

SHANNON TOURISM MASTERPLAN VOLUME 5A

Habitats Regulation Assessment Report

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INTRODUCTION

- 1.1 SLR Consulting Ireland (SLR) was commissioned by Waterways Ireland to prepare a Habitat Regulations Assessment Report, for the Shannon Tourism Masterplan.

General Description of the Plan Area

- 1.2 The Tourism Masterplan for the Shannon considers the tourism and visitor development opportunities for the entire length of the Shannon Navigation and the Shannon Erne Waterway (“the Shannon”)¹, from Cavan-Leitrim southwards to Limerick City. The Shannon Masterplan study area includes 5 km on either side of the central navigation, forming a 10 km wide corridor for consideration (see Figure 1). While the Tourism Masterplan concerns itself with a relatively narrow geographical area, it is important to note that the Shannon sits in the core of the wider Ireland’s Hidden Heartlands regional tourism brand and, as such, should be considered in this wider context.

Brief Plan Description

- 1.3 The objectives of the Tourism Masterplan are to reposition the Shannon as a key tourism destination within Ireland’s Hidden Heartlands, identifying world class visitor experiences based on the region’s natural and cultural assets. The Masterplan sets out a bold and integrated framework for sustainable tourism development along the Shannon.
- 1.4 The masterplan presents a singular Shannon destination, offering high quality, integrated and sustainable water- and land-based activities and experiences, to both domestic and international visitors, based on its very considerable social, environmental and cultural heritage.

Aims of the Report

- 1.5 The aim of this report is to provide supporting information to assist the competent authority, in this case Waterways Ireland, to carry out screening for likely significant effects and, if required, to determine if the proposed Shannon Tourism Masterplan will adversely affect the integrity of Natura 2000 sites within the potential zone of influence of the plan.

Objectives of Appropriate Assessment

- 1.6 The Habitats Directive promotes a hierarchy of avoidance, mitigation and compensatory measures to be addressed in the AA process as follows:
- Firstly, a plan / project should aim to avoid any negative effects on Natura 2000 sites by identifying possible impacts early and designing the project / plan to avoid such impacts.
 - Secondly, mitigation measures should be applied during the AA process to the point where no adverse effects on the site(s) remain.
 - Thirdly a plan / project may have to undergo an assessment of alternative solutions. Under this stage of the assessment, compensatory measures are required for any remaining adverse effects,

¹ For ease of reference “the Shannon” will be used to include both the Shannon Navigation and the Shannon Erne Waterway throughout the text, except where specific references are made to each. Masterplan or Tourism Masterplan will be used interchangeably throughout to refer to the Shannon Tourism Masterplan.

but they are permitted only if (a) there are no alternative solutions and (b) the plan / project is required for imperative reasons of overriding public interest (the 'IROPI test'). European case law highlights that consideration must be given to alternatives outside the plan / project boundary area in carrying out the IROPI test.

Evidence of Technical Competence and Experience

- 1.7 The Habitat Regulations Assessment Report for the Shannon Tourism Masterplan was prepared by Ida Bailey ACIEEM. Elaine Dromey MCIEEM carried out the technical review.
- 1.8 Elaine Dromey is a Principal Ecologist with SLR and holds a BSc in Earth Science from University College Cork and an MSc in Vegetation Survey and Assessment from the University of Reading, UK. She is a full member of the Chartered Institute of Ecology and Environmental Management. Elaine has prepared HRA reports for a range of different projects and plans.
- 1.9 Ida Bailey is an Associate Ecologist with SLR and she holds a PhD from the University of Edinburgh. She is an Associate member of the Chartered Institute of Ecology and Environmental Management and an active member of the Society for Ecological Restoration (SER). Ida has prepared ecological reports including HRA reports for a range of sectors including for renewable energy, grid, quarries, housing and landfill projects.

RELEVANT LEGISLATION AND POLICY

European Nature Directives (Habitats and Birds)

- 1.10 The Habitats Directive (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora) forms the basis for the designation of Special Areas of Conservation. Similarly, Special Protection Areas are classified under the Birds Directive (Council Directive 2009/147/EEC on the Conservation of Wild Birds). Collectively, Special Areas of Conservation (SAC) and Special Protection Areas (SPA) are referred to as the Natura 2000 network. In general terms, they are considered to be of exceptional importance for rare, endangered or vulnerable habitats and species within the European Community.
- 1.11 Under Article 6(3) of the Habitats Directive an ‘appropriate assessment’ must be undertaken for any plan or project that is likely to have a significant effect on the conservation objectives of a Natura 2000 site. The ‘appropriate assessment’ is an evaluation of the potential impacts of a plan or project on the conservation objectives of a Natura 2000 site², and the development, where necessary, of mitigation or avoidance measures to preclude adverse negative effects on the integrity of the site(s).
- 1.12 Article 6, paragraph 3 of the EC Habitats Directive 92/43/EEC (“the Habitats Directive”) states that:
- “Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site’s conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public”.*
- 1.13 Within Northern Ireland (NI), it is government policy to extend the requirements for potential impacts on sites, to those sites which are yet to fully declared as Natura 2000 sites, namely candidate SACs and potential SPAs. This consideration of impact also covers any proposed additions or extensions to the existing Natura 2000 sites.
- 1.14 NI policy also affords Ramsar sites the same protection as Natura 2000 sites. Ramsar sites are wetlands of global importance, listed under the Convention on Wetlands of International Importance. Whilst most Ramsar sites overlap with Natura 2000 sites, some have distinct boundary differences. In line with government policy, this HRA will treat Ramsar sites in the same way as Natura 2000 sites.

The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as

Regulation 43 of the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended), requires an appropriate assessment of plans and projects likely to have a significant effect on a European or Ramsar site in Northern Ireland, either alone or in combination with other plans or projects. This process is referred to as Habitat Regulations Assessment (HRA) in Northern Ireland.

² Also referred to as European Sites

METHODS

Desk Study

- 1.15 A desk study was carried out to collate information available on Natura 2000 sites within the potential zone of influence of the masterplan. The relevant County Council planning portals were accessed for information on other plans and planning applications within the masterplan area. National Parks and Wildlife Service (NPWS) website³ (last accessed 28 January 2020) was accessed for information on Natura 2000 sites.

Potential Zone of Influence

- 1.16 The ‘zone of influence’ for a project is the area over which ecological features may be subject to significant effects as a result of the proposed project and associated activities. This is likely to extend beyond the project site, for example where there are ecological or hydrological links beyond the site boundaries. The zone of influence will vary for different ecological features depending on their sensitivity to an environmental change (CIEEM, 2018).
- 1.17 The majority of the objectives of the Shannon Tourism Masterplan focus on the River Shannon and its major tributaries although other objectives do include locations away from the river particularly within the 10 km corridor (5 km either side of the river). The Tourism Masterplan is expected to concentrate development and human activity close to the river and in existing settlements close to the river, with activity typically decreasing with distance from the river, beyond 5 km from the river and its major tributaries. It is considered proportionate that Natura 2000 sites within the 10 km corridor; 5 km either side of the River Shannon and its major tributaries; and those hydrologically connected to this area are considered within the zone of influence for the Shannon Tourism Masterplan.

Habitats Regulation Assessment Screening

- 1.18 The approach to preparing the report to inform the screening assessment is as follows:
- Identify Natura 2000 sites, within the potential zone of influence of the plan.
 - Identify the features of interest of the Natura 2000 sites and review their conservation objectives.
 - Review whether there is potential for the features of interest to be affected by the plan based on information such as the vulnerabilities of the Natura 2000 site, proximity to the plan area and the strategies and objectives of the plan.
 - Consider the likelihood of potential impacts occurring based on the information collated and professional judgement.
 - Consider the likelihood of cumulative effects arising from the plan in-combination with other plans and projects.
 - Identify the likelihood of significant effects on Natura 2000 sites occurring because of the plan.

³ <https://www.npws.ie/protected-sites>

Habitats Regulation Assessment

- 1.19 The approach to preparing the report to inform the Habitat Regulations Assessment is summarised as follows:
- Describe the elements of the plan that are likely to give rise to significant effects on the Natura 2000 Sites.
 - Set out the conservation objectives of the Natura 2000 sites.
 - Describe how the plan will affect the key species and key habitats of the Natura 2000 sites.
 - Describe how the integrity of Natura 2000 sites is likely to be affected by the plan.
 - Describe what mitigation measures are to be introduced to avoid, reduce or remedy the adverse effects on the integrity of the Natura 2000 site.
 - Consider findings and determine if potential for adverse effects on Natura 2000 sites remains after mitigation has been implemented.
- 1.20 The approach taken in preparing this document is based on standard methods and current good practice guidance, as listed in the references section of this report.

SHANNON TOURISM MASTERPLAN OBJECTIVES

The Tourism Masterplan describes three geographically defined discovery zones along the Shannon. Each discovery zone has its own set of objectives within the Masterplan. The discovery zones were based on the distinctive elements of the Shannon predominating in each, including landscapes (hills, karst, lakes, peatlands, wetlands, callows, and farmlands); key habitats, species and protective designations (SACs SPAs, NHAs); settlements and key tourist attractions. Table 1 below outlines the objectives of the Tourism Masterplan as a whole and for each of the discovery zones with in it.

Shannon: Strategic Initiatives encompass proposals that are cross cutting across the entire plan area and not specific to any one discovery zone.

Table 1: Objectives of the Shannon Tourism Masterplan

Shannon Tourism Masterplan Objectives
Thematic and Experiential Framework for the Shannon
Thematic Interpretation The Shannon Themes and Inspirers should be embedded in all Shannon interpretative materials and used by all providers to shape the next generation of experiences on the Shannon. The thematic framework should be used in all future promotional and communications strategies.
Shannon Discovery Zones
Discovery Zone 1: Upper Shannon Lough Allen and Shannon Erne Waterway - Priority Projects
<p>DZ1.1 Development of a Destination & Visitor Management Plan for the Shannon Pot:</p> <ul style="list-style-type: none"> As per Cavan Co. Council’s development proposals for Cavan Burren Park. Enhance green linkages to the Cavan Burren and international Marble Arch-Cuilcagh Mountains UNESCO Geopark.
<p>DZ1.2 Develop waterside recreational infrastructure, building linkages and filling ‘gaps’ where feasible:</p> <ul style="list-style-type: none"> Carrick-to-Leitrim Boardwalk; linking alongside the water to Acres Lake and Lough Allen; Strengthen links from the Shannon-Erne Waterway - Lough Allen - Lough Key, through development and promotion of both blueways and waterside trails.
<p>DZ1.3 Lough Key Greenway</p> <ul style="list-style-type: none"> Proposed greenway links from Boyle to Lough Key; with ultimate links to Carrick-on-Shannon (see DZ1.5 below).
<p>DZ1.4 Delivery of long distance, themed journeys to meander slowly into and within the zone:</p> <ul style="list-style-type: none"> Enhancement of the Beara Breifne Way; Support emerging spiritual Pilgrim Way along the Shannon-Shannon Erne Waterway, with onwards links to Lough Erne; Revitalise the Humbert Trail that meanders into Leitrim, with links to the Wild Atlantic Way.
<p>DZ1.5 Enhancement of the Lough Key Forest Park experience –</p> <ul style="list-style-type: none"> Support proposals to enhance the family-friendly Lough Key adventure experiences. Enhance blue-green linkages to and from Boyle under provisions of Boyle 2040 strategic plan. Consider long term green/blueway linkages from Lough Key to the Shannon via Knockvicar.

Shannon Tourism Masterplan Objectives

Discovery Zone 2: Mid-Shannon

Lough Ree, peatlands & Shannon Callows

DZ2.1 Development of a Visitor Management Plan for Clonmacnoise (Oct. 2019) to:

- Consider reconfiguration of access points and facilities to enhance the visitor experience;
- Develop on-water linkages with service hubs upstream and downstream, inclusive of Athlone, Shannonbridge, Shannon Harbour and Banagher.
- Enhanced off-road links from Athlone to Clonmacnoise and Shannonbridge/ Shannon Harbour with links to Lough Boora Discovery Park via Grand Canal to allow immersive experiences.

DZ2.2 Enhanced interpretation and access to Rindoon Medieval Walled Town

- Consider options for an enhanced Visitor Experience based at Lecarrow / Portrunny, to include access to Rindoon Walled Town and peninsula; and
- Consider options for visitor access to the Lough Ree Islands (subject to landowner agreements) from Lecarrow or Portrunny harbours and/or Lanesborough-Ballyleague/ Hodson Bay harbours.

DZ2.3 Wet'n'Wild Peatlands of Mid Shannon

- Develop integrated Discovery Zone focused on peatlands' environmental heritage and industrial histories; recreational opportunities such as walking, hiking, cycling, guided tours or bog trains;
- Outdoor educational classroom/ summer schools to demonstrate climate change in action;
- Range of family fun 'bog snorkelling' or mud-slinging; and
- Creative 'slow' initiatives such as bog carving and sculpture, photography & 'art in the open'.

DZ2.4 Expanding the Lough Ree Experience

- Continue to develop Athlone's waterfront amenities to build a critical mass of attractions and activities, linking the Glasson-Coosan-Wineport-Killinure-Hodson Bay activity-food nexus;
- Completion of the National Cycleway and the new bridge that will deliver 'slow tourism' into the core of Athlone town and DZ2;
- Development of the planned cycleway south from Athlone to Clonmacnoise, linking the National Cycleway to the monastic complex; consider cycle links south to Shannonbridge;
- Completion of the Athlone-Mullingar-Royal Canal circuit to deliver 'active in nature' experiences across the peatlands, directing visitors via Ballymahon-Clondara, thence to Portlick - Athlone.
- Develop an enhanced range of cruise options, boating and guided tours from Athlone waterfront linked to onshore attractions (islands, monastic sites, activity centres, bike tours) and hinterland.

DZ2.5 Improvement of the Visitor Centre at the Corlea Iron Age Trackway

Shannon Tourism Masterplan Objectives

- Prepare an improvement plan for the centre which would explore the expansion of its story and experience to include the Iron Age in Ireland'.

DZ2.6 Surf in the Turf – Surf Wave Centre

- Prepare a Feasibility Study to explore the potential of developing Ireland's first artificial Surf Wave Centre on a cutaway bog powered by renewable energy.

Discovery Zone 3: Lower Shannon

Lough Derg & Lower Shannon

DZ3.1 Ardnacrusha – Feasibility Study for redevelopment of Visitor Centre and Visitor management- (subject to ESB approvals & collaboration)

- Provision of reconfigured visitor facilities, to accommodate larger groups.
- Assessment of transport options by land and water to and from site.
- Options to consider on-water and beside-water development links with service hubs upstream and downstream, inclusive of Limerick, O'Brien's Bridge, Killaloe/ Ballina, Lough Derg.

DZ3.2 Develop enhanced Castlough & Portroe Lookout; Active Amenity Zone & Slow Travel Interchange

- Enhance the amenity zone at Castlough Bay & Woods with safe swimming/ boating/ canoeing access; linking to iconic Portroe Lookout; facilities to enhance visitor experience.
- Enhanced links to Castlough Woods onwards to Ballina/ Killaloe (south) and Garrykennedy / Dromineer (north) along Lough Derg Way and/ or by boat along the lake.

DZ3.3 Feasibility Study for Development of 'Shannon Greenway'

- Linking Limerick, via Clonlara, Ardnacrusha, O'Brien's Bridge, Killaloe/Ballina, Tuamgraney and Scariff*
- Utilise public lands (canals, forests, amenity zones) where possible.

*Consider future links to Mountshannon, with direct links to Iniscealtra Visitor experience.

DZ3.4 Implementation of the Iniscealtra Visitor Management Plan

- It is strongly recommended that the recommendations of the VMP for Iniscealtra (Holy Island) be expedited as soon as possible. Critically the development of a Visitor Centre at Mountshannon, with guided access to the island, will provide a springboard for a unique visitor experience in the East Clare corridor adjacent to the Shannon, from Killaloe, to Tuamgraney (St. Cronan's), Scariff and Mountshannon, and northwards towards Portumna.
- Development of potential cross-Shannon visitor boating links from other villages around Lough Derg to Iniscealtra Visitor Centre and island experience.

DZ3.5: Portumna Attractions - Integrated Tourism Development Plan

- Prepare an integrated tourism development plan incorporating Portumna Castle, Forest Park, Harbour, Friary and Portumna Town, to ensure that the visitor experience and yield is greater than the sum of the parts.

Shannon Tourism Masterplan Objectives

DZ3.6 Link to Lough Derg Destination Development Plan (LDDDP) proposals

- All Lower Shannon experience development initiatives around Lough Derg should be aligned to the Destination Strategy and VEDP currently in progress.
- Support proposals for a network of camping/ RV sites, in suitable locations around Lough Derg.
- Development of Dromineer Sailing Training Hub, as centre of excellence for sail training and national and international sailing events, through enhanced experience development.

Creation of linked boating experiences; support enterprises and clubs to deliver linked visitor experiences at destinations around the lake; build on stories such as Brian Ború; Iniscealtra and the pilgrim experience; and trade on the Mighty Shannon; that leverage existing strengths.

Shannon: Strategic Initiatives

Strategic Initiative 1: Communicating a Clear & Consistent Message

SI1.1 Vision for the Shannon aligned with Ireland's Hidden Heartlands:

- Develop consistent communications and interpretation to reflect the shared vision, aligned with that of Ireland's Hidden Heartlands (IHH). All local authorities and statutory authorities to embrace and reflect this shared vision across all print and digital media platforms.

SI1.2 Develop distinctive visual representation for Shannon:

- Design a series of distinctive cascading logos to reflect the embedded, inter-linked nature of the IHH, Shannon and three Discovery Zones.

SI1.3 Shannon Integrated Interpretation Strategy and Design Guide :

- Develop Guide for co-ordinated landscape-scale interpretation for the Shannon, including interventions for interpretation for all stages of the visitor journey. Prepare detailed guidelines on appropriateness and use of a range of interpretation media and methods

SI1.4 Interpretation Planning:

- All new experience and interpretation developments should include an Interpretation Plan aligned to the Shannon Integrated Interpretation Strategy.

SI1.5 Shannon Visitor Experience and Interpretation Toolkit:

- Develop toolkit with linked training and supports for local providers and local guides should be developed to support shared standards of high-quality interpretation across the Shannon region.

SI1.6 Environmental Code of Conduct:

- Develop a Code of Conduct to highlight and encourage positive behaviours that reflect care for the Shannon environment for local people and visitors. This should be accompanied by research and monitoring of visitor behaviours, beliefs and motivations.

