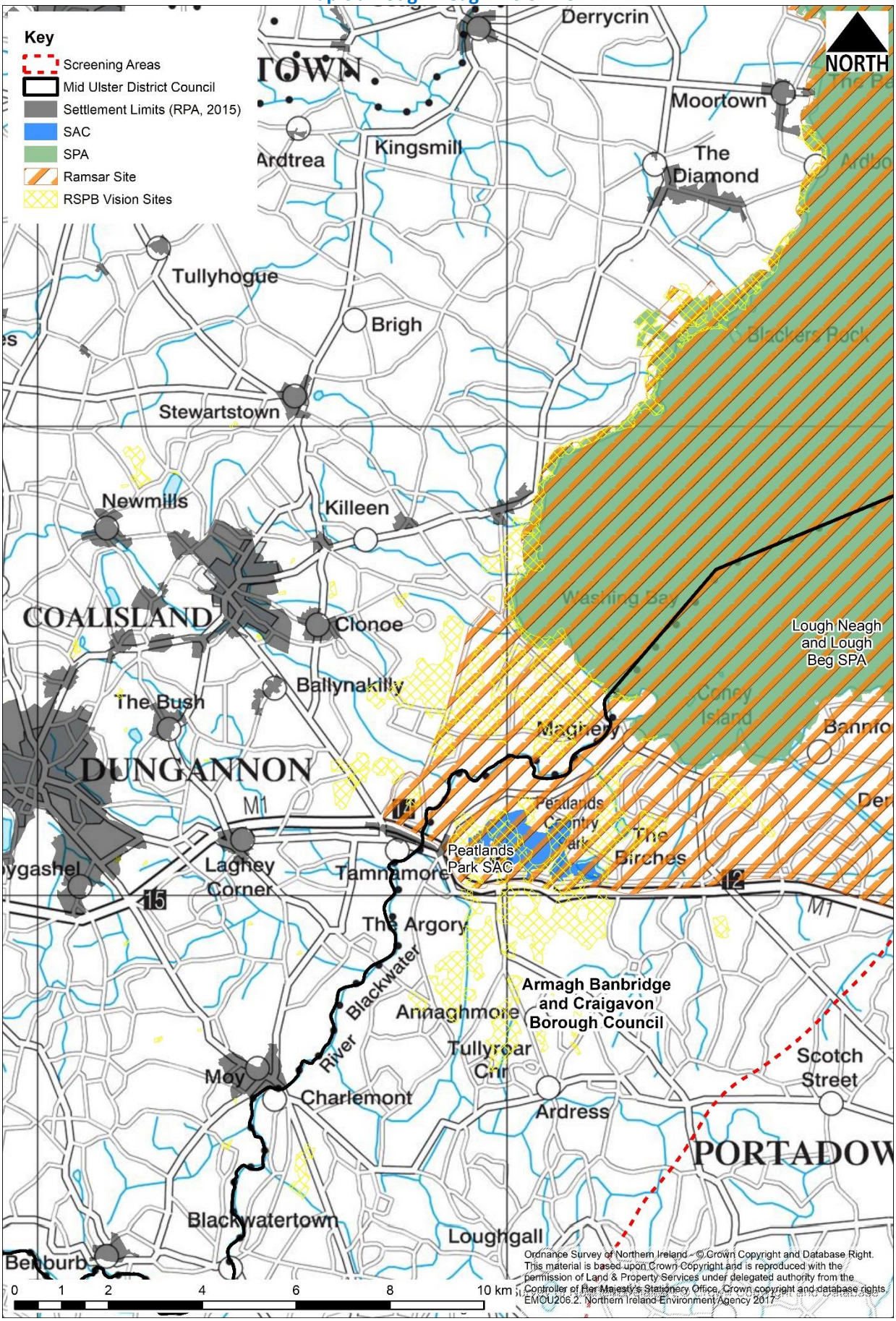
Map 5: Major Catchments within the Mid Ulster District Council area



