

# INIS CEALTRA

## Volume 2

### Strategic Environmental Assessment (SEA) Environmental Report



COMHAIRLE CONTAE AN CHLÁIR  
CLARE COUNTY COUNCIL

Prepared for Clare County Council  
by **Solearth Architecture**

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## 1 Introduction

### 1.1 Purpose of the Non- Technical Summary

This is the Non- Technical Summary of the Final environmental report for the Strategic Environmental Assessment (SEA) of the Inis Cealtra Visitor Management and Sustainable Tourism Plan (the Plan). The purpose of the SEA is to formally and systematically assess the likely significant effects of implementing a plan or programme, in this instance the Inis Cealtra Visitor Management and Sustainable Tourism plan.

The Environmental Report identifies the significant environmental effects of the plan on the environment and where significant effects are identified, recommends appropriate measures to avoid or reduce such effects. As the plan is being prepared the SEA identifies and influences proposals, particularly through avoiding areas of greatest environmental sensitivity. This Environmental Report forms part of the SEA process, documents the SEA process and is the key consultation document in the SEA process as it facilitates interested parties to comment on the environmental issues associated with the plan itself. ***Where the plan and this ER have been updated in light of the consultation process, additional text is presented in italic and bold font.*** In addition, where new changes have been proposed to the plan following consultation, these have been screened under the SEA and Habitats Directive Assessment, this screening report is presented in Addendum B of the full SEA ER.

### 1.2 Background and Context

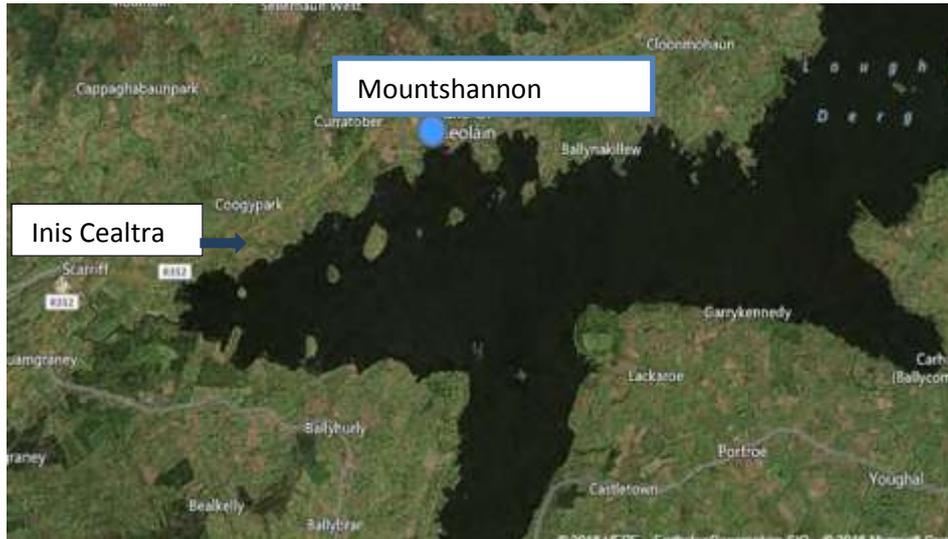
Inis Cealtra is a 20 hectare (50 acre) island located in Scariff Bay on the south-west part of Lough Derg between County Clare and County Galway. The closest village to the island is Mountshannon in Co. Clare, and boat access is available from the both the village marina, and from Knockaphort Pier on the shore near the island

Inis Cealtra is also known as Holy Island. The island has a rich history and is associated with a number of early saints, the ecclesiastical site having been founded in the 6th or 7th century. A variety of ecclesiastical architectural ruins are present on the island. Brian Boru and his sept, the O'Briens (Uí Briain), were intimately connected with Inis Cealtra. The island is much loved and regularly used by the local communities, including for family burials in the cemeteries that remain in use there. The Island contains a major medieval complex which, due to its relatively inaccessible island location, is in a good state of preservation. Inis Cealtra has been included on the UNESCO World Heritage Tentative List as part of a serial nomination that includes other important early Christian sites in Ireland including Glendalough, Co. Wicklow and Clonmacnoise, Co. Offaly. The island is also within an area of international biodiversity importance, and lies amidst some of the most significant sites of religious heritage in Ireland. There is no population resident on the island.

The island is now entirely in public ownership with Clare County Council's purchase of lands in recent years and the Office of Public Works' ownership of the National Monuments on the island. The need for a flagship visitor attraction in Lough Derg has long been recognised, and the Council considers that developing the potential of this unique heritage site represents an excellent opportunity of achieving this. Recognition of the sensitivities of this site, in terms of natural, built and cultural heritage are of paramount importance and Clare County Council is cognisant of the need to progress this project in a considered and sustainable manner. The

preparation of this plan for the Island has been commissioned by Clare County Council with the intention of achieving this overall objective. Figure 1 shows the location of Inis Cealtra and Mountshannon on Lough Derg, Co. Clare.

Figure 1 Inis Cealtra and Mountshannon, Co Clare



### 1.3 Plan Structure and Summary

The brief, as given by Clare County Council, was to prepare a Visitor Management and Sustainable Tourism Development Plan for Inis Cealtra which would provide a series of recommendations and objectives in relation to the following:

- Statement of Significance of the importance of the island (provided in Chapter 2 of the plan).
- Proposals for the future sustainable management and protection of Inis Cealtra including consideration of archaeology, landscape, wildlife conservation and cultural heritage, and how they inform visitor management (provided in Chapter 3 of the plan).
- Proposals on the provision of tourism facilities on or near the Island (provided in Chapter 3 of the plan).
- Proposals in relation to improving access to the Island (provided in Chapter 3 of the plan).
- Proposals on marketing and promotion of the Island as a visitor destination (provided in Chapter 4 of the Plan and Chapter 6 of Appendix 1).
- Public and stakeholder consultation in the formulation of the Plan (detailed in Chapter 7 of Appendix 1 of the plan).
- Implementation strategy for visitor management and sustainable tourism development on Inis Cealtra (set out in in Chapter 5 of the plan).

A number of appendices also accompany the plan including Appendix 2 containing the full SEA Environmental Report, and Appendix 3 containing the Natura Impact Report which documents the appropriate assessment process please see Section 2 for more detail.

## 2 Contents of SEA Environmental Report

### 2.1 Approach to the SEA.

The SEA has been carried out alongside the plan preparation. In addition to the strategic environmental assessment, a more focused environmental assessment, prepared under the EU Habitat Directive has also been undertaken. This is called appropriate assessment and this looks at the potential effects of the plan on particular natural heritage designations -Special Areas of Conservation and Special Protection Areas. As Lough Derg is an internationally important lake for a number of bird species and their supporting wetland habitats, the appropriate assessment assessed the potential effect of the plan on these bird species and habitats. A separate report is available that presents this appropriate assessment- a Natura Impact Report. The findings of the appropriate assessment must be included in the plan and the SEA. Table 1 below sets out the stages in the SEA process and how these relate to the plan preparation so far.

**Table 1 Stages in the SEA and Plan preparation process**

Stage of SEA	Plan
<b>Stage 1 Screening</b>	<p>The purpose of this stage is to find out if the plan requires full strategic environmental assessment. It does this by assessing the environmental considerations and emerging plan against a number of criteria listed in the SEA directive and Irish regulations.</p> <p>The SEA Screening found that likely significant effects on the environment, particularly in terms of archaeology and cultural heritage, landscape and ecology could arise in relation to the plan. The draft SEA Screening report was issued to statutory bodies such as the Environmental Protection Agency (EPA) and the Department of Arts, Heritage, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.</p> <p>This screening stage determined that the plan would require full SEA and it proceeded to the next stage- Scoping.</p>
<b>Stage 2 Scoping</b>	<p>The purpose of this stage is to work out what environmental topics and issues should be included in the SEA. The Scoping report was issued to statutory bodies and a meeting was also held with the EPA and National Parks and Wildlife Service to discuss the potential environmental issues, baseline information, and approach to the SEA.</p>
<b>Stage3 Environmental Report-</b>	<p>The Environmental Report tells the story of how the plan has been developed and how environmental considerations have been addressed and included during the plan preparation process. The appropriate assessment is also discussed in the Environmental Report.</p> <p>This report is the main consultation document of the SEA process and was on display alongside the plan and the appropriate assessment report, called the Natura Impact Report.</p>
<b>Stage 4 SEA Statement</b>	<p>This is the final output of the SEA process and tells the story of the SEA process. It is prepared once the plan is finalised and endorsed by Clare County Council.</p>

## 2.2 Relationship to other relevant plans and programmes.

Under the SEA Directive, the relationship between the plan and other relevant plans and programmes must be taken into account. A review of the relevant plans and programmes can be found in Appendix A of the SEA ER.

The plan is a non- statutory plan and will help inform Clare County Council in its future management of the island. The preparation of the plan must be considered within the context of a hierarchy of policies, plans and strategies which include international, national, regional and local level policy documents. These documents set the policy framework within which the plan will operate.

The Clare County Development Plan (CDP) 2017-2023 will operate as the primary land use framework for the county and therefore the plan, as such key policies/objectives and environmental protective objectives and policies of the plan will be applied during plan implementation stage. The main environmental protection and tourism related objectives from the above CDP have been included in the SEA ER and the plan to show the environmental protection measures that will apply in the implementation of the plan.

## 2.3 Current Environmental Baseline.

Baseline information was gathered during the plan, this included field surveys, ecological surveys, archaeological research and condition surveys. An overview of the key environmental baseline is presented below:

### 2.3.1 The plan area and the sphere of influence.

**The plan area** covers the Island of Inis Cealtra and the shoreline, the village of Mountshannon and the access route across Lough Derg to and from Mountshannon Harbour to Inis Cealtra.

**The sphere of influence** varies according to the environmental topic being described. For example, built heritage might be confined to a street or specific sites, whereas water resources such as rivers or lakes are larger in scope and can be influenced by activities at a larger scale.

Overall, the sphere of influence is presented in Figure 2 and is based on the following:

- Acknowledgement of the access links between Mountshannon/Knockphort and Inis Cealtra
- Visitor management and visitor centre siting around the Mountshannon Area
- Regional Roads of RR463 and R352 provides an accessible boundary and covers a scenic road designation in the Clare CDP.
- The cluster of drowned drumlins of which Inis Cealtra is one and consistency of limestone bedrock between Inis Cealtra and neighbouring islands within this area;
- The landpoints between Aughinish Point near Ogonnoloe (southern point) and Inishparran Point (northern point).

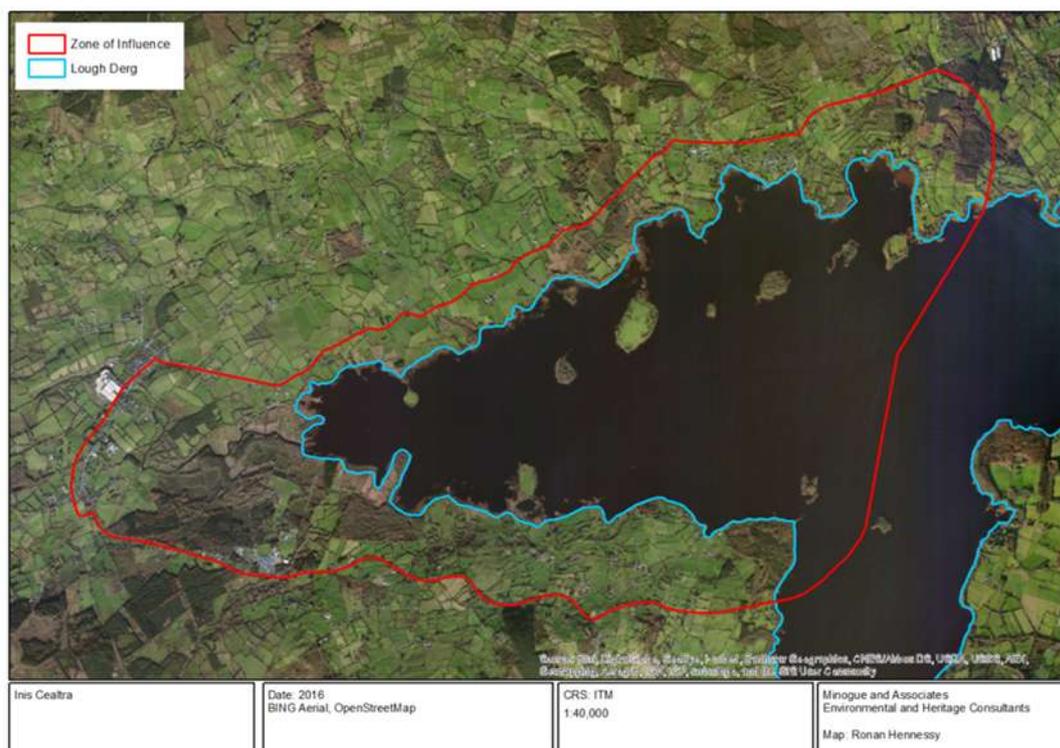


Figure 2 Inis Cealtra Plan Area and Sphere of influence.

#### 2.4 Cultural heritage- archaeology, built heritage and intangible cultural heritage

Inis Cealtra hosts a major medieval ecclesiastical complex as well as evidence for post-medieval and modern pilgrimage and burial. It is one of a number of major ecclesiastical sites dating to the early medieval period (c.400–c.1200) located on the Shannon, Ireland’s premier waterway, including Clonmacnoise and Clonfert further upriver, Tuamgraney and Killaloe downriver, and Terryglass, Lorrha, Birr, and Roscrea to the east across the lake. The site was prominent in its early stages, though little is visible above ground from this period.

By the 11th century, the site had become particularly powerful on a regional level, supporting a relatively large and diverse community as a powerhouse of prayer, learning, industrial activity, and political intrigue. The carved stone and sculptures from this period are of an exceptional size and level of preservation, while most of the visible stone buildings date from the 11th–12th centuries, when the local Dál Cais, and specifically the Uí Briain, strategically invested in the site.

At the dawn of the late medieval period (c.1200–c.1500) Inis Cealtra was still at the apex of its wealth and power, but like many other early ecclesiastical sites its’ political importance dwindled with shifting power structures, predominantly as a result of the decline in Uí Briain dominance, that led to its gradually becoming more of a focus for local pastoral care. During this period, however, and certainly by the dawn of the post-medieval period (c.1500–present) Inis Cealtra compounded its reputation as a pilgrimage destination of not only regional but European-wide renown. The 17th century brought a pause to ecclesiastical life on Inis Cealtra and other sites, but from the 18th century the island continued to be of importance on a regional level as a pilgrimage site while also continuing to be used for burial by locals into the modern period. The island also sustained limited habitation during this period.