Shannon Tourism Masterplan Objectives

SI1.7 Marketing Requirements:

- Integrated Marketing Strategy and allied resourcing, closely aligned with the themes and experiences proposed in the Masterplan. Align with promotion and marketing of Ireland's Hidden Heartlands as part of an integrated thematic communications strategy for the region.

Strategic Initiative 2: Enhancing the On-Water Visitor Experience

SI2.1 Cruising/ Day-Boating/ Passenger Cruising:

- Carry out techno-economic feasibility study to examine viable rejuvenation & greening options for the cruise hire fleet; increase on-water access options through day-boat /passenger cruising

SI2.2 Development of an additional Cruise Hire Hub(s) to 'spread' the options for on-water experiences.

- Options to be assessed for technical, commercial and environmental feasibility including Tarmonbarry / Clondara, Killaloe, Athlone on Shannon and Ballinamore on Shannon-Erne Waterway.

SI2.3 Marina Development:

- Technical Assessment of Marina capacity to establish requirements for additional jetty space; consider options of Carrick-on-Shannon; Hodson Bay; Connaught Harbour; and new Marina in Parteen/Clarisford. Consider enhanced jetty capacity up-and down-stream of Clonmacnoise at Athlone and Shannonbridge.
- Review shore-based Service Block provision; assess potential use of smart technologies to enhance delivery and monitoring of usage patterns.

SI2.4 Water-Based Activities & Adventure:

- Provide timely visitor information on range of 'soft adventure' activities (swimming, rowing, sailing, kayaking, waterskiing etc), where to go and amenities within each of the Discovery Zones. Develop improved networking and promotion of family-friendly activity zones (in association with the 'Shannon 100' network).

SI2.5 Angling:

- Identify angling hubs in association with WWI/ IFI and FI, linked to the Shannon Towns and Villages strategy (SI3). Develop family-friendly angling experiences, linked to activities in nature.

SI2.6 Blueways:

- The accreditation of the existing trails should be carried out with a view to supporting the promotion and optimisation of the existing and newly developed Blueway network over the medium term.

SI2.7 Tranquillity Zones:

- Pilot selected sites on the Shannon as tranquillity zones in the short term, with a view to extending along Shannon water bodies over the lifetime of the Masterplan. If successful, protocols will require to be developed.

Shannon Tourism Masterplan Objectives

SI2.8 Small Scale Accommodation Options:

- Define appropriate locations using a criteria-based approach, linked to Shannon Towns and Villages. Consider options for e.g. floating pods; glamping; & camp-sites; serviced parking and amenities for recreational vehicles.

Strategic Initiative 3: Enhancing the Waterside Visitor Experience

SI3.1 Reimagining Harbour Facilities through Sustained Investment Programme:

- A programme of investment in harbour infrastructure will be developed to include the upgrade of some harbours, the opening of new destinations and the possible restoration of some waterways.
- Enhancements of waterfront public realm, amenities and provision of onshore services, charging, pump out and power facilities; use smart technologies.
- Use existing public infrastructure to stimulate enterprises and community activity
- Enhanced BBQ, picnic and playground amenities at harboursides on public lands.;
- Create walk/cycle recreational linkages to settlements, attractions and things to see and do. Provision of serviced camping/ pod/ RV parking at harboursides.
- Sustained investment in the harbour infrastructure to facilitate growth in tourism.

SI3.2 Nature-Viewing in Forests & Hinterlands:

- Identify potential for enhanced family-friendly outdoor recreational amenities and nature viewing experiences in the Forest Parks that punctuate the Shannon Corridor.
- Strengthen and promote access to nature along the Beara Breifne Way, Famine Way and emerging Pilgrim Way, to provide opportunities for visitors to enjoy spectacular scenery while engaging with nature in the Shannon / Shannon Erne Waterway hinterlands.

SI3.3 Revitalisation of Lesser Used Waterways

- There is an opportunity to identify and consider measures to increase visitors and activity on waterways such as the Shannon Erne Waterway (SEW), the River Suck, the Boyle Canal and the Limerick Navigation, as well as the Royal and Grand Canals.
- This can be achieved by refocussing promotional efforts as well as revitalising their potential for waterside, on-water and blueway experiences.

SI3.4 Reimagining Historic Buildings & Canal Structures

- Define appropriate locations and opportunities for refurbishment of historic Shannon buildings, using a criteria-based approach, linked to Destination Hub Towns and Villages strategies.

Strategic Initiative 4: Shannon Towns and Villages

SI4.1 Shannon Hubs

- Enhance their existing role as hub towns within the Discovery Zones;
- Expand visitor infrastructure aligned with carrying capacity of residential population;
- Improve urban layout & public realm for better integration with the Shannon and SEW;

Shannon Tourism Masterplan Objectives

- Provide a wider range of on-the-water and links to beside-water activities; and
- Anchor and enhance access linkages with key attractions and proposed projects within the towns' hinterlands in the relevant Discovery Zone.
- Where not already in place, Shannon-themed visitor experience development plans (VEDPs) should be prepared for these hubs.

SI4.2 Shannon Towns

- Each smaller town has the potential to develop and explore tourism opportunities provided by their physical proximity to the Shannon. While the Masterplan has identified some development opportunities in relation to each of these settlements, further analysis is required.
- Where not already in place, Shannon-themed Visitor Experience Development Plans (VEDPs) should be prepared for the Hubs.

SI4.3 Shannon Villages

- Improve interface between waterway and public realm; wayfinding, playground, BBQ facilities
- Assess provision of walks along rivers and lakes, within a short distance from mooring or jetty
- Provide information on 'what's on' in the local area – branded Shannon map board at the jetty/ harbour showing nature, activities, landmarks or points of interest.
- Capitalise on the strengths of food and drink offer in the locality;
- Facilitate increased availability of berthage for visiting boats
- Facilitate opportunities to access on-water recreation and boating on a short-term basis
- Accommodate signature points of interest, including a Shannon Sculpture Trail, with linked greenways, cycle trails.

SI3.4 Shannon Festivals and Events

- Develop an integrated calendar of Shannon-themed festivals, centred on water, culture, arts, foods, music and activities that allow visitors to experience the full range of Shannon's unique culture and heritage.
- Working with the Shannon 100 enterprise and community networks (SI7), to provide support to professionalise, enhance and grow a series of internationally attractive festivals delivering highest quality experiences to visitors.

Strategic Initiative 5: Protecting & Enhancing the Shannon Environment

SI5.1 Adopting an Ecotourism Approach

- Establishing an ecotourism toolkit for tourism businesses and code of practice will be essential to becoming a sustainable tourism destination.
- Develop 'slow tourism' opportunities, allowing visitors to enjoy activities and nature at a slower pace, building appreciation of Shannon's hidden places.

SI5.2 Destination Development and Rewilding Plan

- To develop access to Shannon Peatlands as well as rewilding, regeneration and recreational proposals

SI5.3 UNESCO Biosphere for Lough Ree & Environs

Shannon Tourism Masterplan Objectives

- Explore the potential for a UNESCO Biosphere Designation for Lough Ree and its environs, through consultations and partnership, for delivery of a zonal biosphere that will enhance the environmental status and create opportunities for low impact, nature-based tourism experiences.

SI5.4 Biosecurity Measures

- Establish Biosecurity Standards to be used by all craft on the Shannon.
- Establish Biosecurity Facilities at Designated Entry points, with spot inspections by licensed navigation staff.

SI5.5 Monitoring & Evaluation

- Monitor the impacts of the various sustainability measures over the timeframe of the Masterplan.
- Modify strategies to enhance the Shannon environment, where feasible.

Strategic Initiative 6: Improving Connectivity

SI6.1 Encouraging Sustainable & Slow Travel

- Implement multi-model slow and sustainable travel options throughout Shannon/ Shannon Erne Waterway over the lifetime of the masterplan.
- Establish inter-agency monitoring programme of traffic flows.
- Encourage On-Water slow travel links within & between Discovery Zones.

SI6.2 Priority Walking and Cycling Trails Network

- Assess the technical and environmental feasibility of developing the priority walking and cycling trails identified in the Masterplan. Provide accessible and safe links from Shannon into hinterlands, with access to peatways and natural environments.
- Develop 'trails of scale' that will direct visitors into the heart of the Shannon, with immersive experience of nature and longer dwell.

SI6.3 Enhancement of Public Transport Links

- Identify, with the NTA and LCTU, if existing Bus Eireann Regional and local link services can be enhanced during peak visitor period.
- Provide easily accessible and timely information on Shannon transport options.

SI6.4 Improving Local Link Routes

- Consider enhanced Local Link routes during peak visitor season
- Establish the feasibility of developing new Local Link services in collaboration with the NTA and LTCUs.

SI6.5 Development of a Shannon Discovery Bus Route

- Consider the feasibility of a Shannon Region Discovery Bus Route by 2025, once visitor numbers, attractions and accommodation have shown a measurable increase.

Shannon Tourism Masterplan Objectives

Strategic Initiative 7: Building Enterprise & Community Networks

SI7.1 Create Tourism Network in each of 3 Discovery Zones:

- Establish a commercially driver Tourism Network in each Discovery Zone, comprising key tourism and development interests that reach into the wider Ireland's Hidden Heartland, with private sector Chairperson, in partnership with Local Authorities, FI and WI, to provide strategic direction and support to the enterprise and community networks.
- Each network will be supported by a development and training programme.

SI7.2 Shannon 100 Enterprise Networking

- Convene the Shannon 100 network – invite enterprises to enter a structured Shannon-wide programme aimed at building and delivering world-class thematic experiences. Design a bespoke, development programme, delivered by an accredited training body.
- Shannon 100 to develop a sustainability ethos and code of practice across the region.
- Shannon 100 to define a series of collaborative Shannon Experiences
- Inter-linked enterprise networks within each Discovery Zone will support the overall delivery of the Masterplan, including existing networks and marketing initiatives.

SI7.3 Shannon Community Networking

- Establish Shannon Community Network to assist in building and delivery of Shannon experiences, working with existing networks where possible.
- Align community groups and landowners with thematic Trails developments (working with existing rural development programmes and initiatives).
- Provide capacity building & mentoring (with RDP/ LEADER) for Community Network to collaborate with Shannon 100 Enterprise developments.
- Inter-linked community networks within each Discovery Zone will support the overall delivery of the Shannon Tourism Masterplan

Implementation of the Tourism Masterplan

Guiding Principles

To ensure the successful implementation of the Tourism Masterplan for the Shannon, a series of Guiding Principles have been established to guide the implementation of the Action Plan:

- All project proposals for the Shannon Tourism Masterplan must be seen in the context of Ireland's Hidden Heartlands, the overarching strategic tourism proposition for the Irish midlands.
- The principles of responsible tourism, including consultation with local stakeholders and landowners, will be embedded in all strategic initiatives and actions, creating better places to live, work and visit.
- All projects will be 'on-message' with the Shannon Thematic & Experiential Framework and aligned to the broader objectives of the Masterplan.
- The Strategic Initiatives and related project proposals for the Discovery Zones will focus on differentiating the Shannon and set it apart from its competitors.

Shannon Tourism Masterplan Objectives

- All projects will aim to add value to the Shannon as a unique destination and provide a demonstrable link to either attracting greater visitor numbers and revenues; extending visitor dwell time (length of stay); extending the tourism season; or, developing a new or niche market.
- Commerciality will be a key consideration for many project proposals and the implementing partners will work to support innovative and sustainable projects that align with the aims of the Shannon Masterplan.

HABITAT REGULATION ASSESSMENT SCREENING

- 1.21 This section of the report identifies the potential zone of influence of the plan, provides information on the Natura 2000 sites within the potential zone of influence and sets out the potential impacts and likelihood of significant effects.

Identification of Natura 2000 sites

- 1.22 The potential zone of influence adopted for the proposed masterplan is 5 km either side of the River Shannon and its major tributaries. Natura 2000 sites beyond this distance are considered to be sufficiently distant from the plan area and / or have no landscape⁴ or ecological connectivity with the plan area such that significant effects are not likely to occur as a result of the proposed masterplan.
- 1.23 There are 42 Natura 2000 sites within 5 km of the River Shannon and its major tributaries; 31 Special Areas of Conservation (SAC) and 11 Special Protection Area (SPA). The 42 Natura 2000 sites are listed in Table 2, shown on Figure 1 and discussed further in the following sections.

Description of Natura 2000 Sites

- 1.24 There are 42 Natura 2000 sites within the 5 km zone of influence adopted for the masterplan and these are individually described below. The description of each site has been prepared using the supporting information available on the NPWS website, and summarised in Table 2.

Features of Interest

- 1.25 Species and habitat types for which SAC are designated and bird species for which SPA are classified are referred to as Features of Interest on the NPWS website pages for protected sites⁵. The Features of Interest are listed for each Natura 2000 site identified within 5 km of the Shannon and its major tributaries are listed within Table 2 below. The information presented in Table 2 was obtained from the NPWS website (last accessed 28 January 2020).

Conservation Objectives for the Natura 2000 sites

- 1.26 The Habitats Directive defines when the conservation status of the listed habitats and species is considered as favourable. The definitions it uses for this are specific to the Directive. In summary, they require that the range and areas of the listed habitats, and the range and population of the listed species, should be at least maintained at their status at the time of designation. Site-specific conservation objectives aim to define favourable conservation conditions for a particular habitat or species at that site.
- 1.27 Article (1) of the Habitats Directive (92/43/EEC) describes favourable conservation status for habitats and species as follows.
- 1.28 Favourable conservation status of a habitat is achieved when:
- Its natural range, and area it covers within that range, are stable or increasing, and
 - The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and

⁴Landscape connectivity is a combined product of structural and functional connectivity, i.e. the effect of physical landscape structure and the actual species use of the landscape (Kettunen et al. 2007)

⁵ <https://www.npws.ie/protected-sites>

- The conservation status of its typical species is favourable.

1.29 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.

1.30 The conservation objectives for the 42 Natura 2000 sites within 5 km of the Shannon and its major tributaries are available on the NPWS website⁶ and the Northern⁷ Ireland Department for Rural Affairs website (both last accessed 28 January 2020). The information presented in Table 2 was obtained from both websites and summarised.

⁶ <https://www.npws.ie/protected-sites>

⁷ <https://www.daera-ni.gov.uk/protected-areas/>

Table 2: Natura 2000 sites within 5 km of the Shannon and its major tributaries

Natura site	2000 Sites	Description of Natura 2000 Sites	Distance from Masterplan ⁸ Boundary	Features of Interest	Conservation objectives
Special Areas of Conservation					
Upper Erne SAC 0016614	Lough SAC	The open waters of the main lough and smaller satellite loughs contain a variety of aquatic communities typical of natural eutrophic lakes. One of the best areas in the United Kingdom for Natural eutrophic lakes with Magnopotamion or Hydrocharition-type vegetation; Old sessile oak woods with Ilex and Blechnum; Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>); and <i>Lutra lutra</i> .	Within 5km inclusion zone	<p>Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation [3150]</p> <p>Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]</p> <p>Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) [91E0]</p> <p>Old sessile oak woods with Ilex and Blechnum [91A0]</p> <p>Otter [1355]</p> <p>Atlantic salmon [1106]</p>	<p>To maintain (or restore where appropriate) to favourable condition the:</p> <ul style="list-style-type: none"> • Natural eutrophic lakes with Magnopotamion or Hydrocharition-type vegetation • Old sessile oak woods with Ilex and Blechnum in the British Isles • Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) • Otter <i>Lutra lutra</i> <p>https://www.daera-ni.gov.uk/sites/default/files/publications/doe/land-information-upper-lough-erne-conservation-objectives-2015.pdf</p>
Moninea Bog SAC 0030212:		A comparatively large area of uncut raised bog, one of the few remaining examples from the complex of small raised bogs which once occupied hollows between the drumlins of South Ulster. A number of notable plant species have been	Adjacent	Active raised bogs [7110]	<p>To maintain (or restore where appropriate) the active raised bog to favourable condition.</p> <p>https://www.daera-ni.gov.uk/sites/default/files/publications/doe/land-information-moninea-bog-conservation-objectives-2015.pdf</p>

⁸ When measured in a straight line between the closest points

Natura 2000 site	Description of Natura 2000 Sites	Distance from Masterplan ⁸ Boundary	Features of Interest	Conservation objectives
	recorded including <i>Sphagnum fuscum</i> , <i>S. imbricatum</i> and <i>S. pulchrum</i> .			
Boleybrack Mountain SAC 002032:	This site supports an excellent diversity of montane habitats over a fairly extensive area. Active blanket bog, dry heath and wet heath are particularly well represented, with good examples also of Molinia meadows, dystrophic lakes and some areas of scrub (at low elevations), streams and cliff.	Adjacent	<p>Natural dystrophic lakes and ponds [3160]</p> <p>Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010]</p> <p>European dry heaths [4030]</p> <p>Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>) [6410]</p> <p>Blanket bogs (* if active bog) [7130]</p>	<p>To maintain the favourable conservation condition of Natural dystrophic lakes and ponds</p> <p>To restore the favourable conservation condition of Northern Atlantic wet heaths</p> <p>To restore the favourable conservation condition of European dry heaths</p> <p>To maintain the favourable conservation condition of Molinia meadows on calcareous, peaty or clayey-silt-laden soils</p> <p>To restore the favourable conservation condition of Blanket bogs</p> <p>https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002032.pdf</p>
Cuilcagh - Anierin Uplands SAC 000584:	One of the more extensive areas of intact montane blanket bog in Ireland, with exceptionally well developed vegetation cover in flat plateau areas, including dystrophic lakes, hummock and hollow complexes and large areas of wet heath, and to a lesser extent dry heath. Inland cliffs support a range of locally rare mountain	10km W	<p>Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>) [3110]</p> <p>Natural dystrophic lakes and ponds [3160]</p> <p>Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010]</p> <p>European dry heaths [4030]</p> <p>Alpine and Boreal heaths [4060]</p>	<p>To maintain the favourable conservation condition of Oligotrophic waters containing very few minerals of sandy plains</p> <p>To maintain the favourable conservation condition of Natural dystrophic lakes and ponds</p> <p>To restore the favourable conservation condition of Northern Atlantic wet heaths</p> <p>To restore the favourable conservation condition of European dry heaths</p>