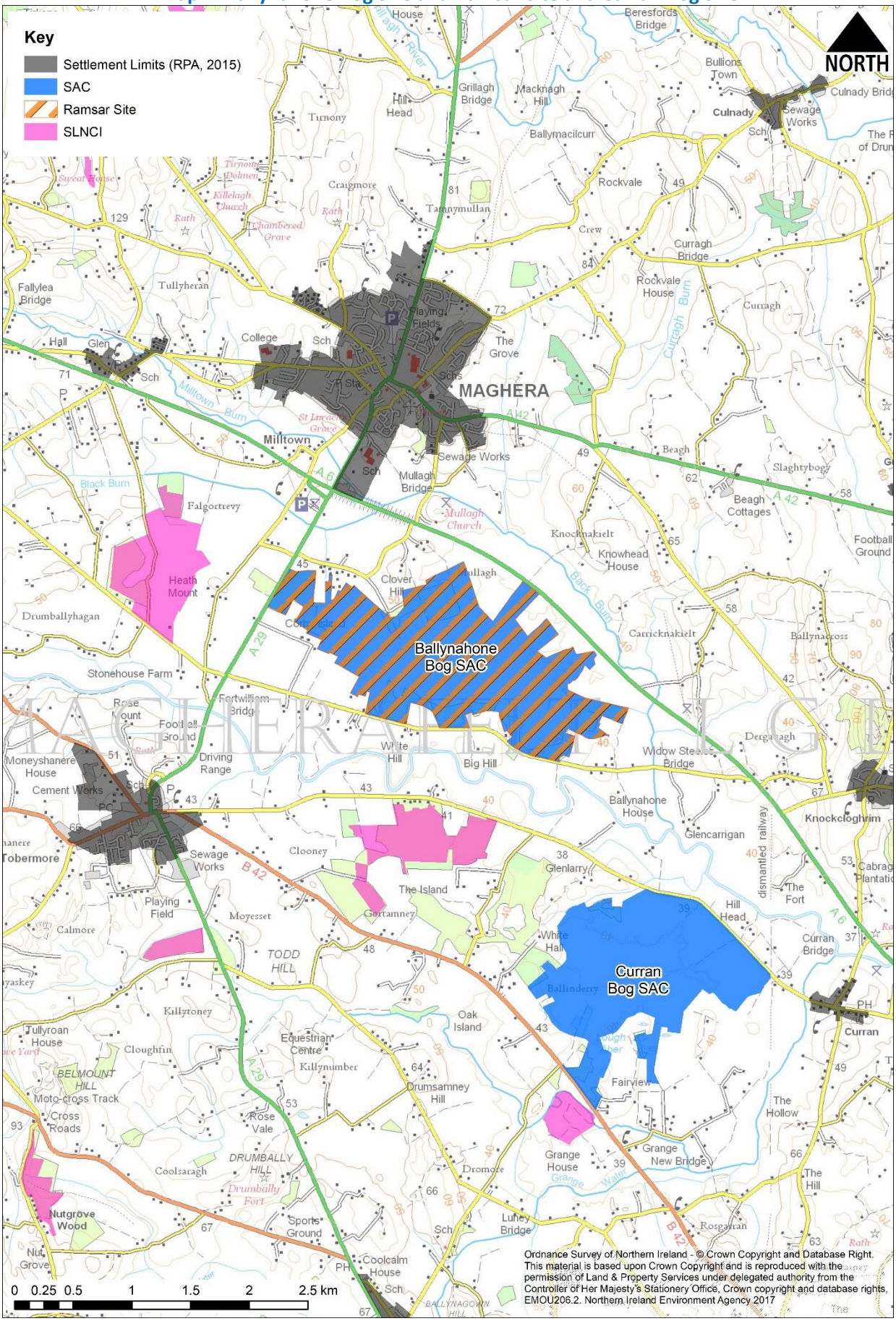
Map 6a: Lough Beg Vision RSPB



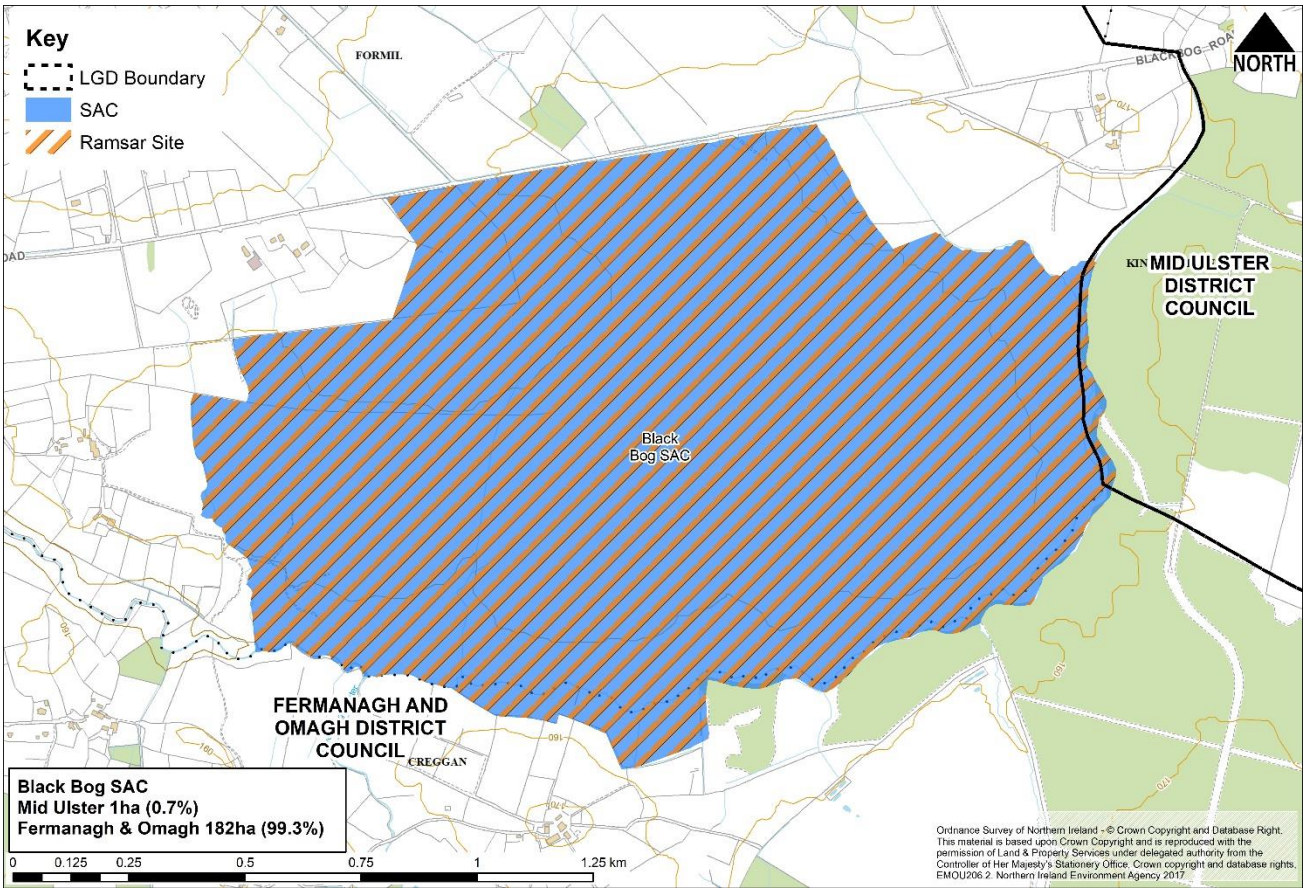
Map 6b: Lough Neagh Vision RSPB



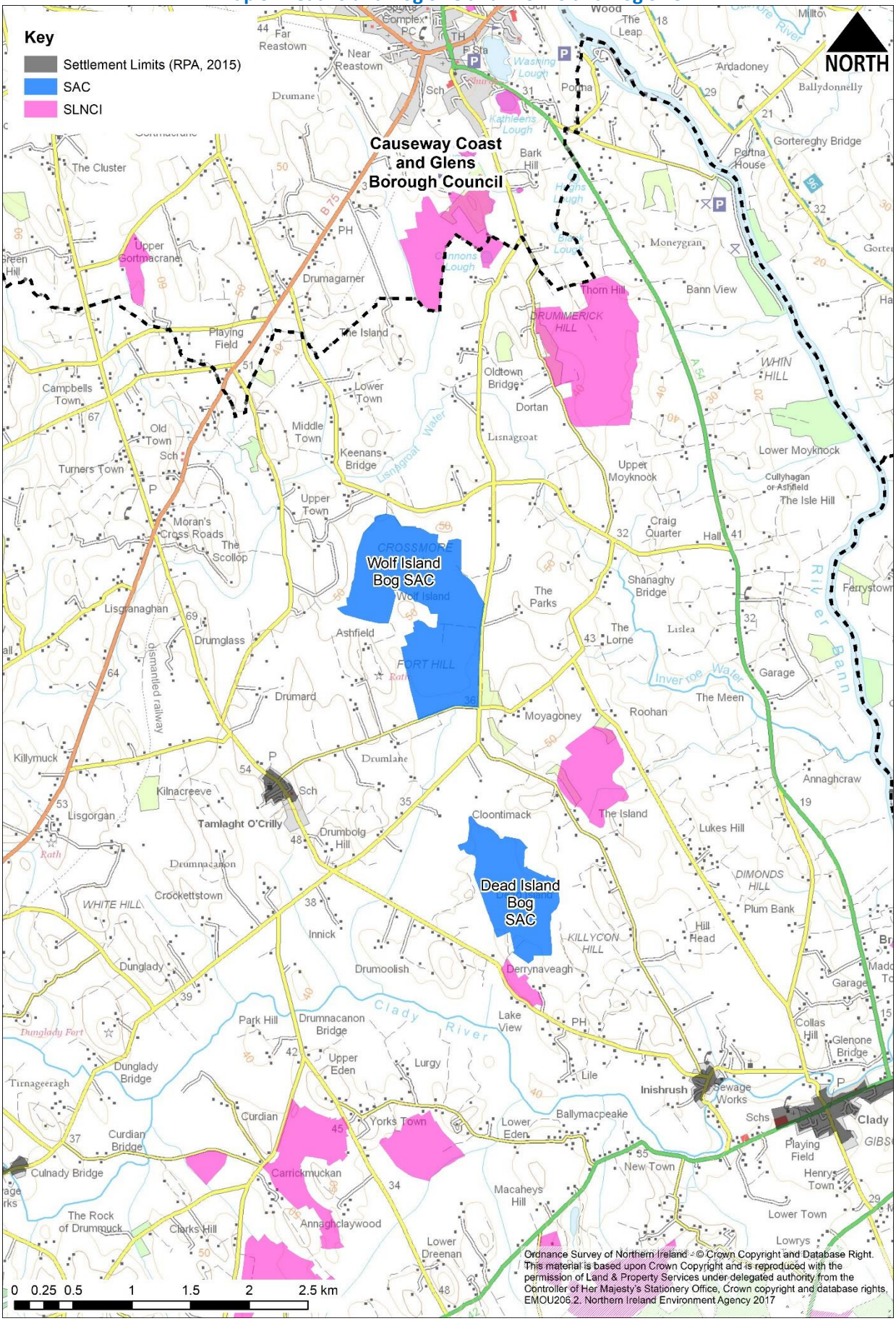
Map 7: Ballynahone Bog SAC and Ramsar Site and Curran Bog SAC