Plate 1 St Caimin's Church and Round tower, Lawrence Photographic collection (National library of Ireland)

The monuments are focused on the eastern side of the island and include the following:

- four pre-1200 churches,
- a round tower,
- an exceptionally large body of early medieval cross-slabs and grave-slabs (much of which is still *in situ*),
- high crosses and cross fragments, cross-bases, small crosses,
- sundials,
- bullaun stones,
- a shrine complex,
- a holy well,
- a range of earthworks and routeways dating from the early medieval period onwards,
- a post-medieval church and children's burial ground on a probable early medieval church site,
- three graveyards with some rare 17<sup>th</sup>- and 18<sup>th</sup>-century grave memorials, and
- other post-medieval and modern grave monuments.

In addition to the archaeological resources, architectural heritage through buildings or groups of structures are also important. Mountshannon village has a number of buildings listed on the Record of Protected Structures. Other features such as industrial heritage, farm gates, piers and vernacular cottages, although not automatically protected, contribute to the local character of an area.

Ireland recently ratified the Convention for the Safeguarding of the Intangible Cultural Heritage<sup>1</sup>. The term is defined as follows:

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<sup>1</sup> This reference to intangible cultural heritage and Ireland's ratification of the convention was raised by the Heritage Council through the SEA Scoping process.

*“intangible cultural heritage” means the practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognize as part of their cultural heritage. This intangible cultural heritage, transmitted from generation to generation, is constantly recreated by communities and groups in response to their environment, their interaction with nature and their history, and provides them with a sense of identity and continuity, thus promoting respect for cultural diversity and human creativity. For the purposes of this Convention, consideration will be given solely to such intangible cultural heritage as is compatible with existing international human rights instruments, as well as with the requirements of mutual respect among communities, groups and individuals, and of sustainable development.”*

In the context of Inis Cealtra this relates most clearly to the ritual practices and beliefs as well as folklore and local history associated with the island and environs. The island still contains a number of burial plots and continues to function as a spiritual location with masses and burials taking place occasionally. In addition, a cillín (children’s graveyard) associated with St Michael’s church is present on the island.

For other visitors to the island, the historical landscape and remains of ancient human activity confers a particular and sacred sense of place to the island.

Given the length of human activity and practices on the island, there are numerous folklore and oral history narratives. This living landscape is an important element and consideration for the plan area.

**Plate 2 Pilgrims Path running east-west from St Michael’s church to St Caimin’s (C.O’Leary)**



### **Existing issues –Cultural Heritage**

The following archaeological vulnerabilities were identified and further detail on same are provided in the main plan document.

- Lack of cohesion and communication between the two bodies who own the island (Clare County Council and the Office of Public Works) threatens the archaeology.
- Following excavation in the 1970s, a number of gravemarkers from the children’s burial ground (cillín) associated with St Michael’s Church were left lying ex situ in the area. The area has since become very overgrown and this has caused upset amongst members of

the community. Respect for the deceased and their graves on this island is an essential consideration.

- Lack of awareness is generating visitor impacts currently with observations of visitors climbing over upstanding remains, hanging archways and other visitor impacts such as damage to ex-situ archaeological stone material;
- Lack of awareness of best practice threatens the archaeology of the island.
- Heavy stocking by cattle in particular, can damage the below ground archaeology through erosion and other physical damage
- There has yet to be a detailed underwater archaeological survey of the waters around Inis Cealtra but there are likely to be more logboats located in and around the island, as well as the possibility of other vessel types and vernacular craft surviving in the surrounding waters, and possibly other archaeological sites such as jetties, waterfronts, and piers, and artefacts such as anchors and fish traps.

## **2.5 Biodiversity, Flora and Fauna**

In general terms biodiversity refers to:

- Different habitats such as woodlands, wetlands, grasslands and estuarine habitats and the range of flora and fauna species they support. Different species such as plants, mammals, birds, insects, fish, microbes, mosses and fungi, and their inter-relationships such as food chains and cohabitation. Genetic diversity within species which is vital for healthy populations of individual species to survive. Ecosystems diversity which are the relationships between different species, their habitats and their local, non-living environment (geology, hydrology and microclimate).

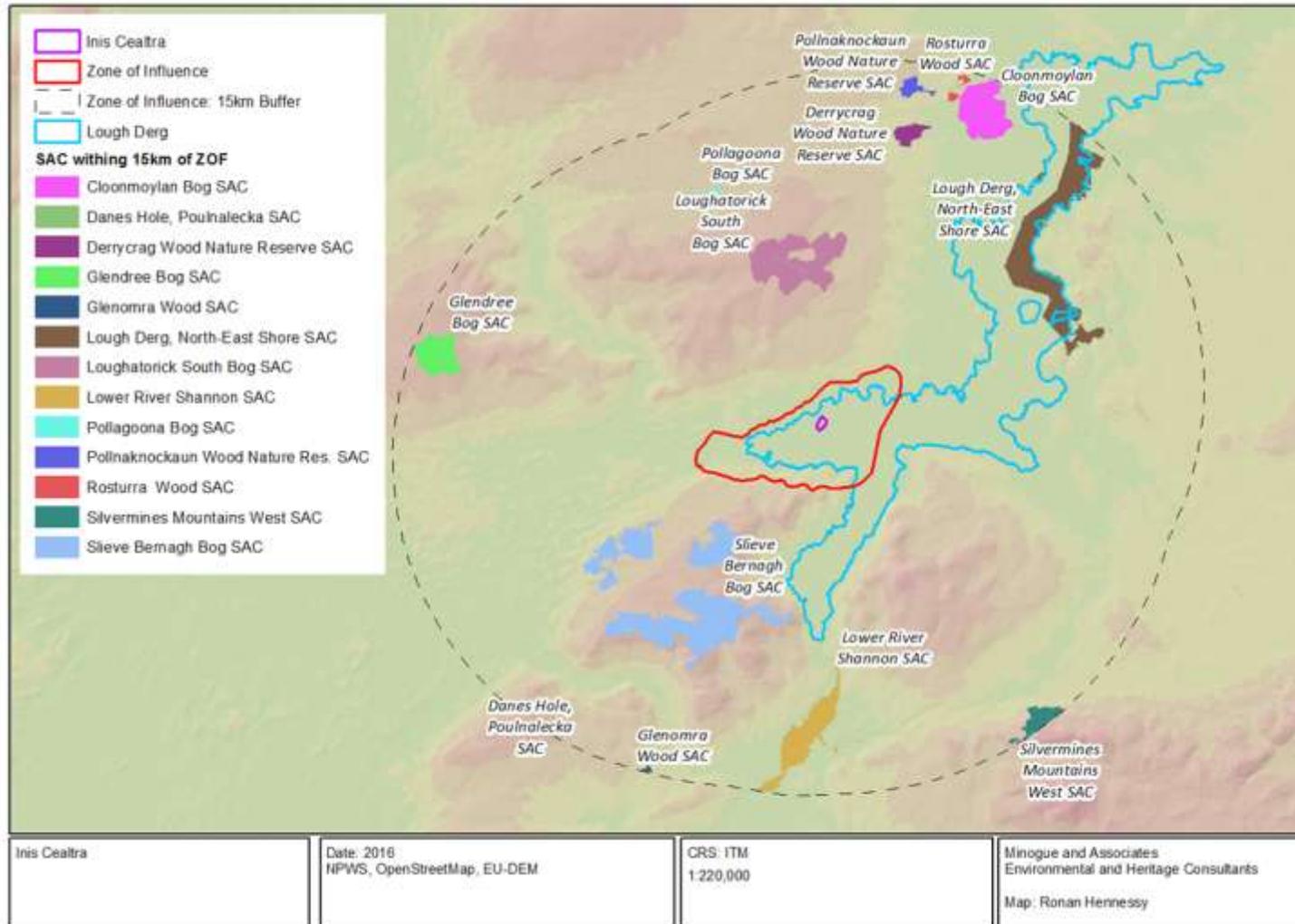
Features of the landscape, which by virtue of their linear and continuous structure (such as hedgerows or streams) or their function as links (such as ponds or small woods) are essential for the migration, dispersal and genetic exchange of wild species. Flora and Fauna are the plant and animal life, respectively.

A wide range of economic and social benefits and services result from the protection of biodiversity, for example, it forms the basis of our landscapes, provides for food and clean water supplies, opportunities for waste disposal, nutrient recycling, flood storage and regulation, amenity and recreational opportunities through development of green infrastructure networks.

Within County Clare there are habitats of high biodiversity and conservation value and a number of designated sites associated within the county which are designated as Ramsar Sites, Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Natural Heritage Areas (NHAs).

The plan area is situated within the Lough Derg SPA which is designated for a number of bird species Cormorant, Tufted Duck, Goldeneye, Common tern and waterbirds, plus wetland habitats. Figure 3 below shows the SACs and SPAs within a 15km buffer of the plan area.

Figure 3 SACs and SPA within 15km of the plan area.



## Inis Cealtra

A detailed ecological assessment of Inis Cealtra was undertaken in 2015 and 2016 and is outlined in Doherty Environmental (2016). Inis Cealtra has been traditionally managed for the majority of the last century for livestock grazing and an ecclesiastical monument. The majority of the island consists of improved agricultural grassland (GA1) that is grazed by cattle between February/March and October/November.

Plate 3 reedbeds and woodlands at the existing northwest pier (R.Minogue)



The main habitats of note present on the island include the following:

**Woodland habitat** fringes the western, north-eastern and southern shorelines. This woodland is generally dominated by ash and sycamore and is classified as broadleaved woodland (WN2) habitat. Oak is rare on the island.

**Scrub habitat (WS1)** is associated with the woodland habitat along the western, southeastern and northeastern shorelines. The dominant scrub species include blackthorn and hawthorn. The presence of buckthorn on the island is notable and it is abundant to the southwest and southeast of the island. Spindle is rare while holly is occasional. Scrub is spreading on the island with an increase in the extent of this habitat noted towards the landward sides of woodland habitat. The spreading scrub habitat is dominated by brambles, hawthorn and elder.

The island is fringed by **marsh habitat**, and high quality examples of this habitat occur along the western shoreline. Reed and tall sedge swamp habitat fringes the northern end of the island. The habitat is dominated by common club-rush with yellow iris and water horsetail also occurring in shallower areas..

Other terrestrial habitats included exposed calcareous rock, in the form of exposed boulders along the shoreline, amenity grassland (GA2) surrounding the ecclesiastical structures and built land (ED3).

No protected flora species have been recorded from the island.

The island supports a range of breeding bird species with over thirty species using the island as a breeding site. Wetland bird species associated with fringing tall sedge habitats during the breeding season include tufted duck (a species listed as a special conservation interest of the

Lough Derg SPA), mallard, coot and moorhen. Blacked-headed gull frequently roost on the island during the breeding season but are not known to use the island as a breeding site. Kingfisher has been observed foraging and commuting along the western shore of the island.

During the winter the island serves as a roost site for a range of wetland species including snipe and small numbers of Greenland white-fronted geese. Little egret regularly forages along the island shoreline during the winter months, while the very northwest tip of the island has been identified as a roost site for small flocks of lapwing.

A range of bat species have also been recorded foraging within and along the islands shoreline. Bats recorded foraging here include Soprano pipistrelle, Common pipistrelle, Leisler's bat, Natterers bat, Daubenton's bat and brown long-eared bat. Soprano pipistrelle is the dominant species of bat using the island and have been recorded roosting in small numbers in St Caiman's Church and the island's round tower. Evidence of otters was also noted along the shoreline of the island.

### **Existing issues –Biodiversity, Flora and Fauna**

Issues present within the plan area are as follows:

- Much of the existing grassland on Inis Cealtra is rank and of poor species diversity;
- The alluvial woodland present around the northern part of the island includes sycamore which can become invasive over time
- Invasive species present in the aquatic and terrestrial habitats around the plan area the zebra mussel, Himalayan balsam and knotweed.
- Habitat loss, fragmentation and encroachment through human activity
- A general lack of recognition and appreciation of biodiversity outside of European sites.
- Impacts on water quality are a significant threat. The Plan area is rich in wetlands and supports an abundance of water sensitive habitats and species; however, these are at risk from both point source pollution and diffuse pollution, particularly wastewater treatment.
- Disturbance to wildlife, and particularly birds, occur as a result of inappropriately sited development and increased recreational pressure.
- The loss of key "stepping stones" between European sites which are not afforded the same protection as SACs ad SPAs or as pNHAs or NHAs.
- Climate change and increased severe weather events, such as storm and precipitation events, associated changing water levels, increased siltation to freshwater systems and habitat loss and fragmentation.

### **2.6 Water Resources including flooding**

A catchment is an area where water is collected by the natural landscape and flows from source through river, lakes and groundwater to the sea. The plan lies is located within the Lower Shannon Catchment. An overview of the catchment is provided below from [www.catchments.ie](http://www.catchments.ie).

*"This catchment covers an area of 1,820km<sup>2</sup> and comprises Lough Derg and its catchment. The catchment is characterised by flat limestone plains, a small proportion of which are karstified to the east of Lough Derg, and the uplands of the Devil's Bit Hills in the southeast, the Slieve Aughty Mountains in the west and the Slieve Bearnagh and Arra Mountains in the south, between which the Shannon escapes to the south from Lough Derg. All of these upland areas are underlain by old red sandstone with metamorphic and volcanic rocks in the higher summit areas. This catchment can be divided into two regions, the area draining into the western and eastern sides of Lough Derg."*

The overall status of the lake waters according to the Water Framework Directive is poor.

The main rivers that drain into the sphere of influence from the foothills and lakes associated with the Sliabh Aughty and Bernagh ranges. These include the following:

- Scarrif River (tributary of the River Graney); Q value –poor;
- Bow (tributary of Lower Shannon): Q value- high;
- Shannon (Mountshannon area): Q value-Moderate, and
- Derrainy (tributary of Shannon Lower); Q Value –Good.

There is no surface water ie; streams on Inis Cealtra but there is a spring associated with the holy well. This is fed by groundwater from a locally important aquifer in the limestone bedrock.

There is a designated bathing area east of the main harbour at Mountshannon that has upto 150 visitors during peak times. The quality of the bathing water is identified as excellent in the most recent EPA bathing water quality report (2013).

Plate 4 View of Mountshannon Harbour (R.Minogue)



Groundwater is a further significant resource and refers to water stored underground in saturated rock, sand, gravel, and soil. Surface and groundwater functions are closely related and form part of the hydrological cycle. Overall the groundwater status within the County is primarily of good status and this applies to the sphere of influence of the plan also.

### **Flooding and Flood risk**

Under the Floods Directive, by 2015 Ireland must have Flood Risk Management Plans established focused on the prevention, protection and preparedness for areas identified to be at significant risk of flooding. The latest data available on flood risk are the Catchment Flood Risk Assessment and Management (CFRAM) plans, which have been issued in draft form in 2016. Mountshannon is located within the Unit of Management 2526:Shannon –Upper and Lower. Mountshannon is not identified as an area for further assessment on these draft plans. Inis Cealtra is identified as a Possible Area for Further Assessment.