Natura 2000 site	Description of Natura 2000 Sites	Distance from Masterplan ⁸ Boundary	Features of Interest	Conservation objectives
	plants. The site is an important breeding area for several upland birds.		<p>Species-rich <i>Nardus</i> grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [6230]</p> <p>Blanket bogs (* if active bog) [7130]</p> <p>Transition mires and quaking bogs [7140]</p> <p>Petrifying springs with tufa formation (<i>Cratoneurion</i>) [7220]</p> <p>Siliceous scree of the montane to snow levels (<i>Androsacetalia alpinae</i> and <i>Galeopsietalia ladani</i>) [8110]</p> <p>Siliceous rocky slopes with chasmophytic vegetation [8220]</p> <p><i>Drepanocladus vernicosus</i> (Slender Green Feather-moss) [1393]</p>	<p>To restore the favourable conservation condition of European dry heaths</p> <p>To restore the favourable conservation condition of Species-rich <i>Nardus</i> grasslands</p> <p>To restore the favourable conservation condition of Blanket bogs</p> <p>To maintain the favourable conservation condition of Transition mires and quaking bogs</p> <p>To restore the favourable conservation condition of Petrifying springs with tufa formation</p> <p>To restore the favourable conservation condition of Siliceous scree of the montane to snowLevels</p> <p>To maintain the favourable conservation condition of Siliceous rocky slopes withchasmophytic vegetation</p> <p>To maintain the favourable conservation condition of Slender Green Feather-moss</p> <p>https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000584.pdf</p>
Lough Arrow SAC 001673	A large, mesotrophic limestone lake sheltered on three sides by hills. Has a small catchment (6,255 ha). Average depth is 9m and maximum 33m. Has a Red Data chara species, nationally important winter bird populations and supports eel, <i>Anguilla anguilla</i> .	Within 5km inclusion zone	Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp. [3140]	<p>To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.</p> <p>https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO001673.pdf</p>

Natura 2000 site	Description of Natura 2000 Sites	Distance from Masterplan ⁸ Boundary	Features of Interest	Conservation objectives
Bricklieve Mountains and Keishcorran SAC 001656	A good example of a karst region and contains many sink holes, caves, dry valleys and pavements at heights up to 260m. It supports a very wide range of habitats. These include limestone cliffs extending 10-30m, eutric scree, the unusual combination of blanket bog and wet heath on limestone, abundant dry heath, a variety of grassland types.	Adjacent	<p>Turloughs [3180]</p> <p>Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) [6210]</p> <p>Lowland hay meadows (<i>Alopecurus pratensis</i>, <i>Sanguisorba officinalis</i>) [6510]</p>	<p>To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.</p> <p>https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO001656.pdf</p>
Corbo Bog SAC 002349	Corbo Bog contains a small but substantial area of active raised bog, which includes a few small flushed areas. There is a good Sphagnum cover and species diversity. Rhynchosporion vegetation is well-developed in the wetter areas.	Within 5km inclusion zone	<p>Active raised bogs [7110]</p> <p>Degraded raised bogs still capable of natural regeneration [7120]</p> <p>Depressions on peat substrates of the Rhynchosporion [7150]</p>	<p>To restore the favourable conservation condition of Active raised bogs</p> <p>Re-established the peat-forming capability of degraded raised bogs still capable of natural regeneration inherently linked to the objective for active raised bogs (7110)</p> <p>https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002349.pdf</p>
Lough Ree SAC 000440	A large mesotrophic moderate-eutrophic lake situated in an ice deepened depression in carboniferous Limestone, one of the largest and most important lakes in Ireland. Old oak woods at the site are considered the best in the midlands. <i>Lutra lutra</i> is frequent and the fish <i>Coregonus autumnalis pollan</i> has been recorded. It is an important bird	Within 5km inclusion zone	<p>Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i> - type vegetation [3150]</p> <p>Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) [6210]</p> <p>Active raised bogs [7110]</p>	<p>To restore the favourable conservation condition of Natural eutrophic lakes</p> <p>To restore the favourable conservation condition of Semi-natural dry grasslands and scrubland facies on calcareous substrates</p> <p>To restore the favourable conservation condition of Degraded raised bogs still capable of natural regeneration</p>

Natura 2000 site	Description of Natura 2000 Sites	Distance from Masterplan ⁸ Boundary	Features of Interest	Conservation objectives
	site for wintering and breeding waterfowl. Its breeding population of <i>Melanitta nigra</i> , is one of only three sites for the species in Ireland.		Degraded raised bogs still capable of natural regeneration [7120] Alkaline fens [7230] Limestone pavements [8240] Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0] Bog woodland [91D0] <i>Lutra lutra</i> (Otter) [1355]	To maintain the favourable conservation condition of Alkaline fens To maintain the favourable conservation condition of Limestone pavements To restore the favourable conservation condition of Bog woodland To maintain the favourable conservation condition of otter https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000440.pdf
River Shannon Callows SAC 000216	The River Shannon is the largest river in Ireland. It is the largest area of semi-natural floodplain grassland in Ireland and Britain. A number of Red Data Book and scarce plant species occur on the site. This is one of the great waterfowl sites in Ireland, with huge numbers of a wide range of species occurring in winter, with a mean peak of 34,985 waterbirds recorded.	10km W	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>) [6410] Lowland hay meadows (<i>Alopecurus pratensis</i> , <i>Sanguisorba officinalis</i>) [6510] Limestone pavements [8240] Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>) [91E0] <i>Lutra lutra</i> (Otter) [1355]	To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected. https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000216.pdf
Barroughter Bog SAC 000231	Barroughter bog is a small raised bog site which contains good examples of the priority Annex I habitat active raised bog and the non-priority habitats degraded raised bog and depressions on	Adjacent	Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120]	To restore the favourable conservation condition of Active raised bogs Re-established the peat-forming capability of degraded raised bogs still capable of natural regeneration inherently linked to the objective for active raised bogs (7110)

Natura 2000 site	Description of Natura 2000 Sites	Distance from Masterplan ⁸ Boundary	Features of Interest	Conservation objectives
	peat substrates. The bog lies along the western shores of Lough Derg.		Depressions on peat substrates of the <i>Rhynchosporion</i> [7150]	https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000231.pdf
Rosturra Wood SAC 001313	The site is important because the <i>Quercus</i> stands are remnants of an ancient woodland which was amongst the largest in Ireland. Only a small portion of the site remains under deciduous woodland.	5km E	Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0]	To restore the favourable conservation condition of Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO001313.pdf
Pollnacknockaun Wood Nature Reserve SAC 000319	This site is dominated by a coniferous plantation, much of which has been recently clear-felled. Fragments of ancient oak woodland occur in blocks and bands. The woodland acts as a refuge for flora and fauna which are otherwise scarce in the locality.	Within 5km inclusion zone	Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0]	To maintain the favourable conservation condition of Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000319.pdf
Derrycrag Wood Nature Reserve SAC 000261	This site is dominated by a coniferous plantation, which contains fragments of old oak woodland. The banks of the Woodford River support the Irish Red Data Book species <i>Frangula alnus</i> , as well as a number of relatively rare herbs.	Within 5km inclusion zone	Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0]	To maintain the favourable conservation condition of Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000261.pdf

Natura 2000 site	Description of Natura 2000 Sites	Distance from Masterplan ⁸ Boundary	Features of Interest	Conservation objectives
Slieve Bernagh Bog SAC 002312	One of the most extensive, high quality upland areas in the mid-west of Ireland. Annex 1 habitats include active blanket bog, dry heath and wet heath. The occurrence of <i>Vaccinium oxycoccus</i> is of note. The site is used as foraging habitat by <i>Circus cyaneus</i> which nests in the Slieve Bernagh mountain range. <i>Lagopus lagopus</i> occurs on site.	Within 5km inclusion zone	Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010] European dry heaths [4030] Blanket bogs (* if active bog) [7130]	To restore the favourable conservation condition of Northern Atlantic wet heaths To restore the favourable conservation condition of European dry heaths To restore the favourable conservation condition of Blanket bogs https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002312.pdf
Glenomra Wood SAC 001013	This site is dominated by deciduous oak woodland on a west facing slope. The diversity of the site is enhanced by an area of species-rich grassland, a small stream and a small area of raised bog. It supports species such as <i>Martes martes</i> , and an abundant population of <i>Rana temporaria</i> .	5km W	Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0]	To maintain the favourable conservation condition of Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO001013.pdf
Lower River Shannon SAC 002165	A very large, long site approximately 14 km wide and 120 km long, encompassing: the drained river valley which forms the River Shannon estuary; the broader River Fergus estuary, plus a number of smaller estuaries. The site contains many Annexed habitats, including the most extensive area of estuarine habitat in Ireland. A good range of Annexed species are also present,	Adjacent	Sandbanks which are slightly covered by sea water all the time [1110] Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Coastal lagoons [1150] Large shallow inlets and bays [1160]	To restore the favourable conservation condition of Freshwater Pearl Mussel To restore the favourable conservation condition of Sea Lamprey To maintain the favourable conservation condition of Brook Lamprey To maintain the favourable conservation condition of River Lamprey

Natura 2000 site	Description of Natura 2000 Sites	Distance from Masterplan ⁸ Boundary	Features of Interest	Conservation objectives
	<p>including the only known resident population of <i>Tursiops truncatus</i> in Ireland, all three Irish species of lamprey, and a good population of <i>Salmo salar</i>. A number of birds listed on the EU Birds Directive either winter or breed in the site.</p>		<p>Reefs [1170]</p> <p>Perennial vegetation of stony banks [1220]</p> <p>Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]</p> <p><i>Salicornia</i> and other annuals colonising mud and sand [1310]</p> <p>Atlantic salt meadows (<i>Glaucopuccinellietalia maritima</i>) [1330]</p> <p>Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]</p> <p>Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation [3260]</p> <p>Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>) [6410]</p> <p>Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) [91E0]</p> <p><i>Margaritifera margaritifera</i> (Freshwater Pearl Mussel) [1029]</p> <p><i>Petromyzon marinus</i> (Sea Lamprey) [1095]</p> <p><i>Lampetra planeri</i> (Brook Lamprey) [1096]</p>	<p>To restore the favourable conservation condition of Salmon</p> <p>To maintain the favourable conservation condition of Sandbanks which are slightly covered by sea water all the time</p> <p>To maintain the favourable conservation condition of Estuaries</p> <p>To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide</p> <p>To restore the favourable conservation condition of Coastal lagoons</p> <p>To maintain the favourable conservation condition of Large shallow inlets and bays</p> <p>To maintain the favourable conservation condition of Reefs</p> <p>To maintain the favourable conservation condition of Perennial vegetation of stony banks</p> <p>To maintain the favourable conservation condition of Vegetated sea cliffs</p> <p>To maintain the favourable conservation condition of <i>Salicornia</i> and other annuals colonizing mud and sand</p> <p>To restore the favourable conservation condition of Atlantic salt meadows (<i>Glaucopuccinellietalia maritima</i>)</p>

Natura 2000 site	Description of Natura 2000 Sites	Distance from Masterplan ⁸ Boundary	Features of Interest	Conservation objectives
			<p><i>Lampetra fluviatilis</i> (River Lamprey) [1099]</p> <p><i>Salmo salar</i> (Salmon) [1106]</p> <p><i>Tursiops truncatus</i> (Common Bottlenose Dolphin) [1349]</p> <p><i>Lutra lutra</i> (Otter) [1355]</p>	<p>To maintain the favourable conservation condition of Bottlenose Dolphin</p> <p>To restore the favourable conservation condition of Otter</p> <p>To restore the favourable conservation condition of Mediterranean salt meadows (<i>Juncetalia maritimi</i>)</p> <p>To maintain the favourable conservation condition of Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation</p> <p>To maintain the favourable conservation condition of Molinia meadows on calcareous, peaty or clayey-silt laden soils (<i>Molinion caeruleae</i>)</p> <p>To restore the favourable conservation condition of Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>)</p>
Cloonmoylan Bog SAC 000248	A large raised bog site that contains one of the largest remaining areas of uncut raised bog surface in east Galway. Of particular ecological note is a large flushed area in the northern half of the site which contains areas of bog woodland.	Adjacent	<p>Active raised bogs [7110]</p> <p>Degraded raised bogs still capable of natural regeneration [7120]</p> <p>Depressions on peat substrates of the Rhynchosporion [7150]</p> <p>Bog woodland [91D0]</p>	<p>To restore the favourable conservation condition of Active raised bogs</p> <p>To maintain the favourable conservation condition of Bog woodland</p> <p>https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000248.pdf</p>
Lough Derg, North-East Shore SAC 002241	This site incorporates the northern lake shore and approximately one-third of the northeast shoreline of Lough	Within 5km inclusion zone	<i>Juniperus communis</i> formations on heaths or calcareous grasslands [5130]	To restore the favourable conservation condition of <i>Juniperus communis</i> formations on heaths or calcareous grasslands

Natura 2000 site	Description of Natura 2000 Sites	Distance from Masterplan ⁸ Boundary	Features of Interest	Conservation objectives
	<p>Derg which is one of the largest freshwater bodies in Ireland. Habitats include: Alkaline fens, Juniper scrub formations, limestone pavement, Yew woodlands, alluvial woodlands and Cladium fen. It supports the only known Irish population of <i>Inula salicina</i>. The lake is important for wintering wildfowl. Goat island has a breeding colony of <i>Sterna hirundo</i>.</p>		<p>Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> [7210]</p> <p>Alkaline fens [7230]</p> <p>Limestone pavements [8240]</p> <p>Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) [91E0]</p> <p><i>Taxus baccata</i> woods of the British Isles [91J0]</p>	<p>To maintain the favourable conservation condition of Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i></p> <p>To maintain the favourable conservation condition of Alkaline fens</p> <p>To restore the favourable conservation condition of Limestone pavements</p> <p>To restore the favourable conservation condition of Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>)</p> <p>To maintain the favourable conservation condition of <i>Taxus baccata</i> woods</p> <p>https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002241.pdf</p>
Kilcarren-Firville Bog SAC 000647	<p>A relatively large raised bog site which contains good examples of the priority Annex I habitat active raised bog and the non-priority habitats degraded raised bog and depressions on peat Substrates (Rhynchosporion). The surrounding cutover contains a number of regenerating areas and some areas of well-developed scrub including the nationally rare shrub <i>Frangula alnus</i>.</p>	Within 5km inclusion zone	<p>Active raised bogs [7110]</p> <p>Degraded raised bogs still capable of natural regeneration [7120]</p> <p>Depressions on peat substrates of the Rhynchosporion [7150]</p>	<p>To restore the favourable conservation condition of Active raised bogs</p> <p>https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000647.pdf</p>

Natura 2000 site	Description of Natura 2000 Sites	Distance from Masterplan ⁸ Boundary	Features of Interest	Conservation objectives
All Saints Bog and Esker SAC 000566	Dominated by shales, this site contains good examples of the Annex I priority habitats active raised bog, bog woodland and orchid-rich (including the rare orchid <i>Orchis morio</i>) dry grassland. The <i>Betula</i> woodland is of high quality and is the best developed bog woodland of its type in Ireland. The site supports a rich invertebrate fauna. Greenland White-fronted Geese <i>Anser albifrons flavirostris</i> occasionally use the site during disturbance on the Little Brosna Callows. Rare plant species, <i>Erigeron acer</i> and <i>Galeopsis angustifolia</i> are found in a quarry on the southern side of the site.	Adjacent	Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) [6210] Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120] Depressions on peat substrates of the Rhynchosporion [7150] Bog woodland [91D0]	To restore the favourable conservation condition of Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) To restore the favourable conservation condition of Active raised bogs To restore the favourable conservation condition of Bog woodland https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000566.pdf
Redwood Bog SAC 002353	The bog is a good example of a flood-plain bog, lying at the confluence of the Shannon and Little Brosna rivers. It is a feeding site for the Little Brosna flock of <i>Anser albifrons flavirostris</i> . Overall, this site, is considered as one of the most important, relatively intact raised bogs along the banks of the River Shannon.	Within 5km inclusion zone	Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120] Depressions on peat substrates of the Rhynchosporion [7150]	To restore the favourable conservation condition of Active raised bogs (including degraded bog and depressions on peat substrates). https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002353.pdf
Fin Lough (Offaly) SAC 000576	A limestone lake, surrounded by fen, marsh, fen carr and grading		Alkaline fens [7230]	To maintain the favourable conservation condition of Alkaline fens

Natura 2000 site	Description of Natura 2000 Sites	Distance from Masterplan ⁸ Boundary	Features of Interest	Conservation objectives
	into surrounding pasture grassland. It is of value for wintering waterfowl, supports <i>Vertigo Geyeri</i> and is important for <i>Chrysogaster macquarti</i> and <i>Platycheirus perpallidus</i> . Peat milling activities adjoining the site have accelerated the seral development from open water to bog.		<i>Vertigo geyeri</i> (Geyer's Whorl Snail) [1013]	To maintain the favourable conservation condition of Geyer's Whorl Snail https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000576.pdf
Mongan Bog SAC 000580	A small to medium sized raised bog over low permeability fossiliferous limestone. The uncut high bog core is surrounded by old cutover surface which is regenerating into a mosaic of heath and low scrub. The site supports a relatively rare sedge <i>Rhynchospora fusca</i> , and breeding <i>Numenius arquata</i> and <i>Gallinago gallinago</i> .	Within 5km inclusion zone	Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120] Depressions on peat substrates of the <i>Rhynchosporion</i> [7150]	To restore the favourable conservation condition of Active raised bogs (including degraded bog and depressions on peat substrates). https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000580.pdf
Pilgrim's Esker Road SAC 001776	A steep-sided esker ridge which is composed of glacial sands and gravels and situated on the north side of Mongan raised bog. The site supports a large area of high quality, species-rich calcareous grassland with a suite of orchid species including probably the largest population of <i>Orchis morio</i> , in the country. The occurrence of <i>Corylus</i>	5km E	Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) [6210]	To maintain the favourable conservation condition of Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO001776.pdf

Natura 2000 site	Description of Natura 2000 Sites	Distance from Masterplan ⁸ Boundary	Features of Interest	Conservation objectives
	<i>avellana</i> / <i>Fraxinus excelsior</i> woodland, scrub, is notable as esker woodland is increasingly rare in Ireland.			
Carn Park Bog SAC 002336	An area of uncut high bog typical of the midland raised bog type, with hummock/hollow complexes, pools and Sphagnum lawns including the nationally rare <i>Sphagnum pulchrum</i> . The surrounding degraded raised bog and cutover areas are also well represented but have been afforested in places.	Within 5km inclusion zone	Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120]	To restore the favourable conservation condition of Active raised bogs (including degraded bog) https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002336.pdf
Crosswood Bog SAC 002337	A medium-sized midland raised bog with a core of uncut high bog surrounded by cutover surfaces. Approximately one-third of the high bog is active bog, with rare species <i>S. pulchrum</i> and <i>S. fuscum</i> , the remainder being degraded. Along the southern margins of the cutover there has been extensive afforestation with conifers. Scrub woodland is frequent in the south-western part of the cutover.	Within 5km inclusion zone	Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120]	To restore the favourable conservation condition of Active raised bogs (including degraded bog) https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002337.pdf
Fortwilliam Turlough SAC 000448	A more or less permanent waterbody with scattered reeds, a woodland which is	Within 5km inclusion zone	Turloughs [3180]	To maintain the favourable conservation condition of Turloughs