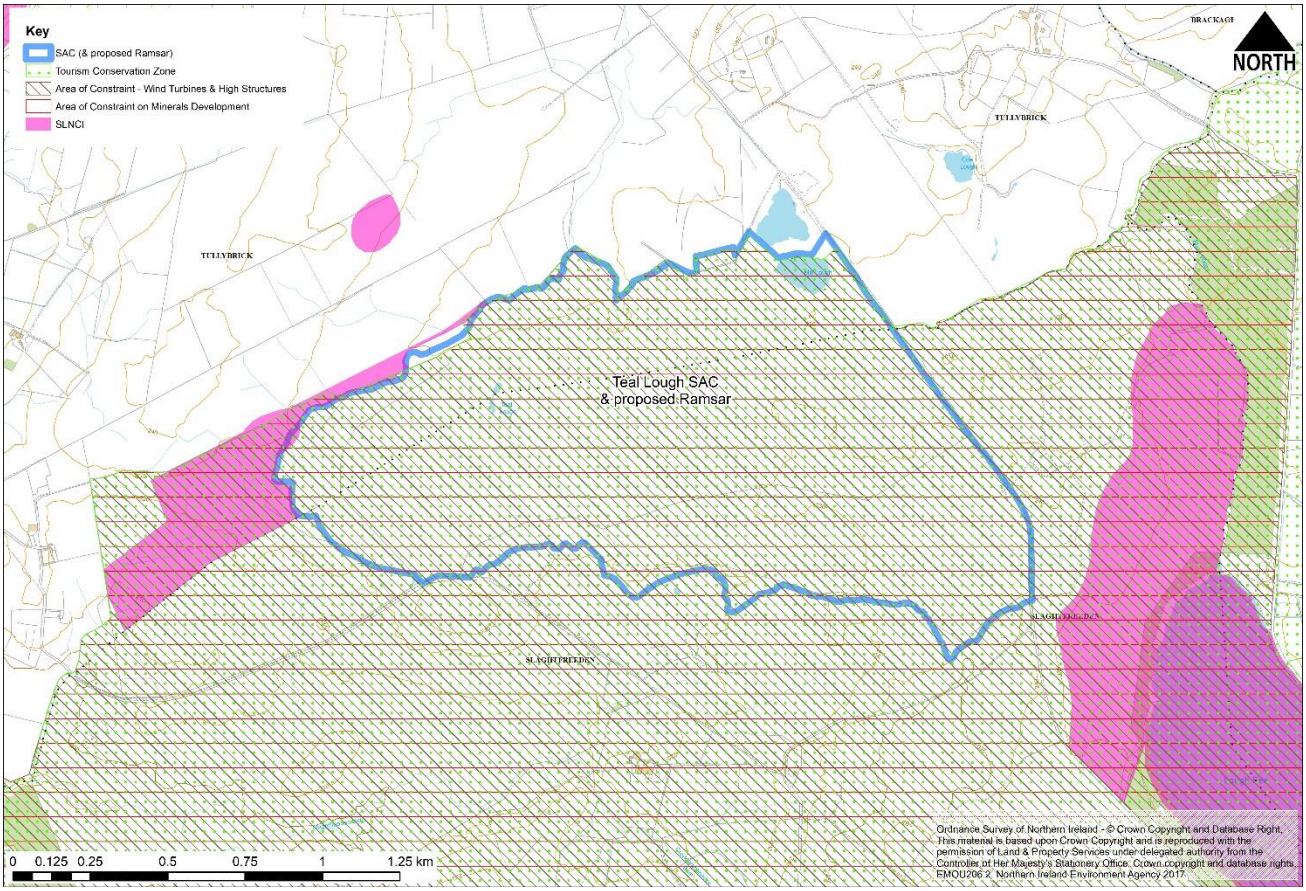
Map 8: Black Bog SAC and Ramsar Site



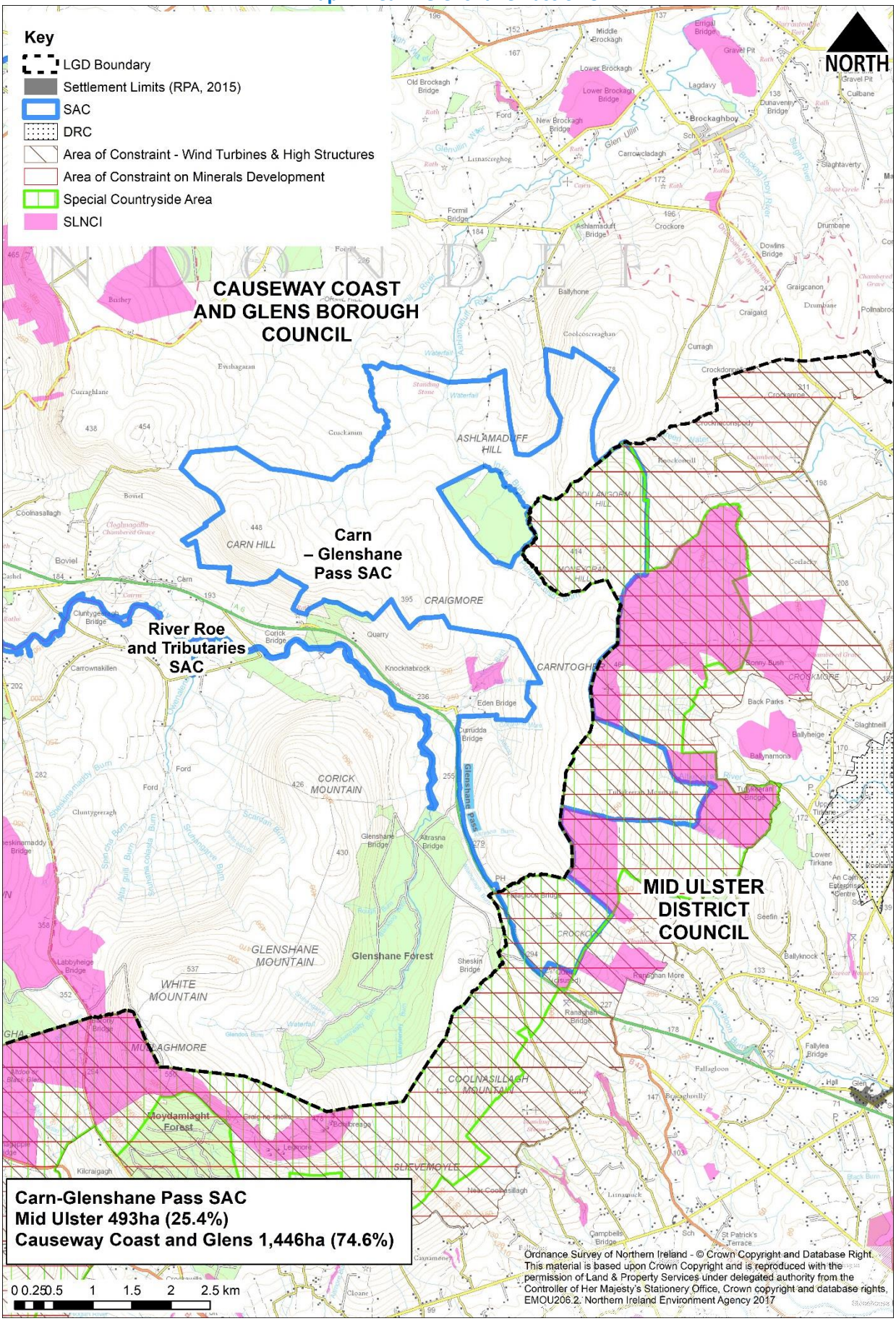