Following the Planning Guidelines<sup>2</sup>, development should always be located in areas of lowest flood risk first, and only when it has been established that there are no suitable alternative

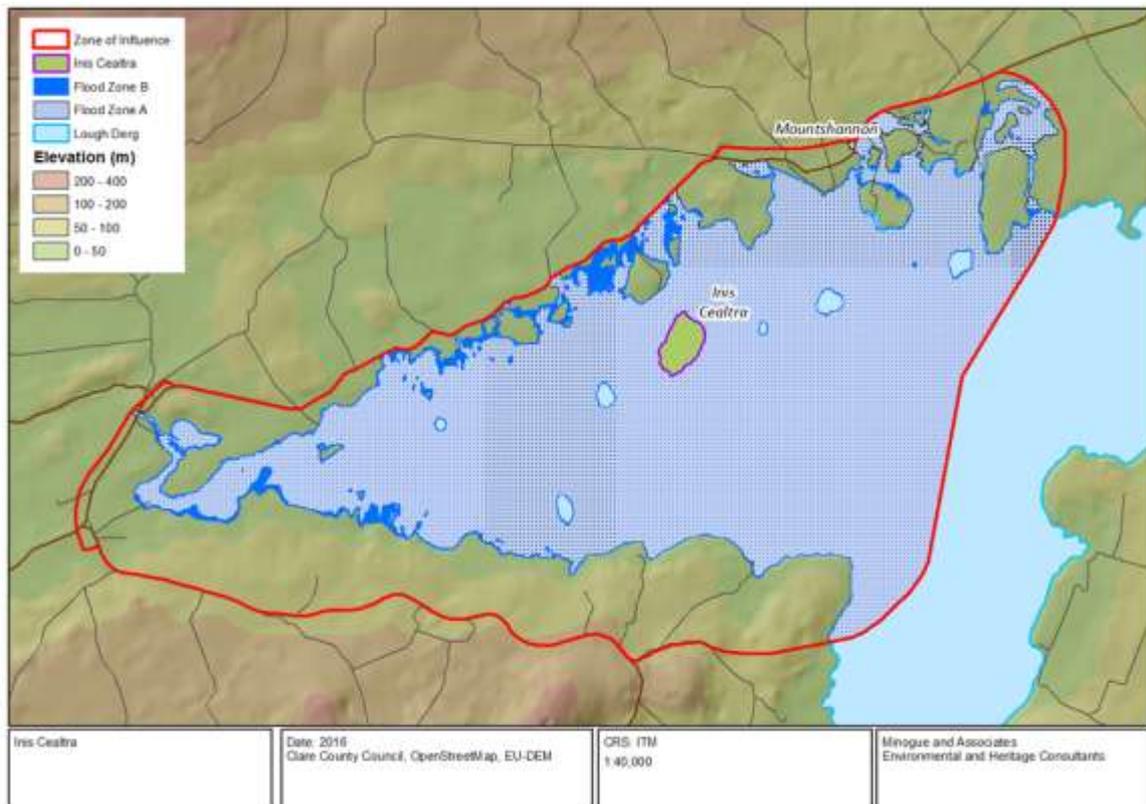
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<sup>2</sup> This text is taken from the SEA ER of the draft Clare CDP 2017-2023.

options should development (of the lowest vulnerability) proceed. Consideration may then be given to factors which moderate risks, such as defences, and finally consideration of suitable flood risk mitigation and site management measures is necessary.

The above guidelines identify flood zones A to C. Figure 4 presents flood zones A and B in the sphere of influence of the plan. A Flood risk assessment was undertaken by JBA Consulting in relation to the Visitor Centre and this confirmed it is located within Flood Zone C. This supports the location from a flood risk assessment perspective.

Figure 4 Flood Zones A and B



### Existing issues –Water Resources

In relation to the sphere of influence of the plan a number of issues relating to water resources arise:

- The overall poor status of Lough Derg
- The presence and influence of aquatic and riparian invasive species
- Diffuse sources of pollution arising from agriculture, forestry, wastewater and septic tanks
- Increased precipitation and extreme weather events associated with climate change and the potential impacts on same, in particular increased surface run off and increased sediment loading to the lake
- Flood risk and potential impacts on the cultural heritage of Inis Cealtra and increased surface run off and flood risk associated with any proposals in flood zones around Mountshannon.
- Ensuring that there is sufficient wastewater and potable water supply in advance of visitor facilities associated with the plan.

## 2.7 Geology and Soil

Inis Cealtra and the Mountshannon area is underlain by Lower Carboniferous Limestone and the island itself is a drowned drumlin; formed of subsoil associated with a glacier moving northeast to southwest during the last Ice Age (73,000BP -10,000 years BP). Other than limestone outcrops on the island, much of the bedrock is covered by a layer of till, which is naturally fertile and well- draining, reflecting the limestone base.

Soil can be considered as a non-renewable natural resource because it develops over very long timescales. Soils in any area are the result of the interaction of various factors, such as parent material, climate, vegetation and human action.

There is no overarching soil legislation in place; however the Seventh EU Environment Action programme recognises the challenge of soil degradation and provides by 2020 that land be managed sustainably with soil adequately protected.

Plate 5 Cattle on Inis Cealtra June 2016 (R.Minogue)



### Existing issues –Soil and Geology

Greenfield development involves the building upon and thereby sealing off of soil, thus representing an environmental problem.

There is potential that soil may be polluted and contaminated as a result of pollution from development which is not serviced by appropriate waste water infrastructure and from agricultural sources.

In terms of tourism development, soil and geology impacts relate most frequently to loss of greenfield sites, or quarrying of bedrock for specific tourism developments (though these would be regulated through the implementation of the CDP policies); however, localized impacts can arise associated with recreational use such as trampling, soil erosion and run off, compaction of soil and damage to sensitive habitats.

It is noted that cattle grazing has resulted in poaching in certain part of the island.

Because of the complex interrelationship between water, air and soil, declining soil quality can contribute to negative or declining water or air quality and function.

## 2.8 Landscape

In terms of Landscape, the Lough Derg area is identified in the CDP 2017-2023 as a Heritage landscape and the island lies within Unit 7 Lough Derg Basin in the County Landscape Character Assessment. A description of this LCA is provided below:

**Key characteristics of this LCA are as follows:**

- Highly scenic area with recognised ecological value (SAC).
- Lough shores often enclosed by semi-natural deciduous woodland creating an attractive rural sense.
- Numerous wooded islands scattered around Lough including an important monastic sixth century settlement at Inis Cealtra.
- Settlement is relatively sparse along the shoreline with narrow roads running from shoreline to main road. A number of towns and villages such as Tuamgraney, Scarriff and Killaloe reflect the importance of the lough for communications.
- Long views afforded across the Lough to Arra Mountains in Tipperary and Sliabh Bernagh in Clare.

The round tower of Inis Cealtra is a key landmark and feature within this part of Lough Derg and views towards the island, identifiable by the round tower can be seen at various locations particularly around the elevated stretch of the R352 near Ogonnoloe, and from Mountshannon Harbour itself.



Plate 6 View of Inis Cealtra from Mountshannon Harbour (R.Minogue)

### **Existing issues – Landscape**

Elements and features that contribute to local landscape character can be eroded through amendments to features such as walls, wrought iron gates, windows and inappropriate hedging and tree planting. The cumulative impact of this can change over time.

The setting and landscape context of Inis Cealtra is essential to both understanding the island and also is a defining contributor to the islands overall attractiveness; as such any proposals require very careful consideration in how they may impact on the landscape integrity of the island and its environs.

Finally, the conservation assessment of 2016 has identified structural risks to the round tower and the reduction of the round tower in height would represent a considerable change to a very well-known and recognised landscape feature.

### **2.9 Population and Human Health**

The 2016 Census data has a population of 423 persons within the Mountshannon Electoral District. Scarriff DED at a population of 1,280 has the highest population within the sphere of influence and reflects its Service town status in the Clare CDP 2017-2023. Medical, legal, educational, retail and public transport services operate from Scarriff. Killaloe, at the south of the lake has a population of 2,044; and is designated a small town in the CDPs.

Mountshannon village has a two bars, one hotel with bar and restaurant, as well as holiday homes and camping. Several bed and breakfasts are in the vicinity. There are a verity of local activities including golf, walking, cycling, fishing, swimming and boat hire. Woodland Forest park is located less than 3km from Mountshannon with carparks, picnic tables and sculpture. The main recreational area is the Aister Park which has a playground and performance space as well as a maze. Two churches are located in the village.

Human health can be determined by social, environmental and economic factors, among others. Human health may be impacted upon in a variety of ways and by a number of environmental receptors such as water, biodiversity, climate, flooding, air and major accidents, etc. The exposure to contaminants or pollutants can have serious implications for human health. Potential impacts on population and human health include inadequate water and wastewater and waste infrastructure, contamination of soils, excessive noise, flooding and poor air quality in areas where there are large volumes of traffic and the associated health impacts.

### **Noise**

In the context of the plan, the ambient noise levels are generally low with noise associated with agricultural activity and boating the main generators of noise at certain times of the year. The village although having a regional road traversing through the main street is not subject to excessive noise levels from traffic.

### **Existing issues – Population and human health**

Increasing the economic viability of the village of Mountshannon would enhance economic activity and increase economic activity through provisioning of appropriate services.

Balancing the aims of increasing tourism activity and promotion of Inis Cealtra whilst retaining the spiritual and community use of the island are important considerations.

Wastewater and water supply in and around the village and proposed development activity (See Section 4.8 Material Assets)

## 2.10 Material Assets

The EPA SEA Process Draft Checklist (2008) defines material assets as the critical infrastructure essential for the functioning of society such as: electricity generation and distribution, water supply, wastewater treatment, transportation, etc. In this context, any physical developments associated with the Inis Cealtra plan would be assessed in line with requirements of the Clare CDP 2017 -2023.

An overview is provided below.

### Transport

Within the sphere of influence of the project there is very limited public transport, Clare Bus runs a service from Whitegate, passing through Mountshannon to Scarrif; and Bus Eireann runs a twice weekly service that stops at Mountshannon to Limerick. The bulk of transport is along the road network by private car, with the Regional road, the R352 the main route.

Plate 7 Existing pier at northwest shore of Inis Cealtra (R. Minogue)



Access to the island is by boat only. While Knockaphort is the closest mainland embarkation point, Mountshannon to the north-east of the island is the closest substantial settlement with relatively modern harbour facilities.

On a recreational base, the plan area is popular for cycling (on and off-road); a national waymarked way, the East Clare Way runs through the plan area; and planning permission has been granted for the Lough Derg Canoe Trail, which will provide access around the lake and facilities for storing canoe at certain existing locations, including Mountshannon.

### Water supply

The village is served by a public water supply which has sufficient capacity to cater for the target population.

In addition to the public water supply, a number of dwellings use springs and groundwater sources for drinking water.

### Water and Wastewater

The CDP 2017-2023 Core Strategy chapter identified a population target increase for Mountshannon from 173 persons (2011) to 224 (2023 target), with an accompanying household

increase of 19. The Core strategy provides for 2.47 ha of residential zoned land under this calculation and the water and wastewater capacity is identified as available under this scenario.

The SEA ER of the Clare CDP 2017-2023 states that

*'The Mountshannon WWTP has undergone an aeration upgrade since the last County Development Plan between 2011 -2012 increasing the PE of the plant to 750PE and the overall energy efficiency which will also provide a reduction in costs. This upgrade will provide for future residential development within the village and exceeds the current population statistics which indicate the total population in this settlement was 152.'*

### **Water Supply and Wastewater**

There is no wastewater treatment or drinking water supply on Inis Cealtra; it is understood when cattle grazed the island they accessed freshwater from the shore .

### **Adapting to Climate change**

It is recognised that Ireland's climate will alter as a result of climate change. Future impacts of climate change in Ireland will be both direct and indirect, resulting from spillover from impacts in other parts of Europe and the rest of the world. Predicted negative impacts in Ireland include:

- more intense storms and rainfall events
- an increased likelihood of flooding in rivers and on the coast, where almost all cities and large towns are situated
- water shortages in summer in the east and the need for irrigation of crops
- changes in the distribution of species
- the possible extinction of vulnerable species.

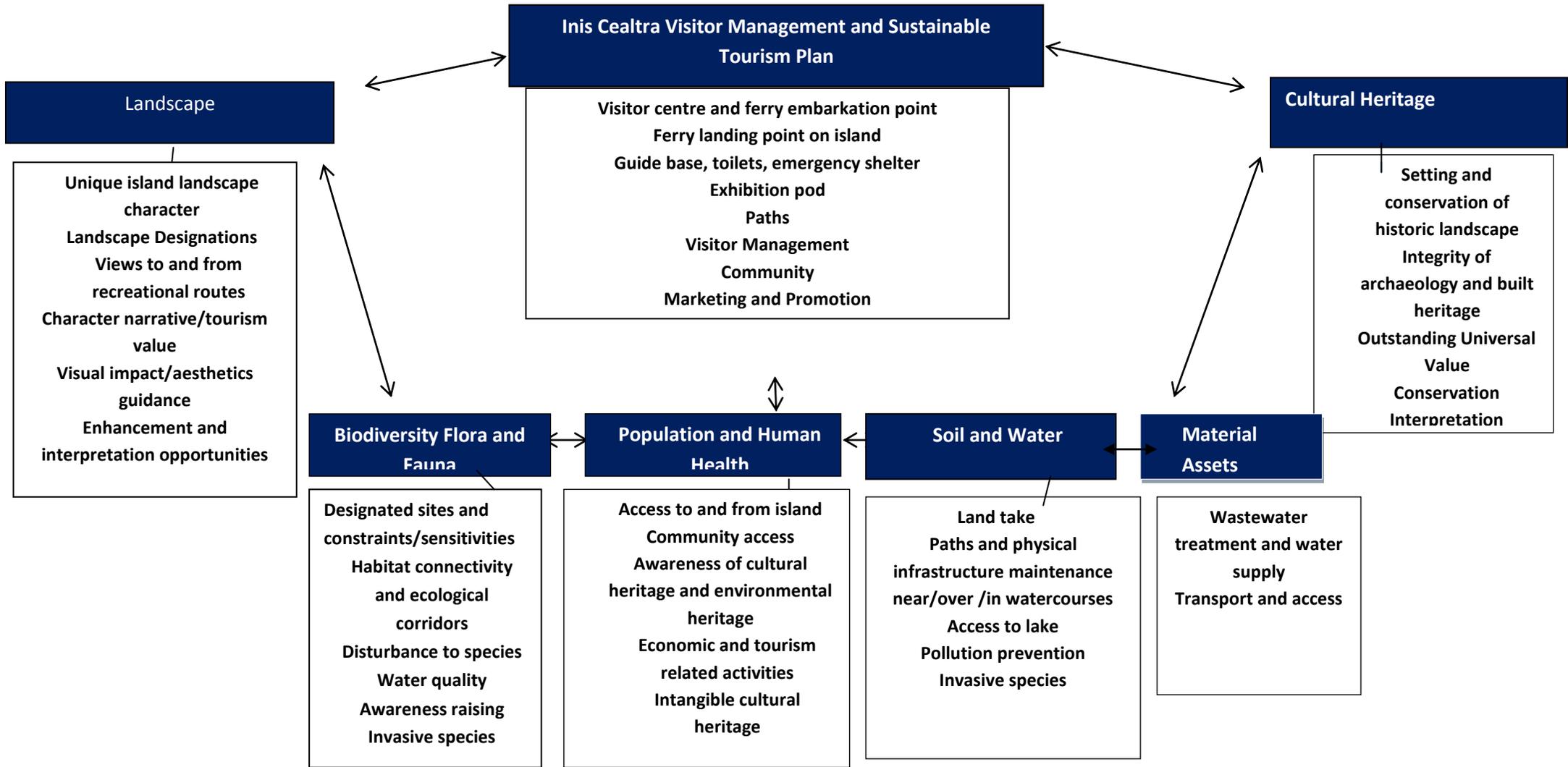
### **Existing Issues- Material Assets**

- A sustainable water supply and addressing the issue of wastewater treatment; the village currently has capacity but the seasonal effects of increased visitor numbers and provision of wastewater services for this will require additional investment and capacity.
- Currently there are also issues around people using the shrubs for toilets on the island.
- Planning for climate change and the changing water levels in the on the archaeological resources.