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	<p>partly flooded in winter, ungrazed tall herb vegetation and grassland. There is considerable precipitation of marl (CaCO₃) associated with ground water input and a lack of surface flow. This is the most important turlough in Co. Longford and the 004 NUTS region. There is no sign of drainage in the basin and little sign of eutrophication.</p>			<p>https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000448.pdf</p>
Brown Bog SAC 002346	<p>A small midland raised bog characterised by flat, quaking areas with frequent pools and wet flush. Sphagnum cover is high and includes the relatively rare <i>S. imbricatum</i> and <i>S. fuscum</i>. Lichen cover, mainly <i>Cladonia</i> spp., is high. Uncut high bog accounts for c.70% of the site, though the largest part of this is degraded bog. The high bog is surrounded by a rim of cutover bog invaded by <i>Betula pubescens</i> scrub. <i>Lagopus lagopus</i>, has been reported on site.</p>	Adjacent	<p>Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120] Depressions on peat substrates of the Rhynchosporion [7150]</p>	<p>To restore the favourable conservation condition of Active raised bogs (including degraded bog and depressions on peat substrates). https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002346.pdf</p>
Lough Forbes Complex SAC 001818	<p>A complex of naturally eutrophic lake, with extensive reed bed development, and natural transitions to flooded grasslands,</p>	Within 5km inclusion zone	<p>Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i> - type vegetation [3150]</p>	<p>To restore the favourable conservation condition of Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i>-type vegetation</p>

Natura 2000 site	Description of Natura 2000 Sites	Distance from Masterplan ⁸ Boundary	Features of Interest	Conservation objectives
	marsh, two active raised bogs and alluvial woodlands. The lake, callow and raised bog areas provide feeding and roosting sites for wintering <i>Anser albifrons flavirostris</i> .		<p>Active raised bogs [7110]</p> <p>Degraded raised bogs still capable of natural regeneration [7120]</p> <p>Depressions on peat substrates of the Rhynchosporion [7150]</p> <p>Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) [91E0]</p>	<p>To restore the favourable conservation condition of Active raised bogs (including degraded bog and depressions on peat substrates).</p> <p>To restore the favourable conservation condition of Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>)</p> <p>https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO001818.pdf</p>
Clooneen Bog SAC 002348	A large area of rather dry uncut high bog surrounded by cutover bog, one of the most northerly in the country. The majority of the bog is degraded with only a very small area of active bog. Wet bog woodland, pool systems and flush areas are present. The cutover is now mostly semi-improved or wet grassland, bog woodland, which is mainly of <i>Betula pubescens</i> , is of particular interest as it ranks as one of the most extensive examples of the habitat in the country. Rhynchosporion vegetation is limited in extent but appears to be well developed, and contains the relatively rare <i>Rhynchospora fusca</i> .		<p>Active raised bogs [7110]</p> <p>Degraded raised bogs still capable of natural regeneration [7120]</p> <p>Depressions on peat substrates of the Rhynchosporion [7150]</p> <p>Bog woodland [91D0]</p>	<p>To restore the favourable conservation condition of Degraded raised bogs still capable of natural regeneration (including depressions on peat substrates).)</p> <p>To maintain the favourable conservation condition of Bog woodland</p> <p>https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002348.pdf</p>

Natura 2000 site	Description of Natura 2000 Sites	Distance from Masterplan ⁸ Boundary	Features of Interest	Conservation objectives
Lough Oughter and Associated Loughs SAC 000007	At over 5,000 ha, the site comprises a maze of small to medium sized eutrophic lakes (mostly <10m deep with many small islands) and river sections and is considered the best inland example of a flooded drumlin landscape. Well developed marginal vegetation includes swamp, marshes and wet woodland. This site supports plants of local prominence including <i>Stratoites aloides</i> , <i>Sagittaria saggitifolia</i> , <i>Butomus umbellatus</i> , <i>Rumex hydrolapathum</i> , <i>Lemna gibba</i> and <i>Lemna polyrhiza</i> . It is optimum habitat for <i>Lutra lutra</i> . Part of the site is designated SPA and Ramsar Site.		Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i> - type vegetation [3150] Bog woodland [91D0] <i>Lutra lutra</i> (Otter) [1355]	To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected. https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000007.pdf
Special Protection Areas				
Upper Lough Erne SPA 9020071	A very large series of flooded drumlins with a complex of islands, bays and many lakes bordered by damp pastures, fens, reed-swamp, alder/willow-carr and oak woodland. Regularly supports internationally important numbers of wintering whooper swans, contributes to the maintenance of the	Adjacent	Whooper swan (<i>Cygnus cygnus</i>) [A038] Habitat extent	To maintain each feature in favourable condition. https://www.daera-ni.gov.uk/sites/default/files/publications/doe/upper-lough-erne-spa-conservation-objectives-2015.pdf

Natura 2000 site	Description of Natura 2000 Sites	Distance from Masterplan ⁸ Boundary	Features of Interest	Conservation objectives
	<p>geographic range of Greenland white-fronted goose in Northern Ireland. Important for breeding birds including common tern and in the past corncrake. Migratory birds breeding on the site include great crested grebe and important concentrations of curlew, snipe and redshank. Nationally important for wintering wildfowl including great crested grebe, cormorant, mute swan, tufted duck, wigeon, teal, goldeneye, coot, mallard, snipe, curlew, and redshank.</p>			
<p>Lough Arrow SPA 004050</p>	<p>Lough Arrow is a large limestone lake sheltered on three sides by hills. There is a well-developed submerged aquatic flora, shores are mostly stony, with some bays containing abundant swamp and in places the reedbeds extending well out into the lake. The breeding population of <i>Podiceps cristatus</i>, is of national importance. A range of other duck species breed on the lake, <i>Larus canus</i> and <i>Larus fuscus</i> breed in significant numbers and lake supports moderate numbers of wintering waterfowl.</p>	<p>Within 5km inclusion zone</p>	<p>Little Grebe (<i>Tachybaptus ruficollis</i>) [A004] Tufted Duck (<i>Aythya fuligula</i>) [A061] Wetland and Waterbirds [A999]</p>	<p>To maintain or restore the favourable conservation condition of the wetland habitat at Lough Arrow SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.</p> <p>https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004050.pdf</p>

Natura 2000 site	2000 Sites	Description of Natura 2000 Sites	Distance from Masterplan ⁸ Boundary	Features of Interest	Conservation objectives
River Callows 004097	Suck SPA	The River Suck is the largest tributary of the River Shannon. The main habitat is grassland, improved to varying extents, that is seasonally flooded, one of the few remaining examples in the country of a large river system of which parts still flood in a fairly natural way. An important site for wintering waterfowl, with an internationally important population of <i>Anser albifrons flavirostris</i> and at least three species of national importance: <i>Cygnus cygnus</i> , <i>Anas penelope</i> and <i>Vanellus vanellus</i> .	Within 5km inclusion zone	Whooper Swan (<i>Cygnus cygnus</i>) [A038] Wigeon (<i>Anas penelope</i>) [A050] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Lapwing (<i>Vanellus vanellus</i>) [A142] Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) [A395] Wetland and Waterbirds [A999]	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. To maintain or restore the favourable conservation condition of the wetland habitat at River Suck Callows SPA as a resource for the regularly-occurring migratory waterbirds that utilise it. https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004097.pdf
Slieve Mountains 004168	Aughty SPA	A very large mountain site which rises to 400m and includes many small- and medium-sized lakes. The site consists of a variety of upland habitats, though approximately half is afforested. Almost one-third of the site is unplanted blanket bog and heath, with both wet and dry heath present. The site supports over 12% of the all Ireland population of <i>Circus cyaneus</i> and is among the top five	Within 5km inclusion zone	Hen Harrier (<i>Circus cyaneus</i>) [A082] Merlin (<i>Falco columbarius</i>) [A098]	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004168.pdf

Natura 2000 site	Description of Natura 2000 Sites	Distance from Masterplan ⁸ Boundary	Features of Interest	Conservation objectives
	sites in the country for this species. It also supports a breeding population <i>Falco columbarius</i> likely to exceed five pairs and <i>Lagopus lagopus</i> .			
Lough Derg (Shannon) SPA 004058	The largest of the Shannon Lakes, being some 40 km long. The lake shows the high hardness levels and alkaline pH to be expected from its mainly limestone catchment basin. It is classified as a mesotrophic system and is often fringed with swamp vegetation. The islands support nationally important breeding colonies of <i>Sterna hirundo</i> , <i>Phalacrocorax carbo</i> , <i>Podiceps cristatus</i> and probably <i>Aythya fuligula</i> . The site is nationally important for populations of <i>Aythya fuligula</i> , <i>Bucephala clangula</i> and <i>Cygnus olor</i> .	5km West	Cormorant (<i>Phalacrocorax carbo</i>) [A017] Tufted Duck (<i>Aythya fuligula</i>) [A061] Goldeneye (<i>Bucephala clangula</i>) [A067] Common Tern (<i>Sterna hirundo</i>) [A193] Wetland and Waterbirds [A999]	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA To maintain or restore the favourable conservation condition of the wetland habitat at Lough Derg (Shannon) SPA as a resource for the regularly-occurring migratory waterbirds that utilise it https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004058.pdf
River Little Brosna Callows SPA 004086	The site follows the River Brosna from its confluence with the River Shannon for approximately 9 km. The main habitat present is grassland that is improved to varying extents and which is seasonally flooded. The river channel is fringed by swamp and marsh vegetation. it regularly	Within 5km inclusion zone	Whooper Swan (<i>Cygnus cygnus</i>) [A038] Wigeon (<i>Anas penelope</i>) [A050] Teal (<i>Anas crecca</i>) [A052] Pintail (<i>Anas acuta</i>) [A054] Shoveler (<i>Anas clypeata</i>) [A056]	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA To maintain or restore the favourable conservation condition of the wetland habitat at River Little Brosna Callows SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.

Natura 2000 site	Description of Natura 2000 Sites	Distance from Masterplan ⁸ Boundary	Features of Interest	Conservation objectives
	<p>supports in excess of 30,000 waterfowl and is rated among the top five sites in the country for numbers of wintering birds. It supports internationally important populations of <i>Anser albifrons flavirostris</i> and <i>Limosa limosa</i>. As well as nationally important populations of: <i>Cygnus cygnus</i>, <i>Anas penelope</i>, <i>Anas crecca</i>, <i>Anas acuta</i>, <i>Anas clypeata</i>, <i>Pluvialis apricaria</i> and <i>Vanellus vanellus</i>. It has substantial nesting populations of <i>Gallinago gallinago</i> and <i>Tringa tetanus</i>.</p>		<p>Golden Plover (<i>Pluvialis apricaria</i>) [A140] Lapwing (<i>Vanellus vanellus</i>) [A142] Black-tailed Godwit (<i>Limosa limosa</i>) [A156] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) [A395] Wetland and Waterbirds [A999]</p>	<p>https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004086.pdf</p>
All Saints Bog SPA 004103	<p>A raised bog complex with a well-developed area of active bog which is surrounded by degraded raised bog, some cutaway bog, an extensive stand of <i>Betula pubescens</i> woodland and a small area of dry calcareous grassland. It was an important refuge for part of an internationally important population of <i>Anser albifrons flavirostris</i>. In recent years, however, there has been less use by this species probably due to disturbance from peat milling activities on the bog adjacent to the site. <i>Falco</i></p>	5km West	<p>Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) [A395]</p>	<p>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004103.pdf</p>

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	<p><i>columbarius</i> has been seen on the bog during the breeding season and probably nests.</p>			
<p>Middle Shannon Callows SPA 004096</p>	<p>The site follows the River Shannon from Athlone, over c. 50 km. The main habitat present is humid grassland, improved to varying extents, that is seasonally flooded. The river channel is fringed by swamp and marsh vegetation. There is an extensive system of drainage channels, many of which support a diverse flora. It represents one of the most important wetland systems in the country. It is of International Importance for wintering waterfowl as numbers regularly exceed the 20,000 (mean of 34985 for the 5 winters 1994/94-1998/99). It supports an Internationally Important population of <i>Cygnus Cygnus</i> and nationally important populations of: <i>Cygnus olor</i>, <i>Anas penelope</i>, <i>Pluvialis apricaria</i>, <i>Vanellus vanellus</i> and <i>Limosa limosa</i>. It is also of high importance for breeding birds including the largest concentration of <i>Crex crex</i> in Ireland, <i>Coturnix coturnix</i>,</p>	<p>5km West</p>	<p>Whooper Swan (<i>Cygnus cygnus</i>) [A038] Wigeon (<i>Anas penelope</i>) [A050] Corncrake (<i>Crex crex</i>) [A122] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Lapwing (<i>Vanellus vanellus</i>) [A142] Black-tailed Godwit (<i>Limosa limosa</i>) [A156] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] Wetland and Waterbirds [A999]</p>	<p>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA</p> <p>To maintain or restore the favourable conservation condition of the wetland habitat at Middle Shannon Callows SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.</p> <p>https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004096.pdf</p>

Natura 2000 site	Description of Natura 2000 Sites	Distance from Masterplan ⁸ Boundary	Features of Interest	Conservation objectives
	<p><i>Vanellus vanellus</i>, <i>Gallinago gallinago</i> and <i>Tringa totanus</i>, <i>Locustella naevia</i> <i>Alauda arvensis</i> and <i>Anas clypeata</i>. In autumn and winter, <i>Circus cyaneus</i> is a regular visitor.</p>			
Mongan Bog SPA 004017	<p>An important example of a relatively intact midland raised bog. Is decreasingly used as a feeding and roost site by <i>Anser flavirostris albifrons</i>. It supports breeding <i>Gallinago gallinago</i> and probably <i>Numenius arquata</i>.</p>	Adjacent	<p>Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) [A395]</p>	<p>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA</p> <p>https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004017.pdf</p>
Lough Ree SPA 004064	<p>Lough Ree is the third largest lake in the Republic of Ireland. The lake has a very long, indented shoreline and hence has many sheltered bays and good scattering of islands. The water is strongly peat-stained, restricting macrophytes to depths of < 2 m. Swamp vegetation, especially of <i>Phragmites australis</i>, occurs in the sheltered areas around the</p> <p>Lake often grading to species-rich calcareous fen or freshwater marsh. Lowland wet grassland, some of which floods in winter, is found in abundance around the shore. Some of the islands are</p>	Within 5km inclusion zone	<p>Little Grebe (<i>Tachybaptus ruficollis</i>) [A004]</p> <p>Whooper Swan (<i>Cygnus cygnus</i>) [A038]</p> <p>Wigeon (<i>Anas penelope</i>) [A050]</p> <p>Teal (<i>Anas crecca</i>) [A052]</p> <p>Mallard (<i>Anas platyrhynchos</i>) [A053]</p> <p>Shoveler (<i>Anas clypeata</i>) [A056]</p> <p>Tufted Duck (<i>Aythya fuligula</i>) [A061]</p> <p>Common Scoter (<i>Melanitta nigra</i>) [A065]</p> <p>Goldeneye (<i>Bucephala clangula</i>) [A067]</p> <p>Coot (<i>Fulica atra</i>) [A125]</p>	<p>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA</p> <p>To maintain or restore the favourable conservation condition of the wetland habitat at Lough Ree SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.</p> <p>https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004064.pdf</p>

Natura 2000 site	Description of Natura 2000 Sites	Distance from Masterplan ⁸ Boundary	Features of Interest	Conservation objectives
	<p>wooded. It is associated with nationally important populations of <i>Anas penelope</i>, <i>Anas crecca</i>, <i>Anas acuta</i>, <i>Anas clypeata</i>, <i>Aythya fuligula</i>, <i>Bucephala clangula</i>, <i>Pluvialis apricaria</i>, <i>Vanellus vanellus</i>, <i>Sterna hirundo</i>, <i>Larus ridibundus</i> and <i>Podiceps cristatus</i>. It has regionally important numbers of <i>Cygnus cygnus</i> and <i>Anser albifrons flavirostris</i> and is one of the two main sites in the country for breeding <i>Melanitta nigra</i>. The woodland is a stronghold for <i>Sylvia borin</i>.</p>		<p>Golden Plover (<i>Pluvialis apricaria</i>) [A140] Lapwing (<i>Vanellus vanellus</i>) [A142] Common Tern (<i>Sterna hirundo</i>) [A193] Wetland and Waterbirds [A999]</p>	
<p>Ballykenny-Fisherstown Bog SPA 004101</p>	<p>Lough Forbes is a naturally eutrophic lake. The lake has well developed swamp vegetation and displays natural transition to seasonally flooded grassland, marsh and raised bog. The lake and callow grasslands provide good habitat for a range of wintering waterfowl species, including regionally important flocks of <i>Cygnus cygnus</i>, <i>Anas crecca</i> and <i>Anas Penelope</i>. <i>Falco columbarius</i> has been recorded and may breed in the site.</p>	<p>Adjacent</p>	<p>Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) [A395]</p>	<p>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004101.pdf</p>

Natura 2000 site	Description of Natura 2000 Sites	Distance from Masterplan ⁸ Boundary	Features of Interest	Conservation objectives
	<i>Lagopus lagopus</i> occurs on the bogs.			

Potential Impacts and Effects

- 1.31 The available information on the Natura 2000 sites was reviewed to establish whether or not the Shannon Masterplan is likely to have a significant effect on those sites. The likelihood of significant effects on the 42 Natura 2000 sites within the zone of influence is based on information collated from the desk study and other available existing information.
- 1.32 The likelihood of impacts occurring are established in light of the objectives, the location of the masterplan relative to the 42 Natura 2000 sites and the features of interest and conservation objectives of those 42 sites.