Map 9: Dead Island Bog SAC and Wolf Island Bog SAC



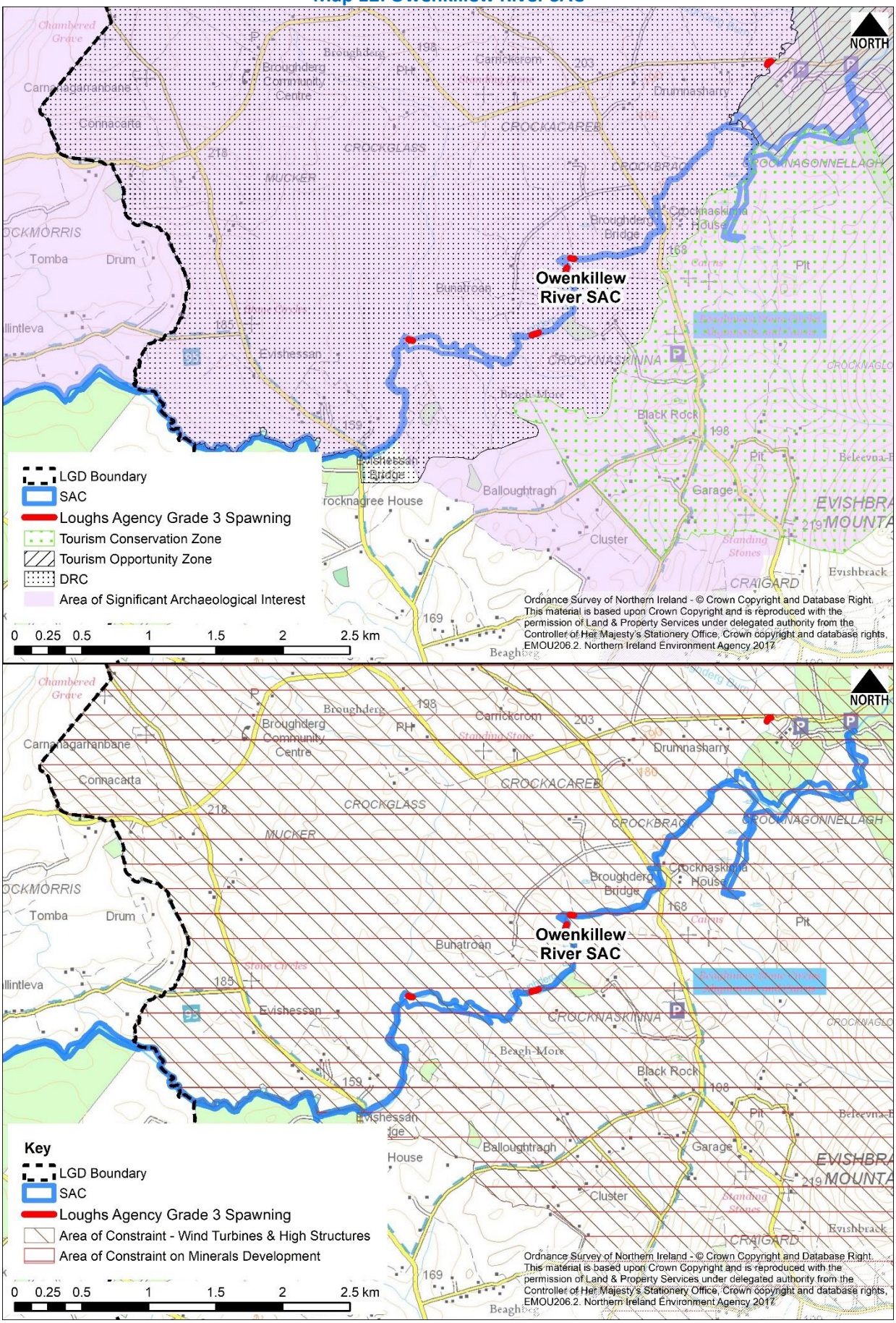
Map 10: Teal Lough SAC and Proposed Ramsar Site