### **2.11 Relationship between all environmental resources.**

The interaction of cultural heritage, landscape and ecology and how human activity have influenced the plan area are all critical components that have operated over time to help create this distinctive area of which Inis Cealtra is a recognisable and arguably locally iconic element. Figure 5 below highlights these key inter-relationships as they relate to the plan.

FIGURE 5 PRIMARY INTER-RELATIONSHIPS



### 3 Strategic environmental objectives and consideration of alternatives

#### 3.1 Strategic Environmental Objectives

These are the criteria against which the elements of the plan are assessed. They are derived from the Clare County Development Plan 2017-2023 SEA ER where possible and adapted to the particular considerations of the plan and the plan area. These are shown below:

**Table 2 Strategic Environmental Objectives and Key Environmental Protection Objectives in the Clare CDP 2017-2023**

<b>Parameter</b>	<b>Strategic Environmental Objectives</b>	<b>Clare County Development Plan 2017-2-023 -main Policies and Objectives<sup>3</sup></b>
<b>Cultural Heritage</b>	<p>CH1 – Protect and conserve the cultural heritage including the built environment and settings; archaeological (recorded and unrecorded monuments), architectural (Protected Structures, Architectural Conservation Areas, vernacular buildings, materials and urban fabric) and manmade landscape features (e.g. field walls, footpaths, gate piers etc.).</p> <p>CH2 – To protect, conserve and enhance local folklore, traditions and placenames within the Plan area.</p> <p>CH3 – To ensure the restoration and re-use of existing uninhabited and derelict structures where possible opposed to demolition and new build (to promote sustainability and reduce landfill)</p>	<p><b>CDP15.1 Architectural Heritage</b></p> <p><b>CDP 15.2 Vernacular Heritage</b></p> <p><b>CDP 15.8 Sites, Features and Objectives of Archaeological Interest</b></p> <p><b>CDP 15.10 Zones of Archaeological Protection</b></p> <p><b>CDP 15.13 Underwater Archaeology</b></p> <p><b>CDP 15.14 Cultural Development</b></p>
<b>Biodiversity, Flora and Fauna</b>	<p>B1 – Protect, conserve, enhance where possible and avoid loss of diversity and integrity of the broad range of habitats, recognising annex 1 habitats, annex II species, ecological connectivity, wildlife corridors, , stepping stones, habitat structure and functions<sup>4</sup>.</p> <p>B2 – To achieve the conservation objectives of European Sites (SACs and SPAs) and other sites of nature conservation.</p> <p>B3 - Conserve and protect other sites of nature conservation including NHAs, pNHAs, National Parks, Nature Reserves, Wildfowl Sanctuaries as well as protected species outside these areas as covered by the Wildlife Act.</p> <p>B4 - Meet the requirements of the Water Framework Directive and the Shannon River Basin Management Plan/National River Basin Management Plan</p> <p>B5 – To minimise and, where possible, eliminate threats to bio-diversity including invasive species.</p> <p>B6 - Promote green infrastructure networks, including riparian zones and wildlife corridors</p>	<p><b>CDP 14.2 European Sites</b></p> <p><b>CDP 14.3 Requirement for Appropriate Assessment under the Habitats Directive</b></p> <p><b>CDP 14.7 Non-designated Sites</b></p> <p><b>CDP 14.14 Inland Waterways and River Corridors</b></p> <p><b>CDP 14.17 Woodland, Trees and Hedgerows</b></p> <p><b>CDP 14.26 Alien and Invasive Species</b></p> <p><b>CDP 8.21 Water Framework Directive</b></p> <p><b>CDP 14.13 Habitat Fragmentation</b></p>

<sup>3</sup> Additional column showing links between SEOs and key provisions of the Clare CDP 2017-2023 was inserted following a submission by the EPA.

<sup>4</sup> Amended on foot of Scoping consultation.

<b>Geology and Soil</b>	S1 – To maximise the sustainable re-use of the existing built environment, derelict, disused and infill sites (brownfield sites), rather than greenfield sites	<b>CDP 15.4 Vernacular Heritage</b> <b>CDP 8.31 Construction and Demolition Waste</b>
	S2 – Minimise the excavation and movement of soils within site works	
	S3 – Minimise the consumption of non-renewable deposits on site.	<b>CDP 14.7 Non designated sites</b>
	S5 - Conserve, protect and avoid loss of diversity and integrity of designated habitats, geological features, species or their sustaining resources in designated ecological sites.	
<b>Water</b>	W1 – Protect and enhance the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystem (quality, level, flow).	<b>CDP 8.21 Water Framework Directive</b> <b>CDP 8.22 Protection of Water Resources</b>
	W2 – Maintain or improve the quality of surface water and groundwater to status objectives as set out in the Water Framework Directive (WFD), the Shannon River Basin Management Plan and POMS.	<b>CDP 18.6 Strategic Flood Risk Assessment</b> <b>CDP 14.19 Wetlands</b>
	W3 – Implement appropriate sustainable drainage systems (SuDS) in the County.	
	W4 – Reduce the impact of polluting substances to all waters and prevent pollution and contamination of ground water by adhering to aquifer protection plans and to maintain and improve the quality of drinking water supplies.	
	W5 - Promote sustainable water use and water conservation in the plan area and to maintain and improve the quality of drinking water supplies.	
	W6 –Protect flood plains and areas of flood risk from development through avoidance, mitigation and adaptation measures.	
	W7 – To promote a responsible attitude to recreation and amenity use of water in relation to water quality and disturbance to species and to prevent pollution and contamination of designated bathing waters <b>at Mountshannon Harbour.</b>	
<b>Landscape</b>	L1-Ensure no significant disruption of historic/cultural landscapes and features through the <b>implementation of the Inis Cealtra plan.</b>	<b>CDP 13.1 Landscape Character Assessment</b> <b>CDP 13.2 Heritage Landscapes</b>
	L2-No significant <b>adverse</b> visual impact from development proposals associated with the Inis Cealtra plan	
	L3-Ensure no significant disruption of key characteristics of the Lough Derg Basin Landscape Character Area arising from the Inis Cealtra plan	
<b>Population and Human health</b>	P1- Protect, enhance and improve people’s quality of life based on high quality residential, community, educational, working and recreational environments	<b>CDP 3.5 Large Villages</b> <b>CDP 19.3 Compliance with</b>

(including Quality of Life)	and on sustainable travel patterns. P2-To protect human health from hazards or nuisances arising from incompatible land uses/developments. P3- Recognise and protect the spiritual and historic contribution that Inis Cealtra makes to the community.	<b>Zonings</b> <b>CDP 5.24 Burial Grounds/crematoria</b> <b>CDP 9.7 Sustainable Tourism</b>
<b>Material Assets</b>		
	T1 – Maximise sustainable modes of transport and encourage use of walkways/cycle paths as alternative routes to school, work, shops <b>and Plan Area</b>	<b>CDP 8.24 Water Services</b> <b>CDP 8.25 Water Supply</b>
<b>Waste</b>	WA1 – Implement the waste pyramid and encourage reuse/recycling of material wherever possible.	<b>CDP 8.27 Wastewater Treatment and Disposal</b> <b>CDP 18.2 Climate change adaptation</b>
<b>Water Supply</b>	WS1 - To ensure adequate and clean drinking water supplies. WS2 - Promote water conservation and sustainable water usage for long- term protection of available water resources.	<b>CDP 8.10 Smarter Travel</b>
<b>Waste Water</b>	WW1 - To ensure that all zoned lands (existing and proposed) are connected to the public sewer network ensuring treatment of wastewater which meet EU requirements prior to discharge. .	
<b>Climate Change</b>	CC1- Ensure that proposals are adaptive to expected climate change patterns.	

### 3.2 Consideration of Alternatives

Through consultation on the plan and as the plan evolved a number of different alternative scenarios in relation to the plan were considered. These scenarios related to access options to and from the island, numbers of visitors to the island, visitor centre location, community access and interpretation.. The alternatives were assessed against the above criteria in Table 2 and Chapter Six of the ER presents this in some detail. This assessment helped refine the preferred options for the plan. Table 3 below shows the preferred alternatives as identified through the SEA process. These alternatives focus on elements that could give rise to land use impacts so do not address other plan elements such as marketing and branding.

Table 3 SEA Preferred Options for Plan

Plan Proposal	Commentary
Visitor Numbers Medium	This option aligns more closely with national and regional tourism promotion as well as potential World Heritage Sites serial nominations associated with Early Christian Sites. It would promote the wider Lough Derg and early Christian sites thereby dispersing visitors to other sites. Economic viability of the plan is considered more realistic under this scenario.
Visitor Centre location	<b><i>Given the density of archaeological resources both above and below ground, the potential for underwater archaeology, the landscape setting of the island in addition to ecological considerations, physical interventions on the island must</i></b>

Plan Proposal	Commentary
	<p><i>be very carefully considered and in line with the approach to the study, such interventions must be minimal. This is in line with international best practices and is reflected in the most fundamental key objective of the plan, as stated in Section 1.2.2 Plan Key Objectives. Therefore, consideration of a visitor centre on the island was excluded at an early stage of the plan preparation process, with potential sites on the mainland considered.</i></p> <p>Mountshannon Village, close to harbour is the preferred location, as it uses the existing village and facilitates potential movement through the Aistear Park. It would facilitate access from the main street of Mountshannon and could bring spin off benefits to the village itself. <b>Following more detailed assessment, it is considered that Site 1 or 2 are the preferred locations primarily as they promote pedestrian movement and easier access from the main street, enjoy views to the island and are consistent with tourism landuse zonings in the Clare CDP 2017-2023</b>Mountshannon close to the harbour is the preferred location as it uses the existing village and facilitates potential movement through the Aistear Park. It would facilitate access from the main street of Mountshannon and could bring spin off benefits to the village itself.</p>
Car Parking: Park and Ride/ Park and Ride with some car parking	<p>Park and ride allows for movement of people via bus/coach.</p> <p>Impacts likely to be mitigated but would depend on location of park and ride (ie: greenfield lands)</p>
Primary visitor access via ferry from visitor centre with permit style approach for small craft/local community	<p>This option allows for local access, though permit style may require alteration and further consultation.</p>
Boats	<p>This option represents the continued transport means to the island and is consistent with the historical access route to this island; it requires the most minimal physical intervention of the three options The recommended mode of access to the island is via a new ferry service that will operate between the proposed visitor centre at Mountshannon and Inis Cealtra.</p>
Departure from Mountshannon	<p>This option represents a continuation of the principal departure point for the island and is also a substantial harbour area that would require minimal or no physical interventions to continue access</p>
Pier –new northeast, others to remain for private/micro-boat access	<p>The justification for this is that:</p> <ul style="list-style-type: none"> <li>• This location, sheltered from the prevailing wind, increases the number of days when the pier is accessible for visitors, and the local community.</li> <li>• Moves visitor traffic away from the area between the island and Knockaphort which is a well-used angling zone, particularly in April and May.</li> </ul>

Plan Proposal	Commentary
	<p>An assessment of pier options was undertaken by Arup Engineers: Based on both satellite images from Google Earth and the bathymetric data obtained, which show vegetated sandbanks in the vicinity of the northern tip, the most suitable location for the proposed new pier is at the eastern extent of the proposed zone. As noted elsewhere the reed beds associated with these shallows are significant from an ecological point of view and attempts to avoid them means the proposed new pier should be located at a safe distance from this area. However, the location of underwater archaeology 40m of the island is a known and this will require more detailed assessment and research.</p>
Floating pontoon preferred pier structure.	<p>In terms of the new pier structure, the preferred option is for the installation of floating pontoons connected to the mainland using an extended gangway. The advantage of the floating pontoons is that they can facilitate vessel berthing under the full range of water levels (provided that there is sufficient water depth). The feasibility of using a gangway connection would primarily depend on the combination of the near-shore bathymetry and the range of water levels. However, prehistoric logboat recorded c40m northeast of the island, so known underwater archaeology.</p>
Unscheduled landing –local access	<p>These options all relate to access to the island; given the proposed increase in visitor numbers generally local boats would reflect local access needs; unscheduled landings by other boats may give rise to visitor impacts and issues such as overnight camping. Also the risk of biosecurity associated with unscheduled landings may give rise to indirect or direct ecological impacts through introduction of invasive or alien species</p>
Fences	<p>Fences (retention of existing) or fences and no touching subject to guides etc</p>
Paths –main route to principal sites, secondary loop around island	<p>Detailed alignment of route and materials used would determine impacts. Again if visitor numbers increase considerably, informal paths away from main route will likely be created and this could result in unanticipated environmental impacts mostly around cultural heritage and ecological considerations (eg; through alluvial woodland close to shore). Alignment of paths to avoid sensitive underground archaeology such as the Pilgrim Paths and alluvial woodland. Path to main sites accessible for all and composed of locally sourced gravel.</p>
Public furniture	<p>Minimal benches to be placed at well located positions on the island to allow visitors, particularly the elderly, to rest. This contributes to wider accessibility for all. So as to avoid the generation of litter on the island, picnic benches will not be permitted.</p>
Guide/emergency room- new unobtrusive pod	<p>Location, proposed design, construction and materials would require further investigation. Note there are archaeological artefacts in and beside the shed and a management approach would be required to remove the shed and consider how to treat these</p>

Plan Proposal	Commentary
	artefacts.
Toilets (emergency)-	Additional information in terms of siting, design, population equivalent, maintenance and construction would be required for more detailed assessment. It is understood the toilets are for emergency use. However for solid waste removal will be required during peak season. It is to be communicated to visitors that toilet facilities are available at the visitor centre and ferry. Design considerations for appropriate population equivalent will be critical to ensuring that this option works environmentally.
Waste Management: Leave no Trace, no bins Reedbeds for emergency toilet, solid waste removal during peak season.	Additional information on siting, location, design, maintenance would be required for this option. Reedbeds would increase habitat associated with certain bird species and this is identified as a positive impact for Biodiversity SEOs.
Displaying small finds	Either move to National Monument or visitor centre represent the minimal landuse impacts as they require no additional physical intervention. Retaining finds <i>in-situ</i> is best practice where possible.
Power-PV panels with batter	This would provide small scale energy and batteries for use in emergencies. It is assumed in this option, such panel would be associated with new elements such as the shelter/toilets. As such any impacts would be minimal as they would form part of the new infrastructure, PV panels would likely be oriented south/southwest
Storm shelter – refurbishment of fisherman’s hut.	This option would re-use an existing vernacular structure on the island.
Signage – very limited low impact orientation signage	Minimal approach with low visual impact is recommended.
Camping and picnics; No camping, picnics not encouraged	This represents the most environmentally benign option as it reduces potential anti-social behaviour or disturbance associated with overnight camping and littering/food scraps being associated with formal picnics.
Funerals- Allowed anytime, visitors curtailed if during ‘open’ hours	This option reflects the most sensitive and respectful approach to funerals on the island.
Graves-guidelines on materials, etc	This would give rise to landscape and cultural heritage positive impacts whilst facilitating the use of family plots on the island.
Opening Times and seasons: mid March to Early October	This reduces overall disturbance to overwintering birds, allows the lands on the island recovery time and avoids visitor numbers during the wetter months of the year.