Identification of potential impacts and effects on Natura 2000 sites

- 1.33 The potential impacts of the masterplan on Natura 2000 sites within 5 km of the Shannon and its major tributaries are discussed in this section. Potential sources of effects identified as potentially resulting from implementation of the Shannon Tourism Masterplan are listed below:
- Habitat loss and fragmentation;
 - Disturbance/ mortality;
 - Introduction and / or spread of invasive species;
 - Aquatic pollution
- 1.34 Further details on each of these potential sources of effects are provided in the sub-sections below.

Direct impacts

- 1.35 There are 42 Natura 2000 sites identified within 5 km of the Shannon and its major tributaries. These 42 Natura 2000 sites are either within or immediately adjacent to the Masterplan area and there is potential for effects on the features of interest of these sites. These potential direct impacts and effects are outlined below.

Habitat loss and fragmentation

- 1.36 Direct impacts, such as habitat loss or fragmentation, on Natura 2000 sites within 5 km of the Shannon and its major tributaries may occur due to the creation of new walkways and foot paths within Natura 2000 sites that form part of the Masterplan area.

Disturbance/ mortality

- 1.37 The number of people visiting and working within the Shannon Tourism Masterplan boundary will increase and in turn the risk of disturbance to the features of interest of Natura 2000 sites will also increase within the potential zone of influence of the plan. Activities within sensitive areas on the water, such as close to islands with breeding colonies of birds pose a disturbance risk. Similarly increasing access by humans and potential disturbance associated with walkers, dogs and movement along the river has the potential to result in disturbance to species listed as features of interest of Natura 2000 sites. Increases in road traffic and river traffic have potential to cause mortality of otter and dolphin through collisions.

Indirect Impacts

Pollution

- 1.38 Indirect impacts on Natura 2000 sites within 1 km of the Shannon and its major tributaries considered include emissions of pollutants such as wastewater and surface water. Changes in water quality or water chemistry as a result of emissions of pollutants may affect features of interest such as lamprey and salmon with knock on effects up the food chain for example by reducing the prey base available for otter. Similarly, the changes in water quality and / or

chemistry may result in reduction or loss of features of interest such as '*Watercourses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation [3260]*'. The Shannon Tourism Masterplan has the potential to increase the risk of pollution for Natura 2000 sites via a range of mechanisms including: spills from vehicles, spills at pumping stations, contamination and silt creation from construction activities associated with the development of tourism infrastructure.

- 1.39 Within terrestrial environments, dog fouling has potential to damage sensitive habitats via soil eutrophication, most likely around site entrances and close to car parking facilities.

Introduction and / or spread of non-native invasive species, pests and diseases

- 1.40 There are at least 21 non-native invasive species with potential to be spread within the Masterplan area including to Natura 2000 sites. These 21 species are aquatic species of plant, fish, mollusc and cray fish. However, this does not mean that all potential non-native invasive species are limited to the aquatic environment.
- 1.41 Pests and disease such as fish fluke *Gyrodactylus salaris*, salmon anaemia virus, and fungal and bacterial tree diseases, have significant potential to damage populations of qualifying species of Natura 2000 sites such as salmon, and damage trees and woodlands. These pests and disease can be transported/ via a range of mechanisms including in vehicles, in holiday makers' luggage, in mud on shoes, and on angling and water-sports equipment⁹.
- 1.42 Non-native invasive species, pests and diseases could be introduced or spread by activities associated with tourism, particularly via boating/ water sports, angling and walking. The introduction or spread of non-native species has potential to affect habitats and species listed as features of interest of Natura 2000 sites within the potential zone of influence of the plan.
- 1.43 The potential indirect impacts and effects identified are not predicted to extend beyond the 5 km buffer zone applied either side of the Shannon.

Cumulative Effects

- 1.44 Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location. Cumulative effects are particularly important in EclA as ecological features may be already exposed to background levels of threat or pressure and may be close to critical thresholds where further impact could cause irreversible decline. Cumulative effects can also make habitats and species more vulnerable or sensitive to change (CIEEM, 2018).
- 1.45 Other plans and projects to be considered would include the following types of future development within the same zone of influence:
- Proposals for which consent has been applied which are awaiting determination in any regulatory process (not necessarily limited to planning permission);
 - Projects which have been granted consent (not limited to planning permissions) but which have not yet been started or which have been started but are not yet completed (i.e. under construction);
 - Proposals which have been refused permission but which are subject to appeal and the appeal is undetermined; and
 - To the extent that their details are in the public domain, proposed projects that will be implemented by a public body but for which no consent is needed from a competent authority. (CIEEM, 2018).

⁹ <https://www.gov.uk/government/collections/tree-pests-and-diseases>

- 1.46 The following plans and projects were considered together with the Masterplan for potential cumulative impacts and effects:
- Programme for Government Framework (Northern Ireland Executive, 2016).
 - Framework for Co-Operation – Spatial Strategies of NI and ROI.
 - NI Planning Policy Statements (PPS) (Planning Service NI).
 - Northern Ireland Greenhouse Gas Emissions Reduction Plan (Cross-Departmental Working Group on Greenhouse Gas Emissions, 2011).
 - Fermanagh Area Plan 2007 (Fermanagh District Council, 1997)
 - Government of Ireland. River Basin Management Plan for Ireland 2018-2021: https://www.housing.gov.ie/sites/default/files/publications/files/rbmp_report_english_web_version_final_0.pdf;
 - Government of Ireland. Outdoor Recreation Plan for Public Lands and Waters in Ireland 2017-2021: https://www.coillte.ie/media/2017/06/ORP_Screen.pdf;
 - Draft RSES for the Southern Region: <https://www.southernassembly.ie/regional-planning/regional-spatial-and-economic-strategy>;
 - Draft RSES for the Eastern and Midlands Regional Assembly: <https://emra.ie/draft-rses-public-consultation/>; and
 - RSES for the Northern and Western Regional Assembly Area: <https://www.nwra.ie/rses/>.
- 1.47 There is potential for other plans and projects, as set out above, to act in-combination and to give rise to cumulative effects.

Likelihood of Significant Effects on Natura 2000 Sites

- 1.48 A significant effect is defined in paragraph 49 of the [Waddenzee Case C-127/02](#) as follows “..... pursuant to the first sentence of Article 6(3) of the Habitats Directive, where a plan or project not directly connected with or necessary to the management of a site is likely to undermine the site's conservation objectives, it must be considered likely to have a significant effect on that site. The assessment of that risk must be made in the light inter alia of the characteristics and specific environmental conditions of the site concerned by such a plan or project.”
- 1.49 The potential impacts of the Shannon Tourism Masterplan were examined and it is considered that many of the objectives could result in likely significant effects or in some cases, the significance of the effects is uncertain. Table 3 below sets out the Natura 2000 sites within the zone of influence of the plan, the potential impacts on these sites and whether or not these are considered likely to result in significant effects. The detailed consideration of potential impacts and effects of the Masterplan objectives and the Natura 2000 sites potentially affected is presented in Table 4.
- 1.50 Therefore, in line with the recommendations of guidance documents and case law it is considered that the Shannon Masterplan should progress to the next stage of the process to determine if it will adversely affect the integrity of the 42 Natura 2000 sites.

Table 3: Potential Impacts and Likely Significant Effects of the Shannon Masterplan Objectives

Natura 2000 site	Feature of Interest	Potential Impacts Y/N	Likely Significant Effects Y/N
Upper Lough Erne SAC 0016614	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation [3150] Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>) [91E0] Old sessile oak woods with Ilex and Blechnum [91A0] Otter [1355] Atlantic salmon [1106]	Yes	Yes
Moninea Bog SAC 0030212:	Active raised bogs [7110]	Yes	Uncertain
Boleybrack Mountain SAC 002032:	Natural dystrophic lakes and ponds [3160] Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010] European dry heaths [4030] Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>) [6410] Blanket bogs (* if active bog) [7130]	Yes	Yes
Cuilcagh - Anierin Uplands SAC 000584:	Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>) [3110] Natural dystrophic lakes and ponds [3160] Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010]	Yes	Yes

Natura 2000 site	Feature of Interest	Potential Impacts Y/N	Likely Significant Effects Y/N
	<p>European dry heaths [4030]</p> <p>Alpine and Boreal heaths [4060]</p> <p>Species-rich <i>Nardus</i> grasslands, on siliceous substrates in mountain areas (and sub-mountain areas, in Continental Europe) [6230]</p> <p>Blanket bogs (* if active bog) [7130]</p> <p>Transition mires and quaking bogs [7140]</p> <p>Petrifying springs with tufa formation (<i>Cratoneurion</i>) [7220]</p> <p>Siliceous scree of the montane to snow levels (<i>Androsacetalia alpinae</i> and <i>Galeopsietalia ladani</i>) [8110]</p> <p>Siliceous rocky slopes with chasmophytic vegetation [8220]</p> <p><i>Drepanocladus vernicosus</i> (Slender Green Feather-moss) [1393]</p>		
Lough Arrow SAC 001673	Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp. [3140]	Yes	Yes
Bricklieve Mountains and Keishcorran SAC 001656	<p>Turloughs [3180]</p> <p>Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) [6210]</p> <p>Lowland hay meadows (<i>Alopecurus pratensis</i>, <i>Sanguisorba officinalis</i>) [6510]</p>	Yes	Yes
Corbo Bog SAC 002349	<p>Active raised bogs [7110]</p> <p>Degraded raised bogs still capable of natural regeneration [7120]</p> <p>Depressions on peat substrates of the Rhynchosporion [7150]</p>	Yes	Uncertain

Natura 2000 site	Feature of Interest	Potential Impacts Y/N	Likely Significant Effects Y/N
Lough Ree SAC 000440	<p>Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i> - type vegetation [3150]</p> <p>Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) [6210]</p> <p>Active raised bogs [7110]</p> <p>Degraded raised bogs still capable of natural regeneration [7120]</p> <p>Alkaline fens [7230]</p> <p>Limestone pavements [8240]</p> <p>Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0]</p> <p>Bog woodland [91D0]</p> <p><i>Lutra lutra</i> (Otter) [1355]</p>	Yes	Yes
River Shannon Callows SAC 000216	<p>Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>) [6410]</p> <p>Lowland hay meadows (<i>Alopecurus pratensis</i>, <i>Sanguisorba officinalis</i>) [6510]</p> <p>Limestone pavements [8240]</p> <p>Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae) [91E0]</p> <p><i>Lutra lutra</i> (Otter) [1355]</p>	Yes	Yes
Barroughter Bog SAC 000231	<p>Active raised bogs [7110]</p> <p>Degraded raised bogs still capable of natural regeneration [7120]</p>	Yes	Uncertain

Natura 2000 site	Feature of Interest	Potential Impacts Y/N	Likely Significant Effects Y/N
	Depressions on peat substrates of the Rhynchosporion [7150]		
Rosturra Wood SAC 001313	Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0]	Yes	Uncertain
Pollnacknockaun Wood Nature Reserve SAC 000319	Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0]	Yes	Uncertain
Derrycrag Wood Nature Reserve SAC 000261	Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0]	Yes	Uncertain
Slieve Bernagh Bog SAC 002312	Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010] European dry heaths [4030] Blanket bogs (* if active bog) [7130]	Yes	Uncertain
Glenomra Wood SAC 001013	Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0]	Yes	Uncertain
Lower River Shannon SAC 002165	Sandbanks which are slightly covered by sea water all the time [1110] Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Coastal lagoons [1150] Large shallow inlets and bays [1160]	Yes	Yes

Natura 2000 site	Feature of Interest	Potential Impacts Y/N	Likely Significant Effects Y/N
	<p>Reefs [1170]</p> <p>Perennial vegetation of stony banks [1220]</p> <p>Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]</p> <p><i>Salicornia</i> and other annuals colonising mud and sand [1310]</p> <p>Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) [1330]</p> <p>Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]</p> <p>Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation [3260]</p> <p>Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>) [6410]</p> <p>Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) [91E0]</p> <p><i>Margaritifera margaritifera</i> (Freshwater Pearl Mussel) [1029]</p> <p><i>Petromyzon marinus</i> (Sea Lamprey) [1095]</p> <p><i>Lampetra planeri</i> (Brook Lamprey) [1096]</p> <p><i>Lampetra fluviatilis</i> (River Lamprey) [1099]</p> <p><i>Salmo salar</i> (Salmon) [1106]</p> <p><i>Tursiops truncatus</i> (Common Bottlenose Dolphin) [1349]</p> <p><i>Lutra lutra</i> (Otter) [1355]</p>		

Natura 2000 site	Feature of Interest	Potential Impacts Y/N	Likely Significant Effects Y/N
Cloonmoylan Bog SAC 000248	<p>Active raised bogs [7110]</p> <p>Degraded raised bogs still capable of natural regeneration [7120]</p> <p>Depressions on peat substrates of the Rhynchosporion [7150]</p> <p>Bog woodland [91D0]</p>	Yes	Uncertain
Lough Derg, North-East Shore SAC 002241	<p><i>Juniperus communis</i> formations on heaths or calcareous grasslands [5130]</p> <p>Calcareous fens with <i>Cladium mariscus</i> and species of the Caricion davallianae [7210]</p> <p>Alkaline fens [7230]</p> <p>Limestone pavements [8240]</p> <p>Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) [91E0]</p> <p><i>Taxus baccata</i> woods of the British Isles [91J0]</p>	Yes	Yes
Kilcarren-Firville Bog SAC 000647	<p>Active raised bogs [7110]</p> <p>Degraded raised bogs still capable of natural regeneration [7120]</p> <p>Depressions on peat substrates of the Rhynchosporion [7150]</p>	Yes	Uncertain
All Saints Bog and Esker SAC 000566	<p>Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210]</p> <p>Active raised bogs [7110]</p> <p>Degraded raised bogs still capable of natural regeneration [7120]</p>	Yes	Uncertain

Natura 2000 site	Feature of Interest	Potential Impacts Y/N	Likely Significant Effects Y/N
	Depressions on peat substrates of the Rhynchosporion [7150] Bog woodland [91D0]		
Redwood Bog SAC 002353	Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120] Depressions on peat substrates of the Rhynchosporion [7150]	Yes	Uncertain
Fin Lough (Offaly) SAC 000576	Alkaline fens [7230] <i>Vertigo geyeri</i> (Geyer's Whorl Snail) [1013]	Yes	Uncertain
Mongan Bog SAC 000580	Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120] Depressions on peat substrates of the Rhynchosporion [7150]	Yes	Uncertain
Pilgrim's Road Esker SAC 001776	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210]	Yes	Uncertain
Carn Park Bog SAC 002336	Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120]	Yes	Uncertain
Crosswood Bog SAC 002337	Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120]	Yes	Uncertain
Fortwilliam Turlough SAC 000448	Turloughs [3180]	Yes	Uncertain

Natura 2000 site	Feature of Interest	Potential Impacts Y/N	Likely Significant Effects Y/N
Brown Bog SAC 002346	<p>Active raised bogs [7110]</p> <p>Degraded raised bogs still capable of natural regeneration [7120]</p> <p>Depressions on peat substrates of the Rhynchosporion [7150]</p>	Yes	Uncertain
Lough Forbes Complex SAC 001818	<p>Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation [3150]</p> <p>Active raised bogs [7110]</p> <p>Degraded raised bogs still capable of natural regeneration [7120]</p> <p>Depressions on peat substrates of the Rhynchosporion [7150]</p> <p>Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) [91E0]</p>	Yes	Yes
Clooneen Bog SAC 002348	<p>Active raised bogs [7110]</p> <p>Degraded raised bogs still capable of natural regeneration [7120]</p> <p>Depressions on peat substrates of the Rhynchosporion [7150]</p> <p>Bog woodland [91D0]</p>	Yes	Uncertain
Lough Oughter and Associated Loughs SAC 000007	<p>Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation [3150]</p> <p>Bog woodland [91D0]</p> <p><i>Lutra lutra</i> (Otter) [1355]</p>	Yes	Yes
Upper Lough Erne SPA 9020071	<p>Whooper swan (<i>Cygnus cygnus</i>) [A038]</p> <p>Habitat extent</p>		

Natura 2000 site	Feature of Interest	Potential Impacts Y/N	Likely Significant Effects Y/N
Lough Arrow SPA 004050	Little Grebe (<i>Tachybaptus ruficollis</i>) [A004] Tufted Duck (<i>Aythya fuligula</i>) [A061] Wetland and Waterbirds [A999]	Yes	Yes
River Suck Callows SPA 004097	Whooper Swan (<i>Cygnus cygnus</i>) [A038] Wigeon (<i>Anas penelope</i>) [A050] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Lapwing (<i>Vanellus vanellus</i>) [A142] Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) [A395] Wetland and Waterbirds [A999]	Yes	Yes
Slieve Aughty Mountains SPA 004168	Hen Harrier (<i>Circus cyaneus</i>) [A082] Merlin (<i>Falco columbarius</i>) [A098]	Yes	Yes
Lough Derg (Shannon) SPA 004058	Cormorant (<i>Phalacrocorax carbo</i>) [A017] Tufted Duck (<i>Aythya fuligula</i>) [A061] Goldeneye (<i>Bucephala clangula</i>) [A067] Common Tern (<i>Sterna hirundo</i>) [A193] Wetland and Waterbirds [A999]	Yes	Yes
River Little Brosna Callows SPA 004086	Whooper Swan (<i>Cygnus cygnus</i>) [A038]	Yes	Yes

Natura 2000 site	Feature of Interest	Potential Impacts Y/N	Likely Significant Effects Y/N
	Wigeon (<i>Anas penelope</i>) [A050] Teal (<i>Anas crecca</i>) [A052] Pintail (<i>Anas acuta</i>) [A054] Shoveler (<i>Anas clypeata</i>) [A056] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Lapwing (<i>Vanellus vanellus</i>) [A142] Black-tailed Godwit (<i>Limosa limosa</i>) [A156] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) [A395] Wetland and Waterbirds [A999]		
All Saints Bog SPA 004103	Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) [A395]	Yes	Yes
Middle Shannon Callows SPA 004096	Whooper Swan (<i>Cygnus cygnus</i>) [A038] Wigeon (<i>Anas penelope</i>) [A050] Corncrake (<i>Crex crex</i>) [A122] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Lapwing (<i>Vanellus vanellus</i>) [A142]	Yes	Yes

Natura 2000 site	Feature of Interest	Potential Impacts Y/N	Likely Significant Effects Y/N
	Black-tailed Godwit (<i>Limosa limosa</i>) [A156] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] Wetland and Waterbirds [A999]		
Mongan Bog SPA 004017	Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) [A395]	Yes	Yes
Lough Ree SPA 004064	Little Grebe (<i>Tachybaptus ruficollis</i>) [A004] Whooper Swan (<i>Cygnus cygnus</i>) [A038] Wigeon (<i>Anas penelope</i>) [A050] Teal (<i>Anas crecca</i>) [A052] Mallard (<i>Anas platyrhynchos</i>) [A053] Shoveler (<i>Anas clypeata</i>) [A056] Tufted Duck (<i>Aythya fuligula</i>) [A061] Common Scoter (<i>Melanitta nigra</i>) [A065] Goldeneye (<i>Bucephala clangula</i>) [A067] Coot (<i>Fulica atra</i>) [A125] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Lapwing (<i>Vanellus vanellus</i>) [A142]	Yes	Yes

Natura 2000 site	Feature of Interest	Potential Impacts Y/N	Likely Significant Effects Y/N
	Common Tern (<i>Sterna hirundo</i>) [A193] Wetland and Waterbirds [A999]		
Ballykenny-Fisherstown Bog SPA 004101	Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) [A395]	Yes	Yes

HABITAT REGULATIONS ASSESSMENT

- 1.51 The aim of this report is to provide supporting information to assist the competent authority, in this case Waterways Ireland, to determine if the proposed Shannon Tourism Masterplan will adversely affect the integrity of the 42 Natura 2000 sites identified as likely to be significantly affected by the Masterplan objectives or where the significance of the effects of the Masterplan objectives is uncertain.
- 1.52 The Competent Authority will be required to carry out an ‘appropriate assessment’ to determine whether the Shannon Tourism Masterplan would adversely affect the integrity of Natura 2000 sites. The ‘*integrity of the site*’ can be defined as ‘*the coherence of the site’s ecological structure and function, across its whole area, or the habitats, complex of habitats and / or populations of species for which the site is or will be classified*’¹⁰.
- 1.53 The headings within the appropriate assessment report template provided in the European Commission (2001) guidance document ‘*Assessment of plans and projects significantly affecting Natura 2000 sites*’ have been used to provide a basis to examine the potential effects of the objectives of the Shannon Tourism Masterplan on the integrity of Natura 2000 sites.