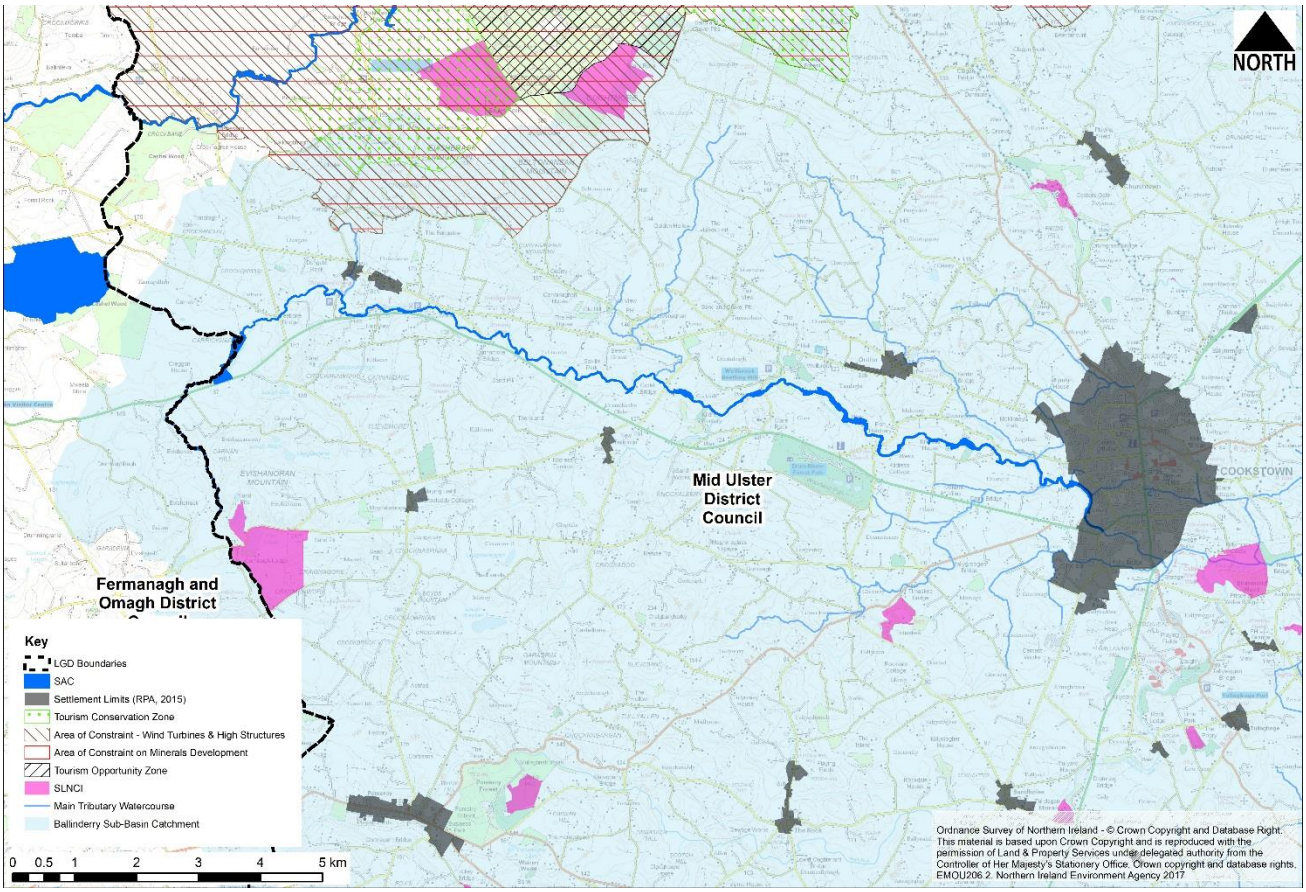
Map 11: Carn-Glenshane Pass SAC



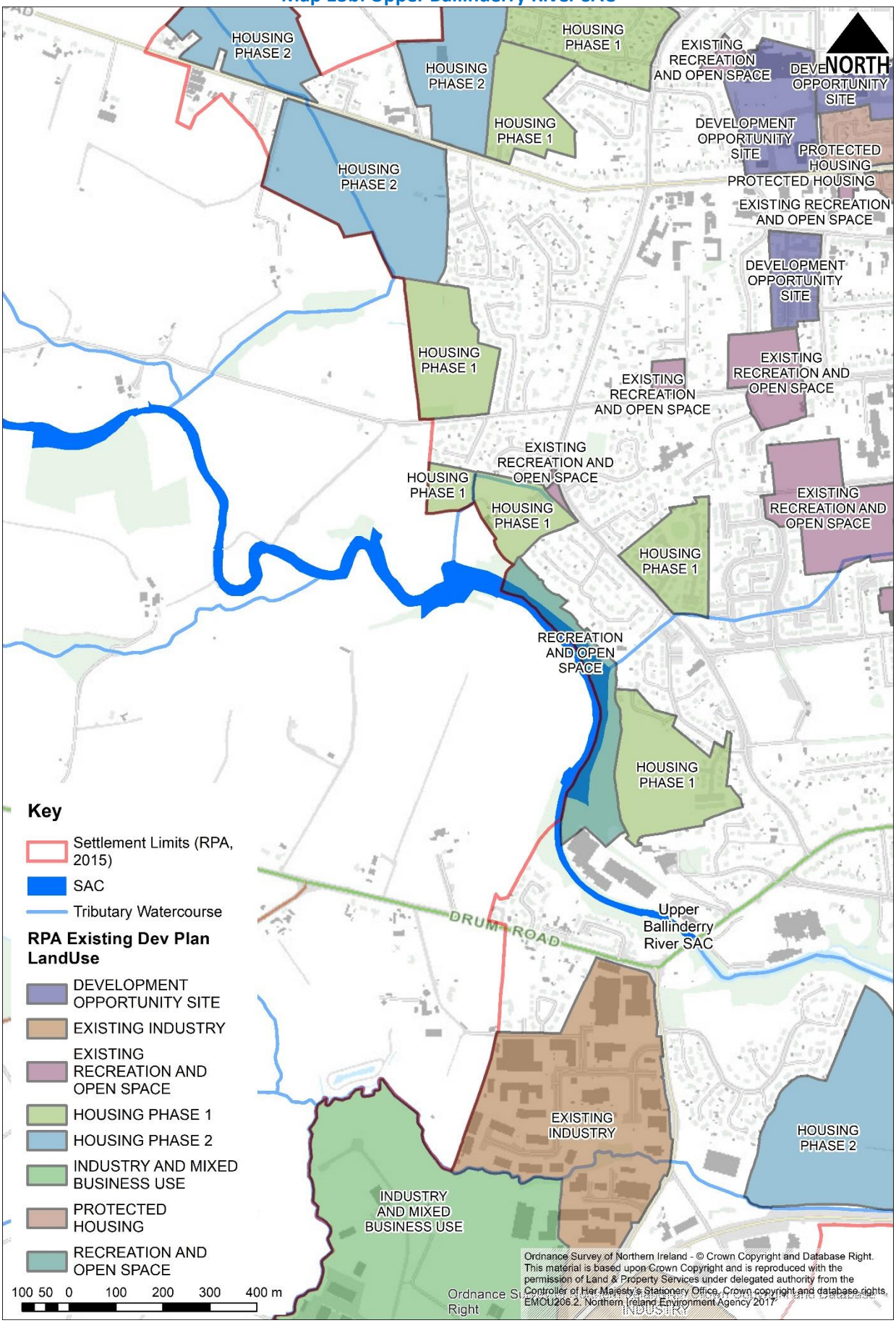
Map 12: Owenkillew River SAC



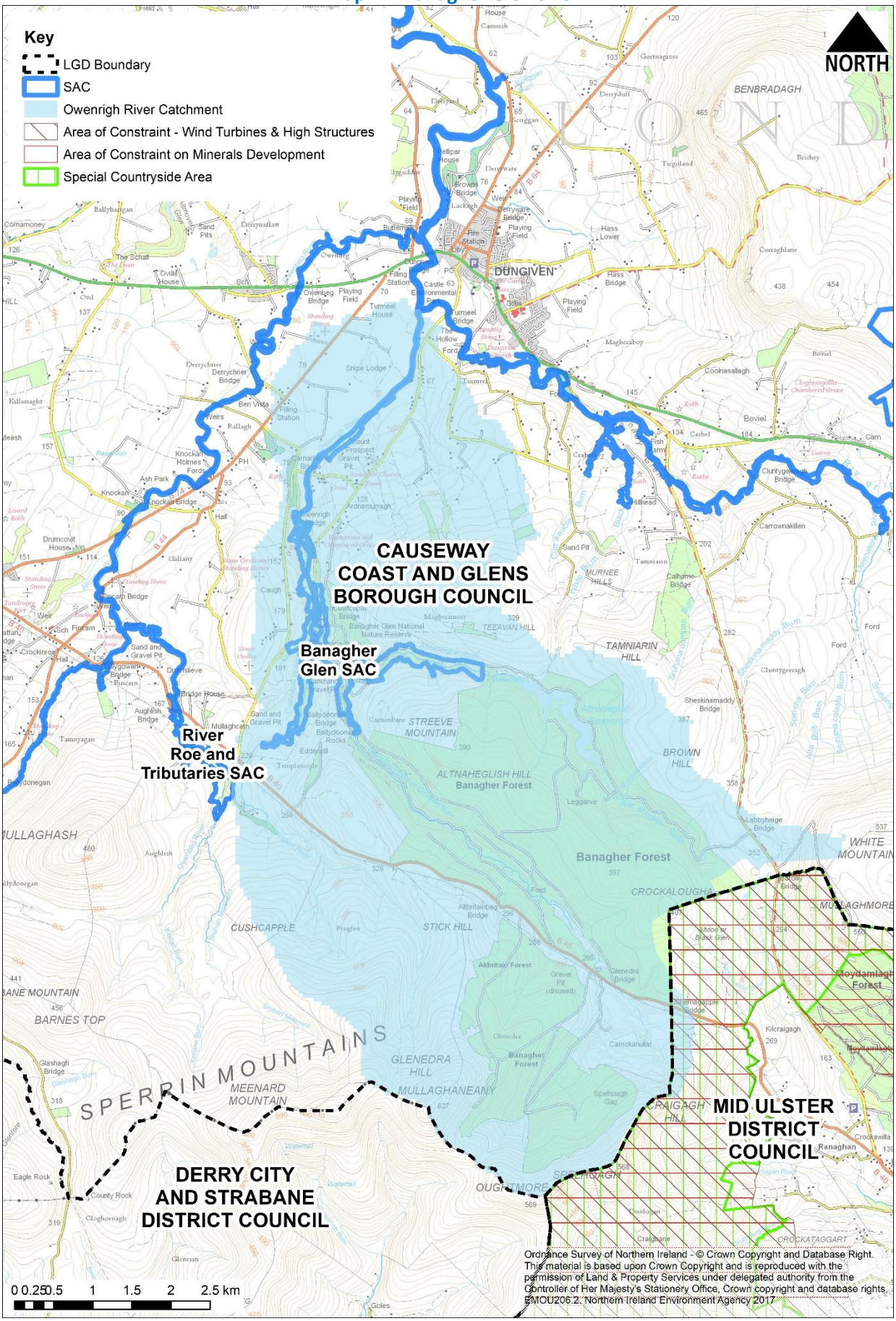