Plan Proposal	Commentary
Lighting-no lighting	This represents the least invasive option.

#### 4 Assessment of significant environmental effects and mitigation measures.

##### 4.1 Approach

The purpose of this section is to predict and evaluate as far as possible the environmental effects of the Inis Cealtra plan. This is done by assessing the plan against the Strategic Environmental Objectives (see Section 3 of this NTS), as well as an understanding of the existing environmental baseline as outlined in Section 2. The assessment focuses on identifying significant environmental effects both positive and negative. Where potential negative effects are identified, specific measures, known as mitigation measures are prepared.

As the plan process has been ongoing and an iterative process with the SEA and appropriate assessment, areas of particular environmental sensitivity have been avoided in the first instance and the plan elements as they have evolved have been amended during the process. However, as one of the key aims of the plan is to support the sustainable development of Inis Cealtra and Mountshannon for tourism, potential effects associated with plan infrastructure such as access, increasing visitor numbers and the Visitor Centre still potentially give rise to effects. A summary of these effects are presented in the table below, based on the chapters in the plan. An overview of the mitigation measures is then presented at the end of this section.

**Table 4 Summary of environmental assessment of Plan.**

Chapter	Summary	Sample text
<b>Chapter One: Introduction</b>	Brief introduction to the study and plan aims and objectives.	<p>This chapter presents the following Vision:</p> <p><i>Inis Cealtra, protected for future generations through exemplary conservation management and interventions and through a balanced and sustainable management approach to providing access for visitors and the local community. An expansion of the visitor experience, enjoyment and respect for the island's living and built cultural heritage and that of the greater area, and an increase in the long-term, socio-economic benefits to both the local community and the wider region.</i></p> <p>Impacts identified for this vision are positive, as the vision promotes the highest standards of conservation, management and interventions whilst seeking to provide local community benefit.</p>
<b>Chapter Two: Context</b>	This chapter provides an overview of the background to the archaeological and built heritage of	<p>Objectives relating to the following:</p> <ul style="list-style-type: none"> <li>• Advance the nomination process for World Heritage site status for Inis Cealtra</li> <li>• Access to the island from Mountshannon</li> </ul>

	<p>Inis Cealtra, discusses Inis Cealtra in a local, regional and national context, considers the current management plan for Lough Derg, and outlines relevant legislation.</p>	<ul style="list-style-type: none"> <li>• Visitor numbers – no more than 100 people on the island and maximum of 45,000 visitors per annum.</li> <li>• Ferry service from Mountshannon to the island</li> </ul>
<p>Summary of key impacts identified:</p> <p>Cultural heritage</p> <ul style="list-style-type: none"> <li>• Sustainable tourism is dependent on the continued pristine condition of the island and the survival of the archaeological remains but overcrowding could be detrimental to the conservation of the site. Greater visitor numbers increases the risk of damage to the monuments on the island.</li> <li>• Sheer footfall on the site will impact the ground causing wear and tear. This type of erosion tends to occur on specific routes e.g. paths or tracks, at specific focal points e.g. monuments, and at pinch points where there is a constriction in flow e.g. gates or gaps. The earthworks are vulnerable to damage from footfall.</li> <li>• Increased boat traffic in and around the island could negatively impact upon known and unknown underwater archaeology in the area, such as the shipwrecks and logboats, due to increased propeller wash action from repeat boat trips or an increase in boat engine size.</li> </ul> <p>Biodiversity, Flora and Fauna-</p> <ul style="list-style-type: none"> <li>• The potential impacts associated with increasing visitor numbers relate to potential disturbance to species and habitats, particularly during seasons when they are more sensitive to disturbance associated with human activity. Habitats of conservation concern that could be at risk of disturbance from the increased presence of tourists are species-rich marsh habitat fringing the island. This habitat has links to the Annex 1 habitat hydrophilous tall herb vegetation (6430). Potential disturbance arising from the increased presence of humans could also result in disturbance to special conservation interest bird species that use the fringes of island as a roost site and will have the potential to undermine the capacity for fringing wetland habitats to function as a breeding sites for birds, couch sites for otters and a potential habitat for the Annex 2 listed species <i>Vertigo moulinsiana</i>.</li> <li>• A potential impact relates to the potential introduction of invasive species on the island which could give rise to structural changes in the habitats present.</li> </ul> <p>Inter-related effects:</p> <ul style="list-style-type: none"> <li>• Landscape character, cultural heritage, noise and ecology are all contribute together to create the distinctive experience of Inis Cealtra currently. Increased visitor numbers that may increase noise and human disturbance can detract from other visitors experience and at certain times of the year, disturb sensitive species.</li> <li>• Intangible cultural heritage may be negatively affected if the island is seen to become a 'product' and the commodification of a ritual and sacred historical landscape is perceived to take place with subsequent loss of community ownership and sense of place/attachment to Inis Cealtra.</li> <li>• Increased footfall could give rise to effects associated with trampling, new informal paths into more sensitive archaeological and ecological areas, subsequent erosion of soil and increase in rank grass</li> </ul>		

species. Cumulatively this would detract from the visual appearance of the island.

<p><b>Chapter Three: Strategy</b></p>	<p>This chapter outlines the key development principles, Limits of Acceptable Change research and the relevant case studies. This is followed by guidelines for the management of Inis Cealtra under the headings of visitor centre, access to Inis Cealtra, tourism facilities on Inis Cealtra, interpretation, visitor management and local community, and concludes with detail on facility and site management.</p>	<p>A number of objectives in this chapter relate to physical intervention on the island, the principal ones are listed below:</p> <p>Objective 5: To introduce new visitor facilities on Inis Cealtra comprising pathways around monuments and the island, suitable orientation signage, new pods to provide for emergency, toileting and staff facilities, wastewater, benches and improved landing points for kayaks.</p> <p>Objective 7: To construct a new pier at a location that allows both a safe passage to and safe landing and embarkation on/from the island. This will become the main landing point for visitors to the island</p> <p>Objective 9: To install a sustainable natural toilet system on the island</p>
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Discussion of impacts:

The area proposed for clustering the guide shelter, rain shelter and toilets has been selected to avoid visual impacts on the upstanding archaeological features, allow for buffering of visitors at pier, and provide minimal but necessary visitor comforts and also for the proposed guides working on the island. However, potential impacts may still arise, and these are listed below:

Cultural Heritage:

- The proposed approach to works will be avoidance of ground disturbance and placement of elements on the ground, rather than placed within the ground; this reduces potential archaeological disturbance.
- However, whilst this approach can be applied for most of the elements, some moderate /minor ground disturbance is associated with tree planting for screening; even if hedges or low trees are mounded (ie:topsoil placed on top of existing ground), tree roots over time will penetrate the ground. Therefore mitigation measures are proposed to address this potential issue.
- Because Inis Cealtra is a National Monument, legal protection also extends to other structures and features within the curtilage of the National Monument (in this instance it may include any part of the shoreline which is submerged and the piers).
- Any construction of new piers or alteration of existing piers may cause damage to underwater

archaeological features. A number of logboats and other wrecks have been discovered along the shore of the island, to the northeast, and also features have become submerged due to the rising level of the lake.

- While fencing can help prevent damage to monuments by humans and animals, it causes ground disturbance. It is illegal to disturb the ground on a National Monument without ministerial consent. Therefore the proposal to remove fencing subject to trialling this approach and in conjunction with the presence of wardens and guides should enhance the visual and landscape experience for visitors whilst negating the need for fencing. This will require monitoring

**Biodiversity, Flora and Fauna**

- Loss of and disturbance to wetland habitat under the footprint of proposed infrastructure.
- Disturbance to special conservation interest bird species of the Lough Derg SPA and other wetland bird species during the construction and operation of tourism infrastructure on Inis Cealtra.
- Bats roosting in the fisherman’s hut may be disturbed in the event of restoration works –this would require a derogation license.
- The island is underlain by limestone bedrock which is quite permeable, this requires consideration in regard to the wastewater proposals.

**Landscape**

- The character and setting of the islands confer a strong and distinctive character, and proposals for the above elements must reflect and enhance character and reduce visual impact and clutter.

**Inter-related effects:**

Potential impacts arise in relation to the provision and construction of a new pier in the northeast primarily around landscape and cultural heritage. Studies at design stage in addition to underwater archaeology assessment would include flood risk assessment and more detailed ecological survey around the shoreline and lake.

<p><b>Chapter Four: Marketing and Promotion</b></p>	<p>This chapter includes detail on visitor data analysis, core target markets, market potential and revenue estimates, and a marketing and communications strategy that includes recommendations on branding and digital and print media.</p>	<p>A number of these objectives are identified as giving rise to potential environmental effects, these include the following:</p> <p>Objective 10: To limit impacts on archaeology, ecology and the character of Inis Cealtra, the island will be closed to visitors during winter and at other time the maximum numbers of visitors will not be exceeded.</p> <p>Objective 16: To procure a new visitor centre to serve the needs of visitors and tourists seeking to learn more about the island, in Mountshannon.</p> <p>Objective 17: To develop a landscape management plan in consultation with the archaeologist and ecologist, and an agricultural consultant or farmer and to include active management of vegetation by sheep</p> <p>Objective 18: To create a Community forum representing the interest of the local communities in the development and managing of the island’s future including the Local Access provision herein.</p>
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<p>Discussion of impacts:</p> <ul style="list-style-type: none"> <li>• Increased use of resources in relation to wastewater and water supply. Current wastewater capacity is not sufficient for proposed visitor numbers to the centre in Mountshannon. In relation to the proposed visitor numbers and in line with objective 8.25 Water Supply of the Clare CDP 2017-2023, additional capacity for drinking water will be required for Mountshannon.</li> <li>• Intangible cultural heritage may be negatively affected if the island is seen to become a 'product' and the commodification of a ritual and sacred historical landscape is perceived to take place with subsequent loss of community ownership and sense of place/attachment to Inis Cealtra.</li> <li>• Positive impacts identified in relation to community forum for Population and cultural heritage.</li> <li>• Positive impacts associated with a landscape management plan in relation to cultural heritage, biodiversity and landscape SEOs.</li> </ul>		
<p><b>Chapter Five: Implementation</b></p>	<p>This chapter presents the organisation and management recommendations, risks, urgent works and an action plan.</p> <p>This chapter also replicates all the SEA and AA mitigation measures prepared for the plan.</p>	<p>No objectives are included in this chapter. The Action Plan is cross checked in the SEA ER for consistency with the overall plan and to ensure all recommendations have been assessed through the SEA process.</p> <p>No landuse or environmental impacts are identified for this chapter.</p>
<p><b>Chapter six: Conclusion</b></p>	<p>This chapter concludes the plan and acknowledges a number of people.</p> <p>No landuse or environmental impacts identified.</p>	
<p><b>Appendices</b></p>	<p>Appendix 1 includes further detail on archaeology,</p> <p>Appendix 2 includes the Environmental Report for Strategic Environmental Assessment (SEA),</p> <p>Appendix 3 includes the Natura Impact Report.</p>	<p>Appendix 1 is detailed archaeology commentary and supporting recommendations. Included as appropriate in this SEA ER.</p> <p>Appendices 2 and 3 present the full SEA ER and Natura Impact Report.</p>

## 4.2 Mitigation Measures

This section outlines the mitigation measures that will prevent, reduce, and offset as much as possible any significant adverse effects on the environment of the plan area resulting from the implementation of the Inis Cealtra plan. Mitigation involves reducing significant negative effects. Where the environmental assessment identifies significant adverse effects, consideration is given in the first instance to preventing such impacts or where this is not possible, to lessening or offsetting those effects. Mitigation measures can be generally divided into those that:

- Avoid effects
- Reduce the magnitude or extent, probability and/or severity of effect
- Repair effects after they have occurred, and
- Compensate for effects, by balancing out negative impacts with positive ones.

In order to facilitate the consideration of environmental resources in any future development associated with the Inis Cealtra plan, an environmental management plan (EMP) is proposed. This forms part of Chapter 6 of the plan; it replicates key environmental policies in the Clare CDP 2017-2023. The Clare CDP 2017-2023 represents the most up-to-date landuse policies for the county and will be the framework under which any new proposals associated with the plan will be assessed. Moreover, this draft plan has been subject to extensive consultation with the statutory authorities and the public and reflects their comments on objectives in the Clare CDP 2017-2023.

Where appropriate, the EMP has also replicated key commitments from other relevant plans and projects including the Lough Derg Canoe Trail (Planning Reference 16-165 for Mountshannon) and part of the environmental management commitments from the Wild Atlantic Way.

However for specific parameters, the environmental strategy provides more targeted mitigation and management, particularly for the SEA topics of Cultural Heritage and Biodiversity, Flora and Fauna. An overview of the Significant Environmental Effects identified for the plan and the key mitigation measures are presented below in Table 5. For more detail on the mitigation measures please see Chapter Eight of the SEA ER.