Assessment of the effects of the project or plan on the integrity of Natura 2000 sites

- 1.54 This section of the report sets out the potential effects of the proposed Masterplan (either alone or in combination with other projects and / or plans) on the integrity of Natura 2000 sites with respect to the conservation objectives of these sites and to their structure and function. There are 42 Natura 2000 sites within the 5 km buffer zone applied along either side of the extents of the Shannon for the purposes of developing and evaluating the Masterplan. The focus of this report is therefore on demonstrating, with supporting evidence, that there will be no adverse effects on the integrity of these 42 Natura 2000 sites.

Describe the elements of the project or plan (alone or in combination with other projects or plans) that are likely to give rise to significant effects on the environment.

- 1.55 The elements of the masterplan likely to give rise to significant effects on the environment are objectives relating to recreational activities, transport and associated infrastructure such as: roads, tracks, marinas, accommodation and entertainment facilities. The objectives of the Shannon Tourism Masterplan identified as likely to give rise to significant effects are set out in Table 4 below.

Set out the conservation objectives of the site

- 1.56 The detailed conservation objectives for the Natura 2000 sites, where available, are summarised in Table 2 above. Where detailed conservation objectives are not available generic conservation objectives are provided.

Describe how the project or plan will affect key species and key habitats. Acknowledge uncertainties and gaps in information

- 1.57 The key features of interest, habitats and species, and how they are likely to be affected by the Masterplan are set out in Table 4 below.

¹⁰ http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/provision_of_art6_en.pdf

Cumulative Effects

- 1.58 The following plans and projects were considered together with the masterplan for potential cumulative impacts and effects:
- Programme for Government Framework (Northern Ireland Executive, 2016).
 - Framework for Co-Operation – Spatial Strategies of NI and ROI.
 - NI Planning Policy Statements (PPS) (Planning Service NI).
 - Northern Ireland Greenhouse Gas Emissions Reduction Plan (Cross-Departmental Working Group on Greenhouse Gas Emissions, 2011).
 - Fermanagh Area Plan 2007 (Fermanagh District Council, 1997)
 - Government of Ireland. River Basin Management Plan for Ireland 2018-2021: https://www.housing.gov.ie/sites/default/files/publications/files/rbmp_report_english_web_version_final_0.pdf;
 - Government of Ireland. Outdoor Recreation Plan for Public Lands and Waters in Ireland 2017-2021: https://www.coillte.ie/media/2017/06/ORP_Screen.pdf;
 - Draft RSES for the Southern Region: <https://www.southernassembly.ie/regional-planning/regional-spatial-and-economic-strategy>;
 - Draft RSES for the Eastern and Midlands Regional Assembly: <https://emra.ie/draft-rses-public-consultation/>; and
 - RSES for the Northern and Western Regional Assembly Area: <https://www.nwra.ie/rses/>.
- 1.59 It is considered that these plans could act in-combination with the proposed Shannon Tourism Masterplan to result in adverse effects on the integrity of Natura 2000 sites.

Describe how the integrity of the site (determined by structure and function and conservation objectives) is likely to be affected by the project or plan (e.g. loss of habitat, disturbance, disruption, chemical changes, hydrological changes and geological changes, etc.). Acknowledge also uncertainties and any gaps in information.

- 1.60 The integrity of the 42 Natura 2000 sites is likely to be affected by increased human activity and the development and operation of associated supporting infrastructure and services within the core area of the Shannon Tourism Masterplan. Habitat loss and degradation could result from increased use of footpaths and waterways within Natura 2000 sites. Disturbance and resultant displacement of species such as birds and otter could occur due to proposed recreational activities and development in close proximity to the river and other key habitats. Water pollution could affect aquatic species such as lamprey (sea, river and brook) and salmon. These effects could result in population reduction through mortality or reduction in the distribution of habitat. Increased movement of people and transport in and out of number of Natura 2000 sites also has potential to spread non-native invasive species. The effects described could undermine the conservation objectives for the 42 Natura 2000 sites which would adversely their integrity.

Describe what mitigation measures are to be introduced to avoid, reduce or remedy the adverse effects on the integrity of the site. Acknowledge uncertainties and any gaps in information.

- 1.61 The Masterplan is by its nature a high level strategic document and by default the mitigation measures proposed will also be relatively high level in nature. Mitigation has been incorporated into the Masterplan itself where practical.

Biosecurity Strategy for the Shannon

- 1.62 Formal biosecurity standards for the inland waterways, to prevent the inadvertent disruption of the Shannon's natural ecosystems are required across the masterplan area. Draft standards have been included in the Masterplan, which focus on communications, freshwater security measures for small boats and standards for leisure and industrial craft entering the system.
- 1.63 The introduction of Biosecurity Facilities at Designated Entry Points should be considered along the Shannon to reduce the risk of further introduction or spread of invasive species. These should include:
- anti-fouling stations for routine boat cleansing procedures;
 - cleansing / power washing stations for incoming / outgoing craft;
 - well placed and well serviced pumping stations to prevent unlicensed bilge discharge; and
 - spot inspections by licensed navigation staff.

General Environmental Mitigation

- 1.64 The mitigation measures proposed are set out in detail within Table 4 but can be broadly summarised as follows:
- Wastewater, surface water drainage and drinking water infrastructure must be in place prior to development.
 - Contractors appointed to undertake any construction works will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works.
 - Measures to protect the environment will be incorporated into design of projects to avoid adverse effects on the integrity of Natura 2000 sites. These will include, but will not limited to, measures such as those set out in:
 - *Guidelines on Protection of Fisheries During Construction Works In and Adjacent to Waters* (IFI, 2016).
 - *Environmental Good Practice on Site Guide* (CIRIA, 2015).
 - Irrespective of planning requirements ecological assessment and, as appropriate, habitat and species surveys should be carried out for all projects or other means of implementing the objectives of the Tourism Masterplan.
 - The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites.
 - Lighting of buildings and features along watercourses will be avoided wherever possible. If lighting is required within the riparian zone or along the banks of a watercourse it should be designed in consultation with an appropriately qualified ecologist.
- 1.65 Waterways Ireland will be responsible for ensuring that the mitigation measures proposed are implemented fully and that the measures are implemented for the lifetime of the Shannon Tourism Masterplan.
- 1.66 It must also be noted that the appropriate assessment at plan level does not exempt projects or plans arising from the plan from the assessment requirements of Article 6(3) at a later stage, when much more details of potential impacts and effects are known. In other words, projects or plans that result from the Masterplan are also required to undergo Article 6 assessment before they can proceed or be permitted. Waterways Ireland and / or the relevant planning authority will be

responsible for ensuring that projects or plans that result from the Masterplan are also required to undergo Article 6 assessment before they can be permitted or proceed.

Table 4: Mitigation Measures for objectives of the Tourism Masterplan

Shannon Tourism Masterplan Objectives	Natura 2000 sites likely to be affected	Effects of the Objective on Natura 2000 sites	Mitigation Measures	Effect of the Mitigation Measures
Discovery Zone 1: Upper Shannon Lough Allen and Shannon Erne Waterway - Priority Projects				
<p>DZ1.1 Development of a Destination & Visitor Management Plan for the Shannon Pot:</p> <ul style="list-style-type: none"> As per Cavan Co. Council’s development proposals for Cavan Burren Park. Enhance green linkages to the Cavan Burren and international Marble Arch-Cuilcagh Mountains UNESCO Geopark. 	<p>Boleybrack Mountain SAC 002032</p> <p>Upper Loch Erne SAC 0016614</p> <p>Upper Loch Erne SPA 9020071</p> <p>Lough Oughter and Associated Loughs SAC 000007</p> <p>Moninea SAC 0030212</p> <p>Cuilcagh - Anierin Uplands SAC 000584</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be insufficient prey availability and breeding habitat elsewhere to support those displaced.</p>	<ul style="list-style-type: none"> The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. Ensure water / wastewater infrastructure is in place prior to implementation of the objective. Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific 	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented.</p>

Shannon Tourism Masterplan Objectives	Natura 2000 sites likely to be affected	Effects of the Objective on Natura 2000 sites	Mitigation Measures	Effect of the Mitigation Measures
			<p>method statements detailing measures taken to protect the environment during all phases of works.</p> <ul style="list-style-type: none"> Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites. 	
<p>DZ1.2 Develop waterside recreational infrastructure, building linkages and filling ‘gaps’ where feasible:</p> <ul style="list-style-type: none"> Carrick-to-Leitrim Boardwalk; linking alongside the water to Acres Lake and Lough Allen; Strengthen links from the Shannon-Erne Waterway - Lough Allen - Lough Key, through development and promotion of both blueways and waterside trails. 	<p>Lough Arrow SAC 001673 Lough Arrow SPA 004050 Bricklieve Mountains and Keishcorran SAC 001656</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be insufficient prey availability and breeding habitat elsewhere to support those displaced.</p>	<ul style="list-style-type: none"> Lighting of buildings and features along watercourses will be avoided wherever possible. If lighting is required within the riparian zone or along the banks of a watercourse it should be designed in consultation with an appropriately qualified ecologist. The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. Ensure water / wastewater infrastructure is in place prior to implementation of the objective. 	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented</p>

Shannon Tourism Masterplan Objectives	Natura 2000 sites likely to be affected	Effects of the Objective on Natura 2000 sites	Mitigation Measures	Effect of the Mitigation Measures
			<ul style="list-style-type: none"> Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites. 	
<p>DZ1.3 Lough Key Greenway</p> <ul style="list-style-type: none"> Proposed greenway links from Boyle to Lough Key; with ultimate links to Carrick-on-Shannon (see DZ1.5 below). 	<p>Lough Arrow SAC 001673 Lough Arrow SPA 004050 Bricklieve Mountains and Keishcorran SAC 001656</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be insufficient prey availability and</p>	<ul style="list-style-type: none"> The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. Lighting of buildings and features along watercourses will be avoided wherever possible. If lighting is required within the riparian zone or along the banks of a watercourse it should be designed in consultation with an appropriately qualified ecologist. 	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented</p>

Shannon Tourism Masterplan Objectives	Natura 2000 sites likely to be affected	Effects of the Objective on Natura 2000 sites	Mitigation Measures	Effect of the Mitigation Measures
		breeding habitat elsewhere to support those displaced.	<ul style="list-style-type: none"> • Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. • Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. • Ensure water / wastewater infrastructure is in place prior to implementation of the objective. • Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. • Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. • Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites. 	

Shannon Tourism Masterplan Objectives	Natura 2000 sites likely to be affected	Effects of the Objective on Natura 2000 sites	Mitigation Measures	Effect of the Mitigation Measures
<p>DZ1.4 Delivery of long distance, themed journeys to meander slowly into and within the zone:</p> <ul style="list-style-type: none"> • Enhancement of the Beara Breifne Way; • Support emerging spiritual Pilgrim Way along the Shannon-Shannon Erne Waterway, with onwards links to Lough Erne; • Revitalise the Humbert Trail that meanders into Leitrim, with links to the Wild Atlantic Way. 	<p>Upper Loch Erne SAC 0016614</p> <p>Upper Loch Erne SPA 9020071</p> <p>Lough Oughter and Associated Loughs SAC 000007</p> <p>Moninea SAC 0030212</p> <p>Lough Arrow SAC 001673</p> <p>Lough Arrow SPA 004050</p> <p>Bricklieve Mountains and Keishcorran SAC 001656</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be insufficient prey availability and breeding habitat elsewhere to support those displaced.</p>	<ul style="list-style-type: none"> • The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. • Lighting of buildings and features along watercourses will be avoided wherever possible. If lighting is required within the riparian zone or along the banks of a watercourse it should be designed in consultation with an appropriately qualified ecologist. • Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. • Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. • Ensure water / wastewater infrastructure is in place prior to implementation of the objective. • Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. 	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented</p>

Shannon Tourism Masterplan Objectives	Natura 2000 sites likely to be affected	Effects of the Objective on Natura 2000 sites	Mitigation Measures	Effect of the Mitigation Measures
			<ul style="list-style-type: none"> Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites. 	
<p>DZ1.5 Enhancement of the Lough Key Forest Park experience –</p> <ul style="list-style-type: none"> Support proposals to enhance the family-friendly Lough Key adventure experiences. Enhance blue-green linkages to and from Boyle under provisions of Boyle 2040 strategic plan. Consider long term green/blueway linkages from Lough Key to the Shannon via Knockvicar. 	<p>Lough Arrow SAC 001673 Lough Arrow SPA 004050 Bricklieve Mountains and Keishcorran SAC 001656</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be insufficient prey availability and breeding habitat elsewhere to support those displaced.</p>	<ul style="list-style-type: none"> The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. Ensure water / wastewater infrastructure is in place prior to implementation of the objective. Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. 	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented</p>

Shannon Tourism Masterplan Objectives	Natura 2000 sites likely to be affected	Effects of the Objective on Natura 2000 sites	Mitigation Measures	Effect of the Mitigation Measures
			<ul style="list-style-type: none"> Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites. 	
Discovery Zone 2: Mid-Shannon Lough Ree, peatlands & Shannon Callows				
<p>DZ2.1 Development of a Visitor Management Plan for Clonmacnoise (Oct. 2019) to:</p> <ul style="list-style-type: none"> Consider reconfiguration of access points and facilities to enhance the visitor experience; Develop on-water linkages with service hubs upstream and downstream, inclusive of Athlone, Shannonbridge, Shannon Harbour and Banagher. 	<p>Lough Ree SAC 000440 Lough Ree SPA 004064 Crosswood Bog SAC 002337 Carn Park Bog SAC 002336 Pilgrim's Road Esker SAC 001776 Mongan Bog SPA 004017 Fin Lough (Offaly) SAC 000576 Middle Shannon Callows SPA 004096 River Shannon Callows SAC 000216</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be insufficient prey availability and breeding habitat elsewhere to support those displaced.</p>	<ul style="list-style-type: none"> The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. Ensure water / wastewater infrastructure is in place prior to implementation of the objective. 	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented</p>

Shannon Tourism Masterplan Objectives	Natura 2000 sites likely to be affected	Effects of the Objective on Natura 2000 sites	Mitigation Measures	Effect of the Mitigation Measures
<ul style="list-style-type: none"> Enhanced off-road links from Athlone to Clonmacnoise and Shannonbridge/ Shannon Harbour with links to Lough Boora Discovery Park via Grand Canal to allow immersive experiences. 	<p>River Suck Callows SPA 004097</p> <p>Fortwilliam Turlough SAC 000448</p>		<ul style="list-style-type: none"> Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites. 	
<p>DZ2.2 Enhanced interpretation and access to Rindoon Medieval Walled Town</p> <ul style="list-style-type: none"> Consider options for an enhanced Visitor Experience based at Lecarrow / Portrunny, to include access to Rindoon Walled Town and peninsula; and 	<p>Lough Ree SAC 000440</p> <p>Lough Ree SPA 004064</p> <p>Middle Shannon Callows SPA 004096</p> <p>River Shannon Callows SAC 000216</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be insufficient prey availability and</p>	<ul style="list-style-type: none"> The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. Ensure water / wastewater infrastructure is in place prior to implementation of the objective. 	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented</p>

Shannon Tourism Masterplan Objectives	Natura 2000 sites likely to be affected	Effects of the Objective on Natura 2000 sites	Mitigation Measures	Effect of the Mitigation Measures
<ul style="list-style-type: none"> Consider options for visitor access to the Lough Ree Islands (subject to landowner agreements) from Lecarrow or Portrunny harbours and/or Lanesborough-Ballyleague/ Hodson Bay harbours. 		breeding habitat elsewhere to support those displaced.	<ul style="list-style-type: none"> Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites. 	
DZ2.3 Wet'n'Wild Peatlands of Mid Shannon <ul style="list-style-type: none"> Develop integrated Discovery Zone focused on peatlands' environmental heritage and industrial histories; recreational opportunities such as walking, hiking, cycling, guided tours or bog trains; Outdoor educational classroom/ summer schools to demonstrate climate change in action; Range of family fun 'bog snorkelling' or mud-sliding; and 	Clooneen Bog SAC 002348 Lough Forbes Complex SAC 001818 Ballykenny-Fisherstown Bog SPA 004101 Brown Bog SAC 002346 Crosswood Bog SAC 002337 Carn Park Bog SAC 002336 Mongan Bog SPA 004017 Mongan Bog SAC 000580 Redwood Bog SAC 002353 All Saints Bog SPA 004103	Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality. Increased movement of people and transport has potential to spread non-native invasive species. Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be insufficient prey availability and	<ul style="list-style-type: none"> The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. Ensure water / wastewater infrastructure is in place prior to implementation of the objective. 	It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented

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<ul style="list-style-type: none"> Creative 'slow' initiatives such as bog carving and sculpture, photography & 'art in the open'. 	<p>All Saints Bog and Esker SAC 000566</p> <p>Kilcarren-Firville Bog SAC 000647</p> <p>River Little Brosna Callows SPA 004086</p>	<p>breeding habitat elsewhere to support those displaced.</p>	<ul style="list-style-type: none"> Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites. 	
<p>DZ2.4 Expanding the Lough Ree Experience</p> <ul style="list-style-type: none"> Continue to develop Athlone's waterfront amenities to build a critical mass of attractions and activities, linking the Glasson-Coosan-Wineport-Killinure-Hodson Bay activity-food nexus; Completion of the National Cycleway and the new bridge that will deliver 'slow tourism' into the core of Athlone town and DZ2; 	<p>Lough Ree SAC 000440</p> <p>Lough Ree SPA 004064</p> <p>Crosswood Bog SAC 002337</p> <p>Carn Park Bog SAC 002336</p> <p>Pilgrim's Road Esker SAC 001776</p> <p>Mongan Bog SPA 004017</p> <p>Fin Lough (Offaly) SAC 000576</p> <p>Middle Shannon Callows SPA 004096</p> <p>River Shannon Callows SAC 000216</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be insufficient prey availability and</p>	<ul style="list-style-type: none"> The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. Ensure water / wastewater infrastructure is in place prior to implementation of the objective. 	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented</p>

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<ul style="list-style-type: none"> Development of the planned cycleway south from Athlone to Clonmacnoise, linking the National Cycleway to the monastic complex; consider cycle links south to Shannonbridge; Completion of the Athlone-Mullingar-Royal Canal circuit to deliver 'active in nature' experiences across the peatlands, directing visitors via Ballymahon-Clondara, thence to Portlick - Athlone. Develop an enhanced range of cruise options, boating and guided tours from Athlone waterfront linked to onshore attractions (islands, monastic sites, activity centres, bike tours) and hinterland. 	River Suck Callows SPA 004097: Fortwilliam Turlough SAC 000448	breeding habitat elsewhere to support those displaced.	<ul style="list-style-type: none"> Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites. 	
DZ2.5 Improvement of the Visitor Centre at the Corlea Iron Age Trackway	None	Development of an improvement plan is not in itself anticipated to affect any Natura 2000 sites	N/A	N/A

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<ul style="list-style-type: none"> Prepare an improvement plan for the centre which would explore the expansion of its story and experience to include the Iron Age in Ireland¹. 				
<p>DZ2.6 Surf in the Turf – Surf Wave Centre</p> <ul style="list-style-type: none"> Prepare a Feasibility Study to explore the potential of developing Ireland's first artificial Surf Wave Centre on a cutaway bog powered by renewable energy. 	None	Development of a feasibility study is not in itself anticipated to affect any Natura 2000 sites	N/A	N/A
Discovery Zone 3: Lower Shannon Lough Derg & Lower Shannon				
<p>DZ3.1 Ardnacrusha – Feasibility Study for redevelopment of Visitor Centre and Visitor management- (subject to ESB approvals & collaboration)</p> <ul style="list-style-type: none"> Provision of reconfigured visitor facilities, to accommodate larger groups. Assessment of transport options by land and water to and from site. 	<p>Lower River Shannon SAC 002165</p> <p>Lough Derg, North-East Shore SAC 002241</p> <p>Lough Derg (Shannon) SPA 004058</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be</p>	<ul style="list-style-type: none"> The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. 	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented</p>

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<ul style="list-style-type: none"> Options to consider on-water and beside-water development links with service hubs upstream and downstream, inclusive of Limerick, O'Brien's Bridge, Killaloe/ Ballina, Lough Derg. 		<p>insufficient prey availability and breeding habitat elsewhere to support those displaced.</p>	<ul style="list-style-type: none"> Ensure water / wastewater infrastructure is in place prior to implementation of the objective. Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites. 	
<p>DZ3.2 Develop enhanced Castlelough & Portroe Lookout; Active Amenity Zone & Slow Travel Interchange</p> <ul style="list-style-type: none"> Enhance the amenity zone at Castlelough Bay & Woods with safe swimming/ boating/ canoeing access; linking to iconic Portroe Lookout; facilities to enhance visitor experience. 	<p>Lough Derg, North-East Shore SAC 002241 Lough Derg (Shannon) SPA 004058</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be</p>	<ul style="list-style-type: none"> The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. 	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented</p>

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<ul style="list-style-type: none"> Enhanced links to Castlelough Woods onwards to Ballina/Killaloe (south) and Garrykennedy / Dromineer (north) along Lough Derg Way and/ or by boat along the lake. 		<p>insufficient prey availability and breeding habitat elsewhere to support those displaced.</p>	<ul style="list-style-type: none"> Ensure water / wastewater infrastructure is in place prior to implementation of the objective. Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites. 	
<p>DZ3.3 Feasibility Study for Development of 'Shannon Greenway'</p> <ul style="list-style-type: none"> Linking Limerick, via Clonlara, Ardnacrusha, O'Brien's Bridge, Killaloe/Ballina, Tuamgraney and Scariff* Utilise public lands (canals, forests, amenity zones) where possible. <p>*Consider future links to Mountshannon, with direct links to Iniscealtra Visitor experience.</p>	<p>Lower River Shannon SAC 002165</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be</p>	<ul style="list-style-type: none"> The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. 	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented</p>

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		<p>insufficient prey availability and breeding habitat elsewhere to support those displaced.</p>	<ul style="list-style-type: none"> Ensure water / wastewater infrastructure is in place prior to implementation of the objective. Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. <p>Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites.</p>	
<p>DZ3.4 Implementation of the Iniscealtra Visitor Management Plan</p>	<p>Lower River Shannon SAC 002165 Lough Derg, North-East Shore SAC 002241 Lough Derg (Shannon) SPA 004058</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be</p>	<ul style="list-style-type: none"> The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. 	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented.</p>

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<ul style="list-style-type: none"> It is strongly recommended that the recommendations of the VMP for Iniscealtra (Holy Island) be expedited as soon as possible. Critically the development of a Visitor Centre at Mountshannon, with guided access to the island, will provide a springboard for a unique visitor experience in the East Clare corridor adjacent to the Shannon, from Killaloe, to Tuamgraney (St. Cronan's), Scariff and Mountshannon, and northwards towards Portumna. Development of potential cross-Shannon visitor boating links from other villages around Lough Derg to Iniscealtra Visitor Centre and island experience. 		<p>insufficient prey availability and breeding habitat elsewhere to support those displaced.</p>	<ul style="list-style-type: none"> Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. Ensure water / wastewater infrastructure is in place prior to implementation of the objective. Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites. 	

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<p>DZ3.5: Portumna Attractions - Integrated Tourism Development Plan</p> <ul style="list-style-type: none"> Prepare an integrated tourism development plan incorporating Portumna Castle, Forest Park, Harbour, Friary and Portumna Town, to ensure that the visitor experience and yield is greater than the sum of the parts. 		<p>Lower River Shannon SAC 002165</p> <p>Lough Derg, North-East Shore SAC 002241</p> <p>Lough Derg (Shannon) SPA 004058</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be insufficient prey availability and breeding habitat elsewhere to support those displaced.</p>	<ul style="list-style-type: none"> The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. Ensure water / wastewater infrastructure is in place prior to implementation of the objective. Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites. 	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented</p>

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<p>DZ3.6 Link to Lough Derg Destination Development Plan (LDDDP) proposals</p> <ul style="list-style-type: none"> All Lower Shannon experience development initiatives around Lough Derg should be aligned to the Destination Strategy and VEDP currently in progress. Support proposals for a network of camping/ RV sites, in suitable locations around Lough Derg. Development of Dromineer Sailing Training Hub, as centre of excellence for sail training and national and international sailing events, through enhanced experience development. 	<p>Lower River Shannon SAC 002165</p> <p>Lough Derg, North-East Shore SAC 002241</p> <p>Lough Derg (Shannon) SPA 004058</p> <p>Kilcarren-Firville Bog SAC 000647</p> <p>Barroughter Bog SAC 000231</p> <p>Rosturra Wood SAC 001313</p> <p>Pollnaknockaun Wood Nature Reserve SAC 000319</p> <p>Derrycrag Wood Nature Reserve SAC 000261</p> <p>Slieve Bernagh Bog SAC 002312</p> <p>Slieve Aughty Mountains SPA 004168</p> <p>Glenomra Wood SAC 001013</p> <p>Cloonmoylan Bog SAC 000248</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be insufficient prey availability and breeding habitat elsewhere to support those displaced.</p>	<ul style="list-style-type: none"> The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. Ensure water / wastewater infrastructure is in place prior to implementation of the objective. Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. <p>Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites.</p>	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented</p>

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<ul style="list-style-type: none"> Creation of linked boating experiences; support enterprises and clubs to deliver linked visitor experiences at destinations around the lake; build on stories such as Brian Ború; Iniscealtra and the pilgrim experience; and trade on the Mighty Shannon; that leverage existing strengths. 				
Shannon: Strategic Initiatives				
Strategic Initiative 1: Communicating a Clear & Consistent Message				
SI1.1 Vision for the Shannon aligned with Ireland's Hidden Heartlands: <ul style="list-style-type: none"> Develop consistent communications and interpretation to reflect the shared vision, aligned with that of Ireland's Hidden Heartlands (IHH). All local authorities and statutory authorities to embrace and reflect this shared vision across all print and digital media platforms. 	None	Development of a vision is not in itself anticipated to affect any Natura 2000 sites	N/A	N/A

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SI1.2 Develop distinctive visual representation for Shannon: <ul style="list-style-type: none"> Design a series of distinctive cascading logos to reflect the embedded, inter-linked nature of the IHH, Shannon and three Discovery Zones. 	None	Development of logos is not in itself anticipated to affect any Natura 2000 sites	N/A	N/A
SI1.3 Shannon Integrated Interpretation Strategy and Design Guide: <ul style="list-style-type: none"> Develop Guide for co-ordinated landscape-scale interpretation for the Shannon, including interventions for interpretation for all stages of the visitor journey. Prepare detailed guidelines on appropriateness and use of a range of interpretation media and methods 	None	Development of a guide as described is not in itself anticipated to affect any Natura 2000 sites	N/A	N/A
SI1.4 Interpretation Planning: <ul style="list-style-type: none"> All new experience and interpretation developments should include an Interpretation Plan aligned to the Shannon Integrated Interpretation Strategy. 	None	Development of interpretation plans is not in itself anticipated to affect any Natura 2000 sites	N/A	N/A

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SI1.5 Shannon Visitor Experience and Interpretation Toolkit:		None	Development of tool kits for local providers is not in itself anticipated to affect any Natura 2000 sites	N/A	N/A
<ul style="list-style-type: none"> Develop toolkit with linked training and supports for local providers and local guides should be developed to support shared standards of high-quality interpretation across the Shannon region. 					
SI1.6 Environmental Code of Conduct:		None	Development of a code of conduct is not in itself anticipated to affect any Natura 2000 sites.	N/A	N/A
<ul style="list-style-type: none"> Develop a Code of Conduct to highlight and encourage positive behaviours that reflect care for the Shannon environment for local people and visitors. This should be accompanied by research and monitoring of visitor behaviours, beliefs and motivations. 					
SI1.7 Marketing Requirements:		None	Development of a marketing strategy is not in itself anticipated to affect any Natura 2000 sites	N/A	N/A

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<ul style="list-style-type: none"> Integrated Marketing Strategy and allied resourcing, closely aligned with the themes and experiences proposed in the Masterplan. Align with promotion and marketing of Ireland’s Hidden Heartlands as part of an integrated thematic communications strategy for the region. 				
Strategic Initiative 2: Enhancing the On-Water Visitor Experience				
SI2.1 Cruising/ Day-Boating/ Passenger Cruising: <ul style="list-style-type: none"> Carry out techno-economic feasibility study to examine viable rejuvenation & greening options for the cruise hire fleet; increase on-water access options through day-boat /passenger cruising 	None	Conducting a feasibility study is not in itself anticipated to affect any Natura 2000 sites	N/A	N/A

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<p>SI2.2 Development of an additional Cruise Hire Hub(s) to ‘spread’ the options for on-water experiences.</p> <ul style="list-style-type: none"> Options to be assessed for technical, commercial and environmental feasibility including Tarmonbarry / Clondara, Killaloe, Athlone on Shannon and Ballinamore on Shannon-erne Waterway. 	<p>All 42 Natura 2000 sites depending on the location of infrastructure and activities.</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be insufficient prey availability and breeding habitat elsewhere to support those displaced.</p>	<ul style="list-style-type: none"> The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. Ensure water / wastewater infrastructure is in place prior to implementation of the objective. Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites. 	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented.</p>

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<p>SI2.3 Marina Development:</p> <ul style="list-style-type: none"> Technical Assessment of Marina capacity to establish requirements for additional jetty space; consider options of Carrick-on-Shannon; Hodson Bay; Connaught Harbour; and new Marina in Parteen/Clarisford. Consider enhanced jetty capacity up-and down-stream of Clonmacnoise at Athlone and Shannonbridge. Review shore-based Service Block provision; assess potential use of smart technologies to enhance delivery and monitoring of usage patterns. 	<p>All 42 Natura 2000 sites depending on the location of infrastructure and activities depending on the location of infrastructure and additional number of tourists attracted to the area. The Natura 2000 sites closest to waterways and Marina locations are most at risk of effects..</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be insufficient prey availability and breeding habitat elsewhere to support those displaced.</p>	<ul style="list-style-type: none"> The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. Ensure water / wastewater infrastructure is in place prior to implementation of the objective. Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites. 	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented.</p>

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<p>SI2.4 Water-Based Activities & Adventure:</p> <ul style="list-style-type: none"> Provide timely visitor information on range of 'soft adventure' activities (swimming, rowing, sailing, kayaking, waterskiing etc), where to go and amenities within each of the Discovery Zones. Develop improved networking and promotion of family-friendly activity zones (in association with the 'Shannon 100' network). 	<p>All 42 Natura 2000 sites but particularly those with aquatic habitats.</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be insufficient prey availability and breeding habitat elsewhere to support those displaced.</p>	<ul style="list-style-type: none"> The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. Ensure water / wastewater infrastructure is in place prior to implementation of the objective. Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. <p>Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites.</p>	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented.</p>

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<p>SI2.5 Angling:</p> <ul style="list-style-type: none"> Identify angling hubs in association with WWI/ IFI and FI, linked to the Shannon Towns and Villages strategy (SI3). Develop family-friendly angling experiences, linked to activities in nature. 	<p>All Natura 2000 sites.</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be insufficient prey availability and breeding habitat elsewhere to support those displaced.</p>	<ul style="list-style-type: none"> The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. Ensure water / wastewater infrastructure is in place prior to implementation of the objective. Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. <p>Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites.</p>	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented.</p>

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<p>SI2.6 Blueways:</p> <ul style="list-style-type: none"> The accreditation of the existing trails should be carried out with a view to supporting the promotion and optimisation of the existing and newly developed Blueway network over the medium term. 	None	Accreditation of trails is not in itself anticipated to affect any Natura 2000 sites	N/A	N/A
<p>SI2.7 Tranquillity Zones:</p> <ul style="list-style-type: none"> Pilot selected sites on the Shannon as tranquillity zones in the short term, with a view to extending along Shannon water bodies over the lifetime of the Masterplan. If successful, protocols will require to be developed. 	All 42 Natura 2000 sites	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be insufficient prey availability and breeding habitat elsewhere to support those displaced.</p>	<ul style="list-style-type: none"> The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. Ensure water / wastewater infrastructure is in place prior to implementation of the objective. Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. 	It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented.