Map 13a: Upper Ballinderry River SAC



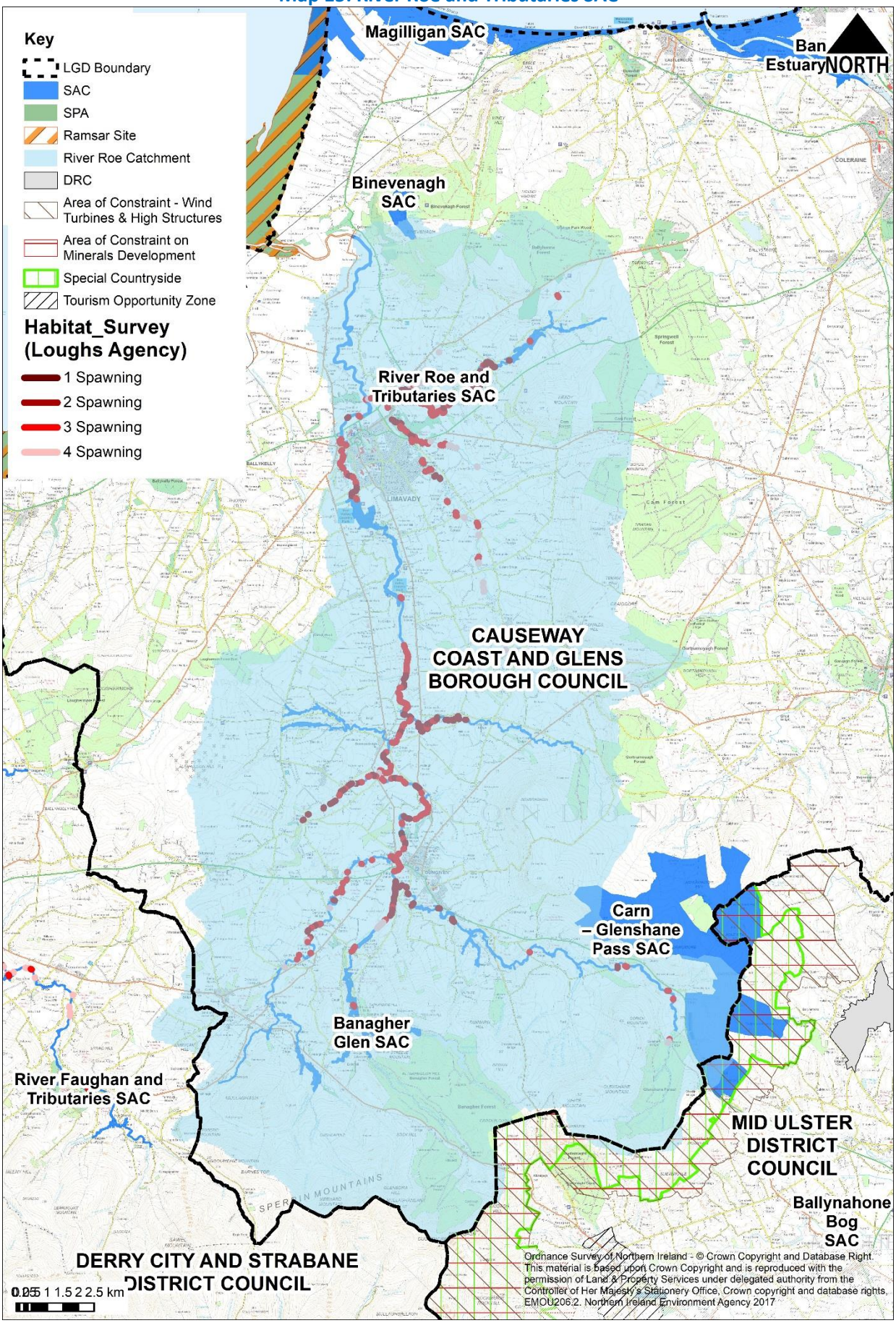
Map 13b: Upper Ballinderry River SAC



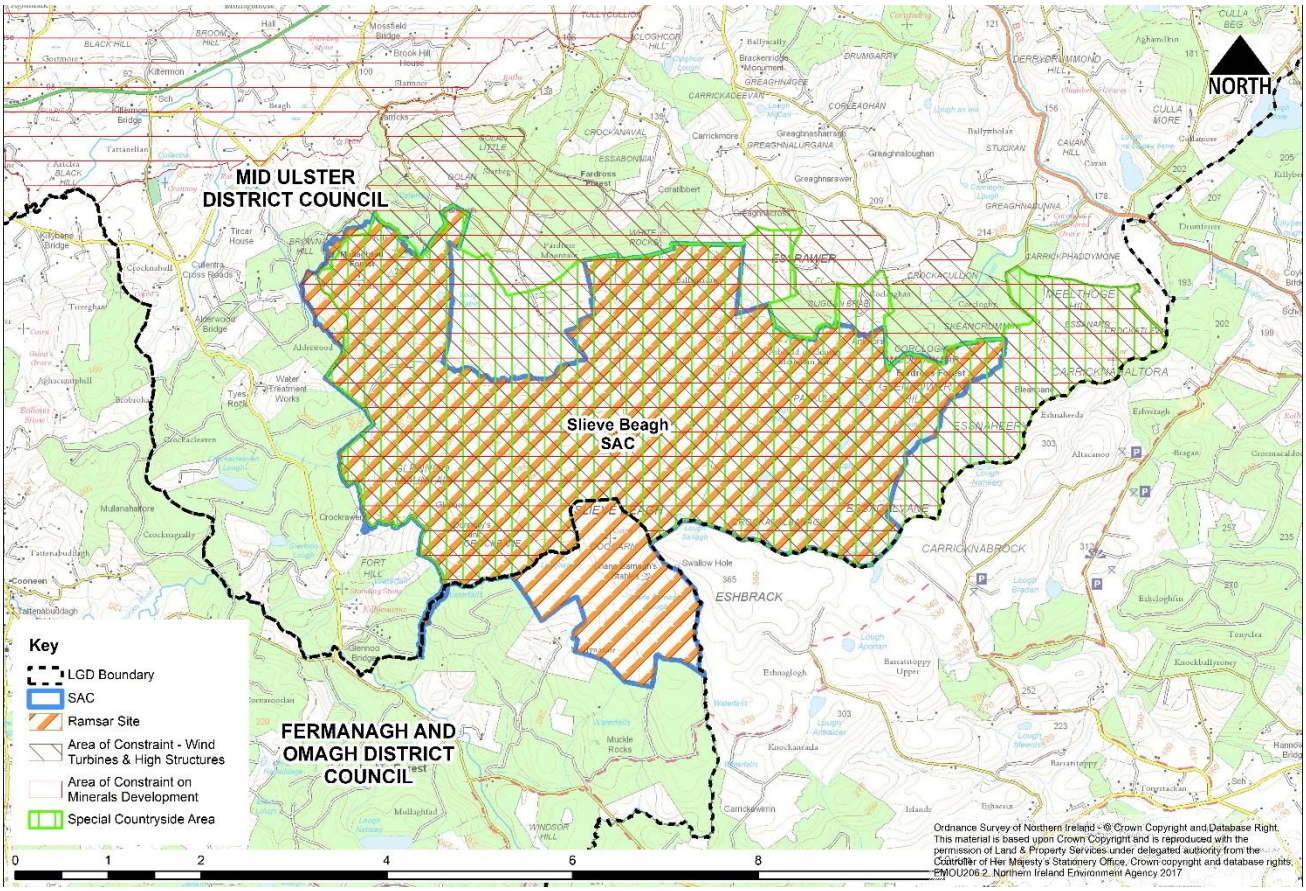