Finally, Table 24 below presents a summary of the SEOs, the key environmental effects and the key mitigation measures prepared for the VMSTDP.

Table 5 Summary Table of SEOs, Key Effects and Mitigation Measures

Strategic Environmental Objectives	Potential Significant Effects from plan implementation	Mitigation Measures developed through SEA and AA.
<p><b>CH1 – Protect and conserve the cultural heritage including the built environment and settings; archaeological (recorded and unrecorded monuments), architectural (Protected Structures, Architectural Conservation Areas, vernacular buildings, materials and urban fabric) and manmade landscape features (e.g. field walls, footpaths, gate piers etc.).</b></p> <p><b>CH2 – To protect, conserve and enhance local folklore, traditions and placenames within the Plan area.</b></p> <p><b>CH3 – To ensure the restoration and re-use of existing uninhabited and derelict structures where possible opposed to demolition and new build (to promote sustainability and reduce landfill)</b></p>	<p style="text-align: center;"><b>Cultural Heritage</b></p> <p>Greater visitor numbers increases the risk of damage to the monuments on the island.</p> <p>Certain areas are more vulnerable to damage from increased numbers and general footfall eg: The Saint’s Graveyard and earthworks.</p> <p>Increased boat traffic in and around the island could negatively impact upon known and unknown underwater archaeology.</p> <p>Intangible cultural heritage may be negatively affected if the island is seen to become a ‘product’ with subsequent loss of community ownership and sense of place/attachment to Inis Cealtra.</p>	<p>The Burra Charter –overall principles for archaeology. Measures C1 to C10.</p> <p>Management Structure in particular MS1, MS4 and MS6.</p> <p>Awareness Raising and Education AR 1 to 6</p> <p>Interpretation I1 to I6</p> <p>Guide Service:GS1 to GS4</p> <p>Access and Transport AT1</p> <p>Physical Proposals in particular PP1 to PP14</p> <p>Shoreline and Pier Proposals SP1.</p> <p>Grazing and Woodland Management in particular GW1, GW2, GW6 , GW7.GW 18, 19 and 20.</p> <p>Pathways P1 to P4</p> <p>Signage S1 to S3</p> <p>Fencing F1 to F7</p> <p>Toilet Facilities TF4 and 5</p> <p>Shelters SH1</p> <p>CDP15.18Development Plan Objective: Sites, Features and Objects of Archaeological Interest</p> <p>CDP15.10Development Plan Objective: Zones of Archaeological Protection</p>

Strategic Environmental Objectives	Potential Significant Effects from plan implementation	Mitigation Measures developed through SEA and AA.
<p><b>B1 – Protect, conserve, enhance where possible and avoid loss of diversity and integrity of the broad range of habitats,</b></p> <p><b>B2 – To achieve the conservation objectives of European Sites (SACs and SPAs) and other sites of nature conservation. species and wildlife corridors.</b></p> <p><b>B3 - Conserve and protect other sites of nature conservation including NHAs, pNHAs, National Parks, Nature Reserves, Wildfowl Sanctuaries as well as protected species outside these areas as covered by the Wildlife Act.</b></p> <p><b>B4 - Meet the requirements of the Water Framework Directive and the Shannon River Basin Management Plan/National River Basin Management Plan</b></p> <p><b>B5 – To minimise and, where possible, eliminate threats to biodiversity including invasive species.</b></p> <p><b>B6 - Promote green infrastructure networks, including riparian zones and wildlife corridors</b></p>	<p style="text-align: center;"><b>Biodiversity, Flora and Fauna</b></p> <p>The potential impacts associated with increasing visitor numbers relate to potential disturbance to species and habitats, particularly during seasons when they are more sensitive to disturbance associated with human activity</p> <p>Construction activities and potential pollution incidents.</p> <p>Accidental introduction of alien and invasive species</p> <p>Increased footfall could give rise to effects associated with trampling, new informal paths into more sensitive archaeological and ecological areas, subsequent erosion of soil and increase in rank grass species.</p> <p>Disturbance to bat species</p> <p>Loss of habitats or declining quality of habitats.</p>	<p>CDP15.13 Development Plan Objective: Underwater Archaeology</p> <p>CDP 15.14 Development Plan Objective: Cultural Development</p> <p>Visitor Management Mitigation Measures in particular</p> <p>MM1 Seasonality</p> <p>Access and Transport AT2</p> <p>Physical Proposals in particular PP14 to PP18</p> <p>Shoreline and Pier Proposals SP2, SP6 and SP7</p> <p>Grazing and Woodland Management, in particular GW4, GW5 and GW 17</p> <p>Pathways in particular P5 and P6</p> <p>Toilet Facilities TF6</p> <p>CDP 14.2 Development Plan Objective: European Sites</p> <p>CDP 14.3 Development Plan Objective: Requirement for Appropriate Assessment under the Habitats Directive</p> <p>CDP 14.11 Development Plan Objective: Habitat Protection</p> <p>CDP 14.13 Development Plan Objective: Habitat Fragmentation</p> <p>CDP 14.14 Development Plan Objective: Inland Waterways and River Corridors</p>



Strategic Environmental Objectives	Potential Significant Effects from plan implementation	Mitigation Measures developed through SEA and AA.
<p><b>W1 – Protect and enhance the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystem (quality, level, flow).</b></p> <p><b>W2 – Maintain or improve the quality of surface water and groundwater to status objectives as set out in the Water Framework Directive (WFD), the Shannon River Basin Management Plan and POMS.</b></p> <p><b>W3 – Implement appropriate sustainable drainage systems (SuDS) in the County.</b></p> <p><b>W4 – Reduce the impact of polluting substances to all waters and prevent pollution and contamination of ground water by adhering to aquifer protection plans and to maintain and improve the quality of drinking water supplies.</b></p> <p><b>W5 - Promote sustainable water use and water conservation in the plan area and to maintain and improve the quality of drinking water supplies.</b></p> <p><b>W6 –Protect flood plains and areas of flood risk from development through avoidance, mitigation and adaptation measures.</b></p> <p><b>W7 – To promote a responsible attitude to recreation and amenity use of water in relation to water quality and disturbance to species and to prevent pollution and contamination of designated bathing waters at <i>Mountshannon Harbour</i>.</b></p>	<p>The island is underlain by limestone bedrock which is quite permeable; this requires consideration in regard to the wastewater proposals.</p> <p>Increased surface run off</p> <p>Introduction or spread of alien invasive species.</p> <p>Existing wastewater and water supply capacity and potential demands arising from visitor centre and increased visitor numbers generally.</p> <p>Potential flood risk</p>	<p>Construction Environmental Management plan.</p> <p>Toilet Facilities TF6</p> <p>Physical Proposals in particular PP9</p> <p>CDP 8.21 Development Plan Objective: Water Framework Directive</p> <p>CDP8.22 Development Plan Objective: Protection of Water Resources</p> <p>CDP 18.6 Development Plan Objective: Strategic Flood Risk Assessment</p> <p>CDP 18.7 Development Plan Objective: CFRAMS</p>

Landscape

Strategic Environmental Objectives	Potential Significant Effects from plan implementation	Mitigation Measures developed through SEA and AA.
<p><b>L1-Ensure no significant disruption of historic/cultural landscapes and features through the implementation of the Inis Cealtra plan.</b></p> <p><b>L2-No significant adverse visual impact from development proposals associated with the Inis Cealtra plan</b></p> <p><b>L3-Ensure no significant disruption of key characteristics of the Lough Derg Basin Landscape Character Area arising from the Inis Cealtra plan</b></p>	<p>Landscape character, cultural heritage, noise and ecology are all contribute together to create the distinctive experience of Inis Cealtra currently. Increased visitor numbers that may increase noise and human disturbance can detract from other visitors’ experience.</p> <p>The character and setting of the island confer a strong and distinctive character, and proposals for the above elements must reflect and enhance character and reduce visual impact and clutter</p>	<p>Pathways P8 and P10</p> <p>Toilet Facilities in particular TF3</p> <p>Construction Environmental Management plan.</p> <p>Physical Proposals in particular PP9</p> <p>CDP 13.1 Development Plan Objective: Landscape Character Assessment</p> <p>CDP 13.5 Development Plan Objective: Heritage Landscapes</p> <p>CDP 13.7 Development Plan Objective: Scenic Routes</p>
<p><b>P1- Protect, enhance and improve people’s quality of life based on high quality residential, community, educational, working and recreational environments and on sustainable travel patterns.</b></p> <p><b>P2-To protect human health from hazards or nuisances arising from incompatible land uses/developments.</b></p> <p><b>P3- Recognise and protect the spiritual and historic contribution that Inis Cealtra makes to the community.</b></p>	<p style="text-align: center;"><b>Population and Human Health</b></p> <p>The proposed visitor centre has been selected based on generating positive local economic benefits for Mountshannon; by locating it in the park it allows pedestrian access from the main street and also the possibility of park and ride with limited private car parking. Impacts identified for the Visitor Centre relate to new developments on greenfield sites and would be assessed for compliance with the relevant objectives of the Clare CDP 2017-2023.</p> <p>In relation to the proposed visitor numbers and in line with objective 8.25 Water Supply of the Clare CDP 2017-2023, additional capacity for drinking water will be required for Mountshannon.</p> <p>Traffic management: consideration of effects of increased visitors and means of transport.</p> <p>Ensuring accessibility to visitor centre and to the</p>	<p>Awareness Raising and Education AR 1 to 6</p> <p>Guide Service GS1 to GS4</p> <p>Access and Transport AT3</p> <p>Burial Practices B1</p> <p>Pathways in particular P1</p> <p>Signage S1 to s3</p> <p>Toilet Facilities TF1</p> <p>CDP 3.5 Development Plan Objective: Large Villages</p> <p>CDP 5.6 Development Plan Objective: Accessibility</p> <p>CDP 7.8 Development Plan Objective: Large Villages</p> <p>CDP 19.3 Development Plan Objective: Compliance with Zoning</p>

Strategic Environmental Objectives	Potential Significant Effects from plan implementation	Mitigation Measures developed through SEA and AA.
<p><b>T1 – Maximise sustainable modes of transport and encourage use of walkways/cycle paths as alternative routes to school, work, shops and Plan Area</b></p> <p><b>WA1 – Implement the waste pyramid and encourage reuse/recycling of material wherever possible.</b></p> <p><b>WS1 - To ensure adequate and clean drinking water supplies.</b></p> <p><b>WS2 - Promote water conservation and sustainable water usage for long- term protection of available water resources.</b></p> <p><b>WW1 - To ensure that all zoned lands (existing and proposed) are connected to the public sewer network ensuring treatment of wastewater which meet EU requirements prior to discharge. .</b></p>	<p>island itself.</p> <p style="text-align: center;"><b>Material Assets</b></p> <p>Traffic management: consideration of effects of increased visitors and means of transport.</p> <p>Increased use of resources in relation to wastewater and water supply.</p> <p>Current wastewater capacity is not sufficient for proposed visitor numbers to the centre in Mountshannon. To achieve the target figures by year five, the wastewater treatment capacity requires significant additional investigation into wastewater capacity and receiving waters will be required.</p> <p>Wastewater capacity and supply of potable waters supplies.</p>	<p>CDP5.24 Development Plan Objective: Burial Grounds/Crematoria</p> <p>Volume 3 Flood Risk Assessment</p> <p>Construction Environmental Management Plan</p> <p>CDP8.24 Development Plan Objective: Water Services</p> <p>CDP8.25 Development Plan Objective: Water Supply</p> <p>CDP8.27 Development Plan Objective: Wastewater Treatment and disposal</p>
<p><b>CC1- ensure that proposals are adaptive to expected climate change patterns.</b></p>	<p style="text-align: center;"><b>Climate Change</b></p> <p>Potential effects in relation to increased water levels in Lough Derg and shoreline and underwater archaeological resources.</p> <p>New physical infrastructure in areas of flood risk</p>	<p>Climate Concerns CC1 to CC3</p> <p>Volume 3 Flood Risk Assessment</p> <p>CDP18.2 Development Plan Objective: Climate Change Adaptation</p>

## 5 Monitoring

### 5.1 Introduction

Monitoring is an important part of the SEA process as it provides a framework to ascertain both how the plan is performing environmentally and also to gather data over the lifetime of the plan. Changes in the environment, particularly critical changes such as water quality can be captured this way. Monitoring focuses on the aspects of the environment that are likely to be significantly impacted upon by the implementation of the Inis Cealtra plan.

The targets and indicators are derived from the Strategic Environmental Objectives (SEOs) discussed in Chapter Five. The target underpins the objective whilst the indicators are used to track the progress of the objective and targets in terms of monitoring of impacts.

Given the proposed increase in visitor numbers envisaged through the Inis Cealtra plan the potential impacts of this increase is identified as a key potential environmental issue, particularly in relation to cultural heritage. Therefore as part of the EMP, annual monitoring is proposed pre and post peak visitor season for Years 1 to 5. Further detail is provided in Chapter Eight.

Should new data or the following occur, additional monitoring will be required:

- Significant visitor impacts at archaeological features, upstanding or earthworks
- Trampling/disturbance to priority habitats

In turn the list below is subject to review at each reporting stage to reflect new data. Should the monitoring regime identify significant impacts (such as impacts on designated sites) early on in the plan implementation, this should trigger a review of the plan and monitoring regime. In addition, the identification of positive impacts from monitoring should also be reported as this will assist in determining successful environmental actions.

Finally, it is recommended that the monitoring report be made available to the public upon its completion. It is recommended that this data be shared with neighbouring local authorities to assist in monitoring cross county effects and ensure consistency of monitoring. Table 19 below presents the SEA Monitoring Table.

Table 6 sets out the strategic environmental objectives, targets and indicators to applied in monitoring the significant environmental effects of the implementation of the plan, in accordance with Section 13J(2) of the Planning and Development (SEA) Regulations 2004, as amended. It is proposed that the SEA monitoring reporting should go parallel with the reviewing of the Clare CDP.