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<p>SI2.8 Small Scale Accommodation Options:</p> <ul style="list-style-type: none"> Define appropriate locations using a criteria-based approach, linked to Shannon Towns and Villages. Consider options for e.g. floating pods; glamping; & camp-sites; serviced parking and amenities for recreational vehicles. 	<p>All 42 Natura 2000 sites</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be insufficient prey availability and breeding habitat elsewhere to support those displaced.</p>	<ul style="list-style-type: none"> The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. Ensure water / wastewater infrastructure is in place prior to implementation of the objective. Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. 	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented.</p>

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Strategic Initiative 3: Enhancing the Waterside Visitor Experience				
<p>SI3.1 Reimagining Harbour Facilities through Sustained Investment Programme:</p> <ul style="list-style-type: none"> A programme of investment in harbour infrastructure will be developed to include the upgrade of some harbours, the opening of new destinations and the possible restoration of some waterways. Enhancements of waterfront public realm, amenities and provision of onshore services, charging, pump out and power facilities; use smart technologies. 	<p>All 42 Natura 2000 sites but this will be dependant on the location of infrastructure and additional number of tourists attracted to the area. The sites closest to waterways and harbour locations are most at risk of effects.</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be insufficient prey availability and breeding habitat elsewhere to support those displaced.</p>	<ul style="list-style-type: none"> The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. Ensure water / wastewater infrastructure is in place prior to implementation of the objective. 	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented.</p>

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<ul style="list-style-type: none"> Use existing public infrastructure to stimulate enterprises and community activity Enhanced BBQ, picnic and playground amenities at harboursides on public lands.; Create walk/cycle recreational linkages to settlements, attractions and things to see and do. Provision of serviced camping/ pod/ RV parking at harboursides. <ul style="list-style-type: none"> Sustained investment in the harbour infrastructure to facilitate growth in tourism. 			<ul style="list-style-type: none"> Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites. 	
<p>SI3.2 Nature-Viewing in Forests & Hinterlands:</p> <ul style="list-style-type: none"> Identify potential for enhanced family-friendly outdoor recreational amenities and nature viewing experiences in the Forest Parks that punctuate the Shannon Corridor. 	<p>All 42 Natura 2000 sites.</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p>	<ul style="list-style-type: none"> The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. 	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented.</p>

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<ul style="list-style-type: none"> Strengthen and promote access to nature along the Beara Breifne Way, Famine Way and emerging Pilgrim Way, to provide opportunities for visitors to enjoy spectacular scenery while engaging with nature in the Shannon / Shannon Erne Waterway hinterlands. 		<p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be insufficient prey availability and breeding habitat elsewhere to support those displaced.</p>	<ul style="list-style-type: none"> Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. Ensure water / wastewater infrastructure is in place prior to implementation of the objective. Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites. 	
<p>SI3.3 Revitalisation of Lesser Used Waterways</p> <ul style="list-style-type: none"> There is an opportunity to identify and consider measures to increase visitors and activity on waterways such as the Shannon Erne Waterway (SEW), the River Suck, the Boyle Canal and the Limerick Navigation, as well as the Royal and Grand Canals. 	<p>All 42 Natura 2000 sites.</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p>	<ul style="list-style-type: none"> The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. 	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented.</p>

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<ul style="list-style-type: none"> This can be achieved by refocussing promotional efforts as well as revitalising their potential for waterside, on-water and blueway experiences. 		<p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be insufficient prey availability and breeding habitat elsewhere to support those displaced.</p>	<ul style="list-style-type: none"> Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. Ensure water / wastewater infrastructure is in place prior to implementation of the objective. Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites. 	
<p>SI3.4 Reimagining Historic Buildings & Canal Structures</p> <ul style="list-style-type: none"> Define appropriate locations and opportunities for refurbishment of historic Shannon buildings, using a criteria-based approach, linked to Destination Hub Towns and Villages strategies. 	<p>All 42 Natura 2000 sites.</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p>	<ul style="list-style-type: none"> The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. 	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented.</p>

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		<p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be insufficient prey availability and breeding habitat elsewhere to support those displaced.</p>	<ul style="list-style-type: none"> • Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. • Ensure water / wastewater infrastructure is in place prior to implementation of the objective. • Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. • Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. • Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites. 	
Strategic Initiative 4: Shannon Towns and Villages				
<p>SI4.1 Shannon Hubs</p> <ul style="list-style-type: none"> • Enhance their existing role as hub towns within the Discovery Zones; • Expand visitor infrastructure aligned with carrying capacity of residential population; • Improve urban layout & public realm for better integration with the Shannon and SEW; 	<p>All 42 Natura 2000 sites.</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p>	<ul style="list-style-type: none"> • The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. 	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented.</p>

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<ul style="list-style-type: none"> • Provide a wider range of on-the-water and links to beside-water activities; and • Anchor and enhance access linkages with key attractions and proposed projects within the towns' hinterlands in the relevant Discovery Zone. • Where not already in place, Shannon-themed visitor experience development plans (VEDPs) should be prepared for these hubs. 		<p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be insufficient prey availability and breeding habitat elsewhere to support those displaced.</p>	<ul style="list-style-type: none"> • Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. • Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. • Ensure water / wastewater infrastructure is in place prior to implementation of the objective. • Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. • Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. • Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites. 	
<p>SI4.2 Shannon Towns</p>	<p>All 42 Natura 2000 sites.</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p>	<ul style="list-style-type: none"> • The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. 	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented.</p>

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<ul style="list-style-type: none"> Each smaller town has the potential to develop and explore tourism opportunities provided by their physical proximity to the Shannon. While the Masterplan has identified some development opportunities in relation to each of these settlements, further analysis is required. Where not already in place, Shannon-themed Visitor Experience Development Plans (VEDPs) should be prepared for the Hubs. 		<p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be insufficient prey availability and breeding habitat elsewhere to support those displaced.</p>	<ul style="list-style-type: none"> Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. Ensure water / wastewater infrastructure is in place prior to implementation of the objective. Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites. 	
<p>SI4.3 Shannon Villages</p> <ul style="list-style-type: none"> Improve interface between waterway and public realm; wayfinding, playground, BBQ facilities Assess provision of walks along rivers and lakes, within a short distance from mooring or jetty 	<p>All 42 Natura 2000 sites.</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p>	<ul style="list-style-type: none"> The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. 	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented.</p>

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<ul style="list-style-type: none"> Facilitate increased availability of berthage for visiting boats Facilitate opportunities to access on-water recreation and boating on a short term basis Accommodate signature points of interest, including a Shannon Sculpture Trail, with linked greenways, cycle trails. 		<p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be insufficient prey availability and breeding habitat elsewhere to support those displaced.</p>	<ul style="list-style-type: none"> Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. Ensure water / wastewater infrastructure is in place prior to implementation of the objective. Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites. 	
<p>SI3.4 Shannon Festivals and Events</p>	<p>All 42 Natura 2000 sites.</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p>	<ul style="list-style-type: none"> The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. 	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented.</p>

Shannon Tourism Masterplan Objectives	Natura 2000 sites likely to be affected	Effects of the Objective on Natura 2000 sites	Mitigation Measures	Effect of the Mitigation Measures
<ul style="list-style-type: none"> Develop an integrated calendar of Shannon-themed festivals, centred on water, culture, arts, foods, music and activities that allow visitors to experience the full range of Shannon's unique culture and heritage. Working with the Shannon 100 enterprise and community networks (SI7), to provide support to professionalise, enhance and grow a series of internationally attractive festivals delivering highest quality experiences to visitors. 		<p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be insufficient prey availability and breeding habitat elsewhere to support those displaced.</p>	<ul style="list-style-type: none"> Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. Ensure water / wastewater infrastructure is in place prior to implementation of the objective. Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites. 	
<p>Strategic Initiative 5: Protecting & Enhancing the Shannon Environment</p>				

Shannon Tourism Masterplan Objectives	Natura 2000 sites likely to be affected	Effects of the Objective on Natura 2000 sites	Mitigation Measures	Effect of the Mitigation Measures
<p>SI5.1 Adopting an Ecotourism Approach</p> <ul style="list-style-type: none"> Establishing a ecotourism toolkit for tourism businesses and code of practice will be essential to becoming a sustainable tourism destination. Develop 'slow tourism' opportunities, allowing visitors to enjoy activities and nature at a slower pace, building appreciation of Shannon's hidden places. 	<p>All 42 Natura 2000 sites.</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be insufficient prey availability and breeding habitat elsewhere to support those displaced.</p>	<ul style="list-style-type: none"> The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. Ensure water / wastewater infrastructure is in place prior to implementation of the objective. Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites. 	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented.</p>

Shannon Tourism Masterplan Objectives	Natura 2000 sites likely to be affected	Effects of the Objective on Natura 2000 sites	Mitigation Measures	Effect of the Mitigation Measures
<p>SI5.2 Destination Development and Rewilding Plan</p> <ul style="list-style-type: none"> To develop access to Shannon Peatlands as well as rewilding, regeneration and recreational proposals 	<p>All 42 Natura 2000 sites.</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be insufficient prey availability and breeding habitat elsewhere to support those displaced.</p>	<ul style="list-style-type: none"> The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. Ensure water / wastewater infrastructure is in place prior to implementation of the objective. Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites. 	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented.</p>

Shannon Tourism Masterplan Objectives	Natura 2000 sites likely to be affected	Effects of the Objective on Natura 2000 sites	Mitigation Measures	Effect of the Mitigation Measures
<p>SI5.3 UNESCO Biosphere for Lough Ree & Environs</p> <ul style="list-style-type: none"> Explore the potential for a UNESCO Biosphere Designation for Lough Ree and its environs, through consultations and partnership, for delivery of a zonal biosphere that will enhance the environmental status and create opportunities for low impact, nature-based tourism experiences. 	<p>None</p>	<p>Investigation of the potential for a UNESCO Biosphere Designation is not in itself anticipated to affect any Natura 2000 sites</p>	<p>N/A</p>	<p>N/A</p>
Strategic Initiative 6: Improving Connectivity				
<p>SI6.1 Encouraging Sustainable & Slow Travel</p> <ul style="list-style-type: none"> Implement multi-model slow and sustainable travel options throughout Shannon/ Shannon Erne Waterway over the lifetime of the masterplan. Encourage On-Water slow travel links within & between Discovery Zones. 	<p>All 42 Natura 2000 sites.</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be insufficient prey availability and</p>	<ul style="list-style-type: none"> The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. 	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented.</p>

Shannon Tourism Masterplan Objectives	Natura 2000 sites likely to be affected	Effects of the Objective on Natura 2000 sites	Mitigation Measures	Effect of the Mitigation Measures
		breeding habitat elsewhere to support those displaced.	<ul style="list-style-type: none"> • Ensure water / wastewater infrastructure is in place prior to implementation of the objective. • Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. • Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. • Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites. 	
<p>SI6.2 Priority Walking and Cycling Trails Network</p> <ul style="list-style-type: none"> • Assess the technical and environmental feasibility of developing the priority walking and cycling trails identified in the Masterplan. Provide accessible and safe links from Shannon into hinterlands, with access to peatways and natural environments. 	All 42 Natura 2000 sites.	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be</p>	<ul style="list-style-type: none"> • The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. • Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. • Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. 	It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented.

Shannon Tourism Masterplan Objectives	Natura 2000 sites likely to be affected	Effects of the Objective on Natura 2000 sites	Mitigation Measures	Effect of the Mitigation Measures
<ul style="list-style-type: none"> Develop 'trails of scale' that will direct visitors into the heart of the Shannon, with immersive experience of nature and longer dwell. 		<p>insufficient prey availability and breeding habitat elsewhere to support those displaced.</p>	<ul style="list-style-type: none"> Ensure water / wastewater infrastructure is in place prior to implementation of the objective. Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites. 	
<p>SI6.3 Enhancement of Public Transport Links</p> <ul style="list-style-type: none"> Identify, with the NTA and LCTU, if existing Bus Eireann Regional and local link services can be enhanced during peak visitor period. 	<p>All 42 Natura 2000 sites.</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be</p>	<ul style="list-style-type: none"> The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. 	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented.</p>

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		<p>insufficient prey availability and breeding habitat elsewhere to support those displaced.</p>	<ul style="list-style-type: none"> • Ensure water / wastewater infrastructure is in place prior to implementation of the objective. • Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. • Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. • Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites. 	
<p>SI6.4 Improving Local Link Routes</p> <ul style="list-style-type: none"> • Consider enhanced Local Link routes during peak visitor season <ul style="list-style-type: none"> • Establish the feasibility of developing new Local Link services in collaboration with the NTA and LTCUs. 	<p>All 42 Natura 2000 sites.</p>	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be</p>	<ul style="list-style-type: none"> • The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. • Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. • Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. 	<p>It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented.</p>

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		insufficient prey availability and breeding habitat elsewhere to support those displaced.	<ul style="list-style-type: none"> • Ensure water / wastewater infrastructure is in place prior to implementation of the objective. • Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. • Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. • Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites. 	
<p>SI6.5 Development of a Shannon Discovery Bus Route</p> <ul style="list-style-type: none"> • Consider the feasibility of a Shannon Region Discovery Bus Route by 2025, once visitor numbers, attractions and accommodation have shown a measurable increase. 	All 42 Natura 2000 sites.	<p>Increased surface water run-off and / or emissions of wastewater, sewage and suspended solids due to increase in visitor numbers and recreational activities could result in deterioration of water quality or changes to water chemistry. Such effects could result in the reduction of suitable habitat for species or mortality.</p> <p>Increased movement of people and transport has potential to spread non-native invasive species.</p> <p>Disturbance and displacement of species, such as otter, could affect their populations through reduction in numbers should there be</p>	<ul style="list-style-type: none"> • The design of linkages, paths and cycleways must be prepared with the sensitivities of Natura 2000 sites and the broader ecological environment in mind. Any such proposal must consider the potential for increased disturbance of species, such as otter, due to any increase of human activities near watercourses. Paths and cycleways should be prepared with input from ecologists and planners to ensure there is no risk of adverse effect on Natura 2000 sites. • Ensure that all projects or other means of implementing objectives are subject to ecological survey and assessment irrespective of requirement for planning permission. • Development of biosecurity strategy for the Shannon Masterplan area prior to implementation of objectives. 	It is considered that adverse effects on the integrity of Natura 2000 sites can be avoided or remedied if the mitigation measures proposed are fully implemented.

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		insufficient prey availability and breeding habitat elsewhere to support those displaced.	<ul style="list-style-type: none"> • Ensure water / wastewater infrastructure is in place prior to implementation of the objective. • Require incorporation of biosecurity and pollution prevention measures into all projects or other means of implementing the objective. • Contractors appointed to undertake any construction works in close proximity to the River Shannon or where there is an ecological connection to the Shannon or other Natura 2000 sites will be informed of the sensitivities of these areas. Contractors will be expected to provide site specific method statements detailing measures taken to protect the environment during all phases of works. • Measures to protect the environment will be adopted during construction (and operation as appropriate) to avoid adverse effects on the integrity of Natura 2000 sites. 	
Strategic Initiative 7: Building Enterprise & Community Networks				
SI7.1 Create Tourism Network in each of 3 Discovery Zones:	None	Development enterprise/ community networks is not likely to affect any Natura 2000 sites	N/A	N/A

Shannon Tourism Masterplan Objectives	Natura 2000 sites likely to be affected	Effects of the Objective on Natura 2000 sites	Mitigation Measures	Effect of the Mitigation Measures
<ul style="list-style-type: none"> Establish a commercially driver Tourism Network in each Discovery Zone, comprising key tourism and development interests that reach into the wider Ireland's Hidden Heartland, with private sector Chairperson, in partnership with Local Authorities, FI and WI, to provide strategic direction and support to the enterprise and community networks. 				

CONSIDERATION OF FINDINGS

- 1.67 If the mitigation measures proposed are implemented it is considered that adverse effects on the integrity of the of the 42 Natura 2000 sites can be avoided. Projects arising from the Tourism Masterplan objectives will themselves require assessment under Article 6 of the Habitats Directive. If significant effects on Natura 2000 sites are likely as a result of such projects then they will be required to undergo ‘*appropriate assessment*’ and project specific mitigation measures will be implemented. Waterways Ireland and / or the relevant planning authority will be responsible for ensuring that projects or plans that result from the strategies and objectives of the Tourism Masterplan are also required to undergo Article 6 assessment before they can be permitted or proceed. Waterways Ireland and / or the relevant planning authority will be responsible for ensuring that the mitigation measures proposed are implemented fully for the lifetime of the Tourism Masterplan.
- 1.68 The Shannon Tourism Masterplan is therefore not considered likely to result in adverse effects to the integrity of any of the 42 Natura 2000 sites assuming that the mitigation measures detailed in this report are fully implemented.

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FIGURES

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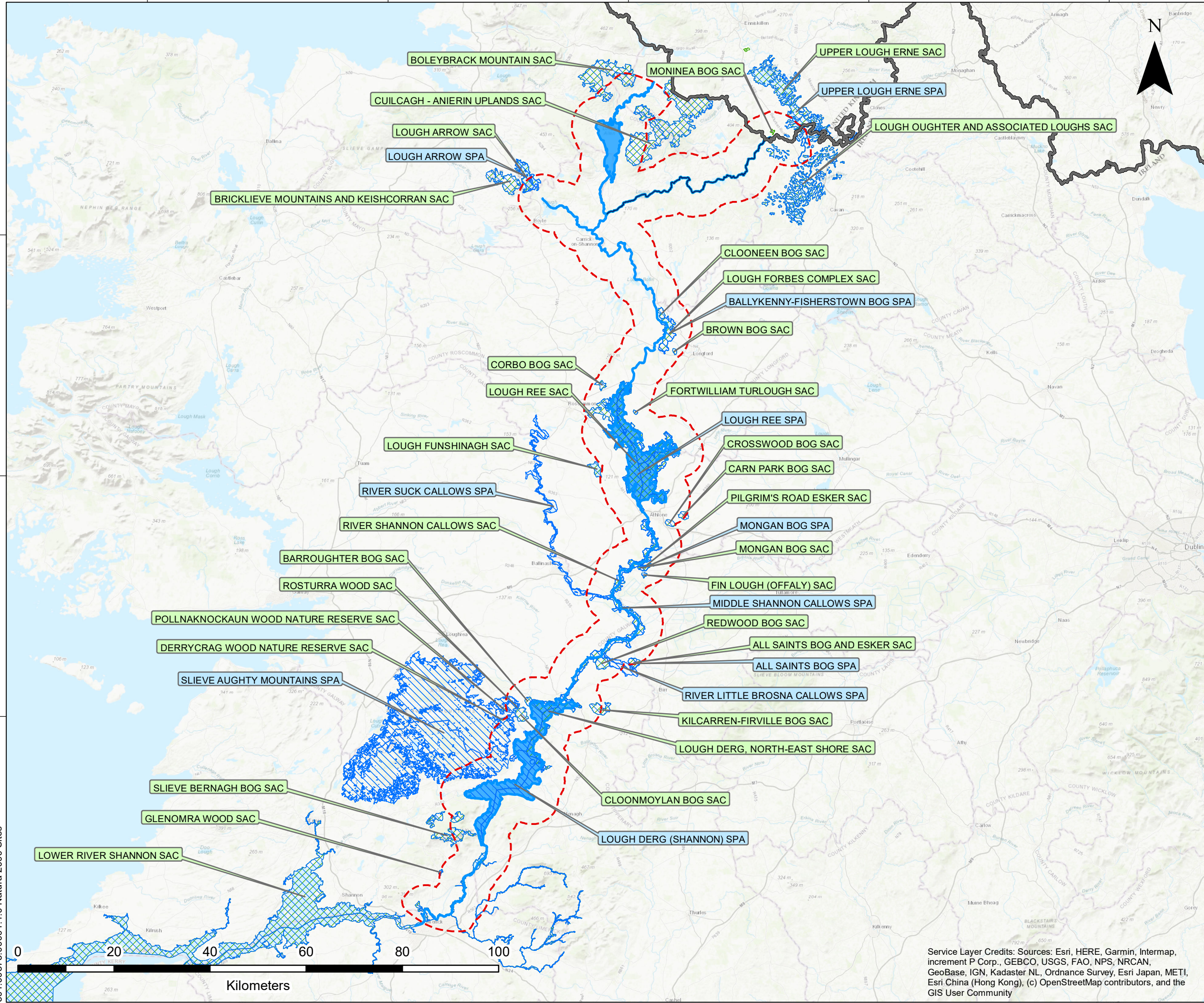
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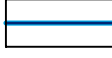
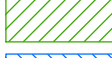

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LEGEND

-  MASTERPLAN BOUNDARY (5km FROM WATERWAY)
-  NATIONAL BOUNDARY
-  RIVER SHANNON - ERNE WATERWAY
-  SPECIAL AREA OF CONSERVATION
-  SPECIAL PROTECTION AREA




Waterways Ireland
Uiscebealaí Éireann Watterweys Ailann



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WATERWAYS IRELAND
TOURISM MASTERPLAN FOR THE SHANNON REGION
NATURA 2000 SITES

FIGURE 1

Scale 1:750,000 @ A3 Date FEBRUARY 2020

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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