Map 14: Banagher Glen SAC



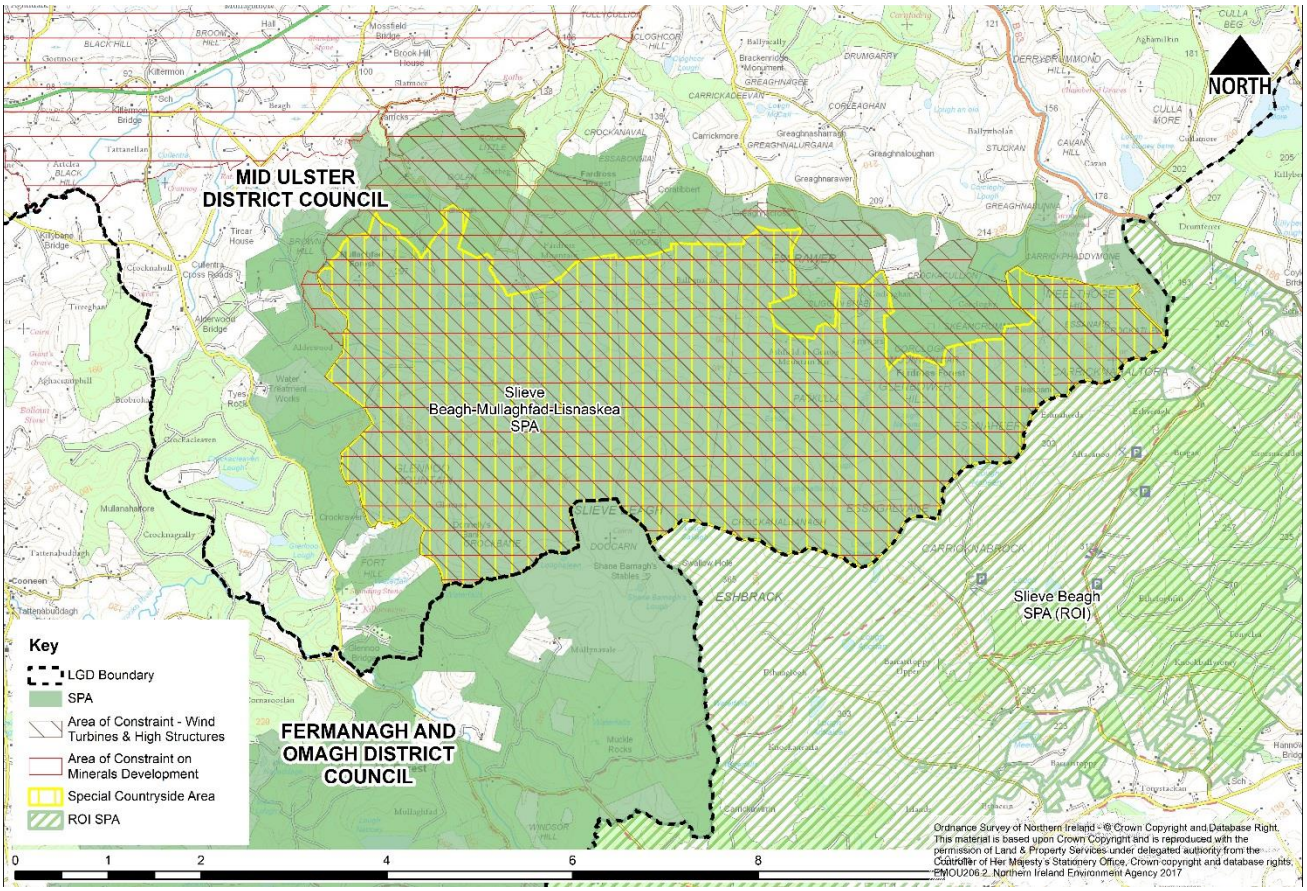
Map 15: River Roe and Tributaries SAC



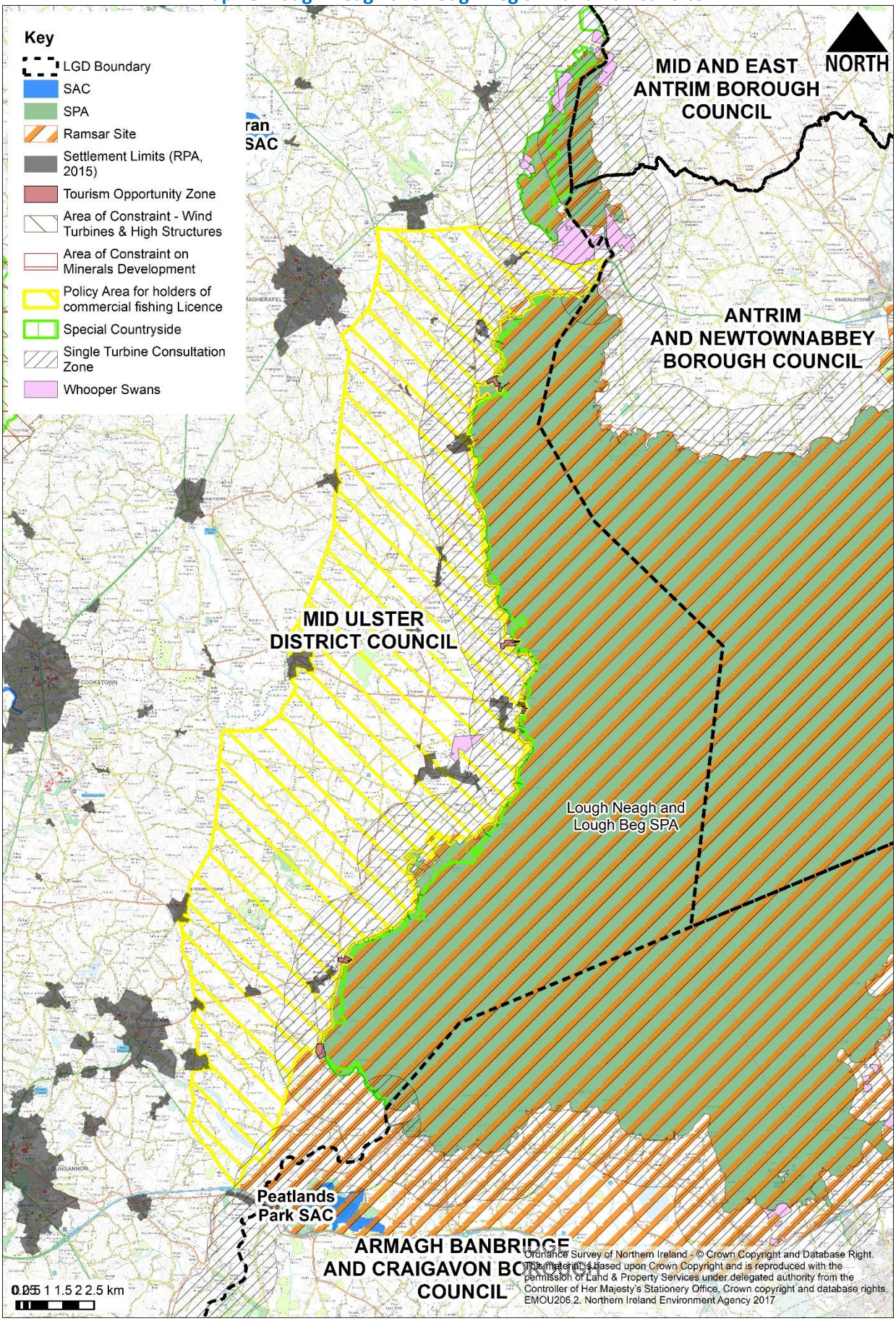
Map 16: Slieve Beagh SAC and Ramsar Site



Map 17: Slieve Beagh-Mullaghfad-Lisnaskea SPA and Slieve Beagh (Ireland) SPA



Map 18: Lough Neagh and Lough Beg SPA and Ramsar Site



Map 19: Loughshore Tourism Opportunity Zone