Table 6 Monitoring Programme for SEA of Plan

Topic	Strategic Environmental Objectives	Target	Indicator	Data Source/Responsibility/
<b>Cultural Heritage</b>	CH1 – Protect and conserve the cultural heritage including the built environment and settings; archaeological (recorded and unrecorded monuments), architectural (Protected Structures, Architectural Conservation Areas, vernacular buildings, materials and urban fabric) and manmade landscape features (e.g. field walls, footpaths, gate piers etc.).	No permitted development associated with plan which involves loss of cultural heritage, including protected structures, archaeological sites, Architectural Conservations Areas and landscape features.	No. of developments permitted during the lifetime of the plan which will result in the loss or partial loss of protected structures or sites of archaeological status.  Development of cultural heritage areas for amenity resources	CCC
	CH2 – To protect, conserve and enhance local folklore, traditions and placenames within the Plan area.	Interpretation associated with Inis Cealtra that highlights intangible cultural heritage	Provision of same in Visitor Centre and part of interpretation on site	CCC, NMS, DAHG
	CH3 – To ensure the restoration and re-use of existing uninhabited and derelict structures where possible opposed to demolition and new build (to promote sustainability and reduce landfill)	To increase the number of uninhabited and derelict structures that are restored opposed to demolition, particularly in relation to Fishermans Hut, Inis Cealtra	No. planning applications for restoration/re-use of vacant and derelict structures.  No. planning applications for demolition and redevelopment of vacant and derelict sites.	CCC
<b>Biodiversity, Flora and Fauna</b>	B1 – Protect, conserve, enhance where possible and avoid loss of diversity and integrity of the broad range of habitats, species and wildlife corridors.	No reduce in length or loss of hedgerows associated with plan.  Operators who conduct mechanical hedge cutting should have achieved the Teagasc proficiency standard MT 1302- Mechanical Hedge Trimming.  No ecological networks or parts thereof which provide significant connectivity between areas of local biodiversity to be lost	Percentage of unique habitats and species lost in non-designated sites within the plan area of the plan over the lifetime of the Plan through trending of annual/bi-annual surveys.  EIA and AA project level habitat survey and assessment associated with planning applications.	CCC OPW Coillte NPWS Shannon RBD/National RBD NPWS CCC OPW National Biodiversity Data Centre

	without remediation as a result of implementation of the plan		
B2 – To achieve the conservation objectives of European Sites (SACs and SPAs) and other sites of nature conservation.	<p>No loss of protected habitats and species associated proposals arising from the plan.</p> <p>No compromise in the favourable conservation condition of European sites in particular the Lough Derg SPA and wetland habitats associated with Inis Cealtra</p>	<p>Percentage of unique habitats and species lost in designated sites through plan planning applications.</p> <p>No./percentage of developments in/near Natura 2000 network.</p>	CCC
B3 - Conserve and protect other sites of nature conservation including NHAs, pNHAs, National Parks, Nature Reserves, Wildfowl Sanctuaries as well as protected species outside these areas as covered by the Wildlife Act.	<p>No loss of protected habitats &amp; species during the lifetime of the plan.</p> <p>Submission of HDA for proposed developments with planning applications in/and/or near Natura 2000 sites</p>	<p>Percentage of unique habitats and species lost in designated sites through trending of annual surveys.</p> <p>Provision/No. of HDAs with developments proposed for sites in/and/or near Natura 2000 sites</p>	CCC
B4 - Meet the requirements of the Water Framework Directive and the Shannon River Basin Management Plan/National River Basin Management Plan	<p>All waters within the plan area to achieve the requirements of the WFD and the relevant River Basin Management Plan by 2027.</p> <p>Ensure provision of riparian zones at project/site level</p>	<p>No of surface and groundwater bodies achieving "Good Status".</p> <p>No of waterbodies indicating deterioration in status.</p> <p>No of planning applications associated with plan (or EIA) with sufficient inclusion of buffer zones where necessary and applicable.</p>	
B5 – To minimise and, where possible, eliminate threats to bio-diversity including invasive species.	<p>Prevent the introduction of new invasive or alien species to Inis Cealtra in particular.</p> <p>Control/manage new invasive species in line with Clare CDP 2017-2023</p>	<p>Prevent the introduction of new invasive or alien species on Inis Cealtra.</p> <p>Control/manage new invasive species associated with proposals for plan</p>	CCC
B6 - Promote green infrastructure networks,	Ensure new development is set back	No. planning permissions close to water.	CCC

	including riparian zones and wildlife corridors	at from rivers. The recommended width for larger river channels (>10m) is 35m to 60m and for smaller channels (<10m) is 20m or greater. The determined width should be tailored to site specific, river reach or lakeshore characteristics and their associated habitats. It is important that the buffer zone is large enough to protect the ecological integrity of the river (including emergent vegetation), the riparian zone (bank side vegetation including trees) and takes into account the human history of the area.		
<b>Geology and Soil</b>	S1 – To maximise the sustainable re-use of the existing built environment, derelict, disused and infill sites (brownfield sites), rather than greenfield sites	Preference for development on brownfield site over green field.  Limited and controlled development of greenfield sites.  Re-use of soil from redeveloped sites where possible.  No incidences of soil contamination.	No/% of new developments on brownfield sites and. % of total greenfield land developed associated with plan.	CCC
	S2 – Minimise the excavation and movement of soils within site works	-	Volume of construction and demolition waste recycled	CCC
	S3 – Minimise the consumption of non-renewable deposits on site.	Promotion of construction and demolition waste management at plan level.	Management for or Construction and Demolition Waste as part of plan proposals.	CCC
	S4 - Conserve, protect and avoid loss of diversity and integrity of designated habitats, geological features, species or their	No loss of diversity and integrity of designated habitats, geological features, species or their sustaining resources in designated ecological	Percentage of habitats, geological features, species etc. lost over the lifetime of the plan through monitoring provisions of plan.	CCC

	sustaining resources in designated ecological sites.	sites.	.	
<b>Water</b>	W1 – Protect and enhance the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystem (quality, level, flow).	To achieve a Q rating of 4 'good' quality status by 2021 for Lough Derg Water Management Unit	Biotic quality rating of river waters at EPA monitoring locations	EPA
	W2 – Maintain or improve the quality of surface water and groundwater to status objectives as set out in the Water Framework Directive (WFD), the Shannon River Basin Management Plan and POMS.	Improvement or at least no deterioration in surface water quality by 2021	Changes in receiving water quality as identified during water quality monitoring for WFD, SRBMD conducted by CCC and EPA	CCC EPA
	W3 – Implement appropriate sustainable drainage systems (SuDS) in the County.	New drainage systems to be compliant with SUDs associated with plan visitor centre if considered necessary by CCC.	No. of developments associated with plan granted planning permission that incorporate SUDs	CCC
	W4 – Reduce the impact of polluting substances to all waters and prevent pollution and contamination of ground water by adhering to aquifer protection plans and to maintain and improve the quality of drinking water supplies.	Improvement or at least no deterioration in surface and groundwaters by 2021	Changes in receiving waters and groundwater quality as identified by water quality monitoring programmes conducted by CCC and EPA	CCC EPA
	W5 - Promote sustainable water use and water conservation in the plan area and to maintain and improve the quality of drinking water supplies.	Pressure on water and waste water treatment plants particularly in Mountshannon.	Decrease in no. of water shortage notices issued during drought periods,  Water conservation measures designed into plan visitor centre.	CCC
	W6 –Protect flood plains and areas of flood risk from development through avoidance, mitigation and adaptation measures.	In accordance with OPW/DOEHLG, all planning applications within designated Flood Risk zones A and B as identified in the Strategic Flood Risk	Flood risk assessment as part of plan planning applications- Visitor Centre potential site is outside flood zone A/B.	CCC

		Assessment for the plan are required to undertake Flood Risk assessment		
	W7 – To promote a responsible attitude to recreation and amenity use of water in relation to water quality and disturbance to species and to prevent pollution and contamination of designated bathing waters <b>at Mountshannon Harbour.</b>	Leave No Trace at Visitor Centre  Invasive Species awareness raising as part of interpretation	-	CC
<b>Landscape</b>	L1-Ensure no significant disruption of historic/cultural landscapes and features through the <b>implementation of the Inis Cealtra plan.</b>	Ensure no significant disruption of historic/cultural landscapes and features through objectives of the County Development Plan and plan	No. of developments permitted and their impacts on cultural/historic landscapes.  No. of developments located within Scenic Route or no degradation of areas designated as Heritage Landscapes (Locations in text and on maps)  No. of developments located within a designated scenic view or route or high landscape area in County Clare that disrupt views (based on the LCA)	CCC
	L2-No significant <b>adverse</b> visual impact from development proposals associated with the Inis Cealtra plan	No significant visual impact from development associated with plan  Ensure no significant disruption of high landscape values	No. of developments located within a high landscape area that disrupt views (based on LCA):  Loss of vistas/views  Loss of trees  Loss of amenity woodland.  No of large scale developments permitted	CCC
	L3-Ensure no significant disruption of <b>key characteristics of the Lough Derg Basin Landscape Character Area arising from the Inis Cealtra plan</b>	No significant loss of landscape characteristics associated with plan.  Enhancement of landscape character through proposals associated with plan	Visual and landscape character assessment prepared as part of plan proposals by suitably qualified landscape specialist.	CCC
<b>Population and Human</b>	P1- Protect, enhance and improve people's	Improved trends in perceived quality of life	Improved trends in perceived quality of life related to these	CSO

<b>health (including Quality of Life)</b>	quality of life based on high quality residential, community, educational, working and recreational environments and on sustainable travel patterns.	related to these matters. Local economic benefit from plan to plan area. No significant deterioration in human health as a result of environmental factors.	matters as gathered through surveys Increase in local bed nights and part/full time employment associated with plan by year 5.  Occurrence of any decline in human health around the plan area.	
	P2-To protect human health from hazards or nuisances arising from incompatible land uses/developments.	No spatial concentrations of health problems arising from environmental factors	Any occurrence of spatially concentrated deterioration in human health.	CSO CCC
	<b><i>P3- Recognise and protect the spiritual and historic contribution that Inis Cealtra makes to the community.</i></b>	<b><i>Continued use of Inis Cealtra for ritual and spiritual events by the wider community.</i></b>	<b><i>No of community events associated with Inis Cealtra</i></b>	<b>CCC</b>
<b>Material Assets</b>				
<b>Transport</b>	T1 – Maximise sustainable modes of transport and encourage use of walkways/cycle paths as alternative routes to school, work, shops and Plan Area	Park and ride facilities provided	Number of car parking spaces  Number of bus/coach trips to plan area and Visitor Centre annually.	CCC
<b>Waste</b>	WA1 – Implement the waste pyramid and encourage reuse/recycling of material wherever possible.	Reduction in the quantities of waste sent to landfill.  Compliance with the Southern Region Waste Management Plan	Quantity of Visitor Centre waste recycled.	
<b>Water Supply</b>	WS1 - To ensure adequate and clean drinking water supplies.	Upgrade existing water treatment plant within the plan area in advance of plan proposals around visitor centre	Upgrade undertaken within the plan area.	
	WS2 - Promote water conservation and sustainable water usage for long- term protection of available water resources.	Reduce the amount of water usage.  Increase usage of water collected through water harvesting and designed into Visitor Centre.	Water meter readings.  Fitting of rainwater harvesting units at Visitor Centre.	

<b>Waste Water</b>	WW1 - To ensure that all zoned lands (existing and proposed) are connected to the public sewer network ensuring treatment of wastewater which meet EU requirements prior to discharge. .	Upgrade existing wastewater treatment plant infrastructure identified within the plan as being insufficient, based on existing and forecasted population equivalent associated with increased Visitor Numbers to meet EU requirements	Upgraded Waste Water Treatment Plants within the plan are
	- Reduce the dependency on individual proprietary wastewater treatment facilities and ensure the highest standards possible in existing and future wastewater treatment facilities	Sustainable alternative individual proprietary WWT facilities. Measures to promote, encourage and incentivise a change from traditional WWTS to alternative sustainable system	Testing of individual WWT facilities. Types/usage/percentage using sustainable methods of WWT.
<b>Climate Change</b>	<i>CC1- ensure that proposals are adaptive to expected climate change patterns.</i>	<i>A framework for monitoring climatic conditions that may affect the island should be developed.</i>	<i>Framework prepared by Year 1. CCC with ICOMOS/DAHG</i>

## 5.2 Conclusion

This SEA Environmental Report demonstrates how environmental parameters have been addressed in the plan preparation process. Consultation has been undertaken for the Screening and Scoping of this Environmental Report and ***following consultation additional changes were made to the plan, the SEA ER and this NTS. Proposed changes were also assessed for potential environmental effects, and these are commented upon in Appendix B to the SEA ER.***

The preparation of a specific Environmental Management Plan to accompany the Inis Cealtra plan is the key output of the SEA and AA process and has been developed and refined through the SEA and HDA process to date.

Subject to the full and proper implementation of the mitigation measures outlined in the SEA Environmental Report, Natura Impact Report and included in Chapter Five of the plan including appropriate site level investigations; it is considered that significant adverse impacts on the environment will be avoided.

# Section 2 Strategic Environmental Assessment - Environmental Report

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# 1 INTRODUCTION

## 1.1 PURPOSE

This is the Final Environmental Report (ER) for the Strategic Environmental Assessment (SEA) of the Inis Cealtra Visitor Management and Sustainable Tourism (the Plan). The purpose of SEA is to formally and systematically evaluate the likely significant effects of implementing a plan or programme. This ER identifies the significant environmental effects of the plan on the environment and where significant effects are identified, recommends appropriate mitigation measures to avoid or reduce such effects. SEA is an iterative process and has informed and influenced the preparation of the plan, particularly through avoiding areas of greatest environmental sensitivity.

This ER forms part of the SEA process, documents the SEA process to date and is the key consultation document in SEA as it facilitates interested parties to comment on the environmental issues associated with the plan. ***Where the plan and this ER have been updated in light of the consultation process, additional text is presented in italic and bold font. In addition, where new changes have been proposed to the plan following consultation, these have been screened under the SEA and Habitats Directive Assessment, this screening report is presented in Addendum B of this SEA ER.***

## 1.2 BACKGROUND AND CONTEXT

Inis Cealtra is a 20 hectare (50 acre) island located in Scariff Bay on the south-west part of Lough Derg between County Clare and County Galway. The closest village to the island is Mountshannon in Co. Clare, and boat access is available from the both the village marina, and from Knockaphort Pier on the shore near the island

Inis Cealtra is also known as Iniscealtra, or Holy Island. The island has a rich history and is associated with a number of early saints, the ecclesiastical site having been founded in the 6th or 7th century. A variety of ecclesiastical architectural ruins are present on the island. Brian Boru and his sept, the O'Briens (Uí Briain), were intimately connected with Inis Cealtra. The island is much loved and regularly used by the local communities, including for family burials in the cemeteries that remain in use there. The island contains a major medieval complex which, due to its relatively inaccessible island location, is in a good state of preservation. Inis Cealtra has been included on the UNESCO World Heritage Tentative List as part of a serial nomination. The island is also within an area of international biodiversity importance, and lies amidst some of the most significant sites of religious heritage in Ireland. There is no population resident on the island

The island is now entirely in public ownership with Clare County Council's purchase of lands in recent years and the Office of Public Works' ownership of the National Monuments on the island. The need for a flagship visitor attraction in Lough Derg has long been recognised, and the Council considers that developing the potential of this unique heritage site represents an excellent opportunity of achieving this. Recognition of the sensitivities of this site, in terms of natural, built and cultural heritage are of paramount importance and Clare County Council is cognisant of the need to progress this project in a considered and sustainable manner. The preparation of the Plan for the Island has been commissioned by Clare County Council with the intention of achieving this overall objective. Figure 1 below shows the location of Inis Cealtra on Lough Derg.

Figure 1 Inis Cealtra, Mountshannon and Lough Derg, County Clare



### 1.3 PURPOSE OF THIS PLAN

The brief, as given by Clare County Council, was to prepare a Visitor Management and Sustainable Tourism Development Plan for Inis Cealtra which would provide a series of recommendations and objectives in relation to the following:

- Statement of Significance of the importance of the island (provided in Chapter 2 of the plan).
- Proposals for the future sustainable management and protection of Inis Cealtra including consideration of archaeology, landscape, wildlife conservation and cultural heritage, and how they inform visitor management (provided in Chapter 3 of the plan).
- Proposals on the provision of tourism facilities on or near the Island (provided in Chapter 3 of the plan).
- Proposals in relation to improving access to the Island (provided in Chapter 3 of the plan).
- Proposals on marketing and promotion of the Island as a visitor destination (provided in Chapter 4 of the Plan and Chapter 6 of Appendix 1).
- Public and stakeholder consultation in the formulation of the Plan (detailed in Chapter 8 of Appendix 1 of the plan).
- Implementation strategy for visitor management and sustainable tourism development on Inis Cealtra (set out in in Chapter 5 of the plan).

The various research streams that have been undertaken over the course of the project to date, have also resulted in a number of recommendations which will be included in the final plan; these include considerations regarding wastewater treatment capacity and measures to avoid adverse effects on species using the island, sensitive habitats as well as the very significant archaeological and cultural heritage resources.

### 1.4 STRATEGIC ENVIRONMENTAL ASSESSMENT

Article 1 of the European Union Strategic Environmental Assessment (SEA) Directive (2001/42/EC) states that its objective is:

‘to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development.’

The following Regulations transpose this Directive into Irish law:

- The European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (S.I. 435 of 2004),
- The Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. 436 of 2004) and further amended by
- S.I. No. 200 of 2011 (European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011) and S.I. No. 201 of 2011 (Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011).

**As a tourism related plan, this SEA has been prepared under European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 ( S.I No 435 of 2004).<sup>1</sup>**

Regulations contained in Schedule 2B of Statutory Instrument (S.I.) 436 of 2004(as amended) details the information to be contained in an Environmental Report. The following Table 1.lists the information required and details where this information is contained in this Environmental Report.

Table 1 Information required to be contained in an Environmental Report.

Schedule 2B of Statutory Instrument 436 of 2004	Addressed in this SEA ER
(a) an outline of the contents and main objectives of the plan and relationship with other relevant plans	Chapter One Introduction and Chapter Two Methodology outlines contents and main objectives; Chapter Three details the relationship with other relevant plans
(b) the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan	Chapter Four Baseline Environment provides this information
(c) the environmental characteristics of areas likely to be significantly affected	Chapter Four Baseline Environment provides this information
(d) any existing environmental problems which are relevant to the plan including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to the Birds Directive or Habitats Directive	Chapter Four Baseline Environment provides this information
(e) the environmental protection objectives, established at international, European Union or national level, which are relevant to the plan and the way those objectives and any environmental considerations have been taken	Chapter Five: SEA Objectives provides this information

<sup>1</sup> Statement inserted on foot of submission by EPA.

<b>into account during its preparation</b>	
<b>(f) the likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors</b>	Chapter Seven, Significant Effects on the Environment provides this information
<b>(g) the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan</b>	Chapter Eight, Mitigation Measures provides this information
<b>(h) an outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information</b>	Chapter Six, Alternatives Considered provides this information and difficulties encountered are listed at the end of Chapter Two, Baseline Environment.
<b>(i) a description of the measures envisaged concerning monitoring of the significant environmental effects of implementation of the plan</b>	Chapter Nine, Monitoring provides this information
<b>(j) a non-technical summary of the information provided under the above headings</b>	This is provided as a separate document to this Environmental Report but is also available

## 1.5 REPORT PREPARATION

The SEA Team worked with the wider Solearth team and Clare County Council. The following consultants prepared this SEA ER:

- Ruth Minogue MCIEEM, AILI, (BSoc Sc) Social Anthropology, University of Manchester 1996, MA (Econ) Environment and Development, University of Manchester 1998, Dip Field Ecology, University College Cork 2003, ongoing CPD including certificate in Health Impact Assessment (2012) and environmental law (Water Environment: the Legal Framework 2016 IEEM);
- Pat Doherty MCIEEM, MSc in Applied Environmental Science (Ecology), University College Dublin, 2003; BSc (Honours) in Environmental Earth Science, University of Wales, Aberystwyth, 2000; ongoing CDP including Habitat Assessment (NVC) and flora and fauna identification through IEEM
- Dr Ronan Hennessey, Ph.D Earth & Ocean Sciences, NUI Galway, Higher Diploma in applied Remote Sensing and GIS, NUI Maynooth, B.Sc Earth Sciences, NUI Galway.
- Technical input including baseline descriptions for ecology and archaeology in particular were provided by Dr Mary Turbridy (Ecology) and Dr Bernadette MacCarthy and Clíodhna O’Leary (Archaeology). Other inputs across the study team are acknowledged as appropriate.

## 2 SEA METHODOLOGY

### 2.1 INTRODUCTION

This chapter presents the SEA methodology in more detail and outlines the steps required for SEA. The approach to the appropriate assessment is presented in a separate report – a Natura Impact Report (NIR). The methodology used to carry out the SEA of the plan reflects the requirements of the SEA regulations and available guidance on undertaking SEA in Ireland, including:

- SEA Methodologies for Plans and Programmes in Ireland – Synthesis Report Environmental Protection Agency (EPA), 2003;
- Implementation of SEA Directive (2001/42/EC) Assessment of the Effects of Certain Plans and Programmes on the Environment – Guidelines for Regional Authorities and Planning Authorities - published by the Department of the Environment, Heritage and Local Government, 2004;
- Planning and Development (Strategic Environmental Assessment) Regulations 2004 (SI 436 and SI 435 of 2004);
- Planning and Development (Strategic Environmental Assessment) Regulations 2011 (S.I. No. 201 of 2011);
- Planning and Development (Environmental Assessment of Certain Plans and Programmes) (S.I No 200 of 2011);
- SEA Process Checklist Consultation Draft 2008, EPA 2008;
- Circular Letter PSSP 6/2011 Further Transposition of EU Directive 2001/42/EC on Strategic Environmental Assessment, and
- Guidance on integrating climate change and biodiversity into Strategic Environmental Assessment European Union 2013.
- SEA Resource Manual for Local and Regional Authorities, Draft Version, 2013
- Integrating Climate Change into Strategic Environmental Assessment in Ireland – A Guidance Note,( EPA, 2015)
- Developing and assessing alternatives in Strategic Environmental Assessment, (EPA, 2015)

### 2.2 STAGES IN THE SEA PROCESS

The steps involved in SEA are as follows:

- Screening (determining whether or not SEA is required).
- Scoping (determining the range of environmental issues to be covered by the SEA).
- The preparation of an Environmental Report.
- The carrying out of consultations.
- The integration of environmental considerations into the Plan or Programme.
- The publication of information on the decision (SEA Statement).

#### 2.2.1 Screening

The SEA Regulations state that SEA is mandatory for certain plans while screening for SEA is required for other plans that fall below the specified thresholds. The draft plan was screened to determine whether likely significant effects would arise in relation to the implementation of same. The screening process was informed by the criteria listed in the SEA Directive and the conclusions of the NIR.

The screening determined that full SEA was required and a copy of both the SEA Screening Report and determination were issued to the statutory environmental authorities.

### 2.2.2 Scoping

The purpose of the SEA Scoping report is to identify the scope of the SEA and ensure that relevant data and environmental topics are included in the SEA. The Scoping report was issued to the following consultees in July 2016 and Table 2 below summarises the main issues raised by consultees.

The scoping process was further augmented by a Scoping Meeting with the SEA and AA consultants, Clare County Council, the Environmental Protection Agency (EPA) and National Parks and Wildlife Service (NPWS) on 16<sup>th</sup> August 2016; this provided an opportunity for a more focused discussion on the SEA and AA processes and relation to the plan.

Table 2 : Scoping Submissions Received and SEA Response.

Consultee	Key Issue Raised	SEA Response
<b>Cian O'Mahony, Environmental Protection Agency</b>		
	<p>The SEA ER should consider assessing the potential additional pressures, including seasonal pressures, on existing critical service infrastructure (drinking water/wastewater/waste) and transport related infrastructure.</p> <p>The Plan should include commitments for relevant infrastructure and any necessary associated upgrades/maintenance of existing infrastructure.</p> <p>Any priority commitments should where necessary be reflected in at LAP/Development Plan Level also.</p>	<p>Noted, pressures and capacity of existing critical services are described and assessed in this SEA ER. Please see Chapter Four, Environmental Baseline.</p> <p>Recommendations in relation to same are also included in this SEA ER. Please see Chapter Eight, Mitigation Measures.</p>
	<p>The SEA ER should ensure that the potential environmental effects of a likely increase in traffic volumes in the wider Mountshannon area resulting from implementation of the plan, is assessed and mitigated for where appropriate. The needs for additional parking during peak season should also be considered and assessed.</p>	<p>Noted, detailed traffic and transport studies were not undertaken as part of the plan preparation; however, existing transport provision and potential environmental effects are discussed in Chapter Four and Seven respectively in this SEA ER.</p>
	<p>Key additional plans/programmes are provided and attached in the submission; these include:</p> <ul style="list-style-type: none"> <li>• National Landscape Strategy</li> <li>• National Biodiversity Plan</li> <li>• National Planning Framework (under preparation)</li> <li>• Regional Spatial and Economic Strategies (to commence)</li> <li>• Water Framework Directive River Basin Management Plans (2<sup>nd</sup> cycle in preparation)</li> <li>• Shannon Catchment and Flood Risk Assessment and Management Study</li> <li>• National Mitigation Plan (in preparation)</li> </ul>	<p>Noted and are included in Chapter Three of this SEA ER.</p>

	<ul style="list-style-type: none"> <li>• Sectoral Climate Adaptation Plans (in preparation)</li> </ul>	
<b>Climate Change Resilience</b>	Consideration of how resilient various elements of the Plan (and associated infrastructure) are to the effects of climate change. EPA publications: Local Authority adaptation guidelines research report 164, and Integration of Climate change into SEA referenced.	Noted, and included in Chapters Four and Seven.
<b>Biodiversity</b>	<p>A specific commitment to protecting designated habitats and protected species (and associated ecological corridors) within and adjacent to the Plan area, and associated ecological linkages.</p> <p>Tourism related development needs to avoid or minimise potential for significant disturbance to habitats and species. Habitat mapping should be included in plan.</p>	Agreed and included in Biodiversity SEOs.
<b>Ecosystem services</b>	Consider adopting an ecosystem services approach	Noted, report on ecosystem services provided by public trees in Mountshannon have been used as a baseline and a specific section highlighting ecosystem services is included in Chapter 4 of this ER.
<b>Water Quality</b>	Clear commitments to protect surface water, groundwater and associated habitats and species, including fisheries within and adjacent to plan area. Recommendations/concerns for water bodies within plan area should be considered.	Noted, and agreed. See Chapters Four, Seven and Eight.
	Individual water bodies within the WFD RBMP and specific objectives/measures should be provided for in the plan.	Agreed. See Chapters Four, Seven and Eight.
<b>Invasive Alien Species Control &amp; Management</b>	<p>Consider feasibility of providing biosecurity /IA awareness notices in range of languages re; access points, and fishing.</p> <p>Control and monitoring of IAS regarding maintenance activities</p>	Agreed, and provided for in Chapter Eight.
<b>Landscape</b>	Landscape sensitivity including cultural landscapes need to be considered in any proposed development. Consider undertaking a LCA of the Plan and area.	<p>Noted, this is a key consideration across a number of SEA parameters.</p> <p>LCA of County Clare was used as well as tree survey that assessed local townscape character, further commentary of landscape</p>

		setting prepared as part of the plan -please see Chapter 4.
<b>Assessment of Likely Significant Effects</b>	Full range of effects as set out in Annex I of the SEA Directive should be assessed and reported.  Potential for cumulative effects with other plans/programmes and projects	Noted, see Chapter Seven for full reporting on assessment of effects including cumulative.
<b>Alternatives</b>	Clear justification for selection of alternatives and should consider both onshore and on island, including possible routes to be used for docking, interpretive centres, building materials, routes and accessibility options on the island etc.  EPA Guidance document (2015) should be considered.	Noted, and agreed, Detailed alternatives assessment provided in Chapter Six.
<b>Monitoring</b>	A commitment to monitoring visitor numbers to Mountshannon and Inis Cealtra and visitor centre upon completion should be included.  Incorporating this into the Plan and SEA related monitoring aspects to assess the potential environmental effects which may arise with increased tourism related impacts. It may assist with determining a preferred maximum number of given visitors to the Inis Cealtra site at a given time.	Agreed and included in this SEA ER and draft Plan.
<b>Scoping Questions in report and response</b>	The SEA ER should consider the extent to which aspects such as transport/tourism related noise could be an issue in context of disturbance to wildlife.  Shannon CFRAMS and relevant Unit of Management Flood Risk MP  Possible opportunities to link with Wild Atlantic Way Waterways Ireland	Agreed and considered in this SEA ER. See Chapters Four, Seven and Eight.  Noted, these are included in cumulative effects see Chapter Seven.
	EPA SEA Scoping Guidance contains a list of useful environmental related data sources. Information also provided on EPA webGIS tool and consultation with environmental authorities.	
<b>Yvonne Nolan</b> <b>Development Applications Unit</b> <b>Dept. of Arts, Heritage, Regional, Rural and Gaeltacht affairs.</b>		
<b>Archaeology</b>	Underwater Archaeology.  The Wreck Inventory of Ireland database lists 4 known wrecks in the waters adjacent to Inis Cealtra and a number of other wrecks for Lough Derg in general, these are protected under the National Monuments Acts 2030-2014.  There may be other forms of underwater archaeology	Noted, and described in Chapter Four.  Addressed in Chapters Seven and Eight.

	that may await discovery from earlier periods.	
	<p>Works such as upgrading piers or increased boat/visitor traffic has the potential to negatively impact known or potential submerged archaeology, and there will be a need for an appropriate level of assessment in these areas.</p> <p>Increase propeller wash action from repeat boat trips can be an impact.</p> <p>Should there be an increase in proposed boat trips to and from the island to Mountshannon, it is recommended that the ferry path be restricted to a single route. Depending on scale, there may be a need to carry out an underwater archaeology assessment.</p> <p>The SEA should address this issue and carry out a full underwater archaeological assessment of the effects of the plan.</p> <p>The archaeological component of the SEA should be carried out by an archaeologist experienced in both terrestrial and underwater archaeology.</p>	<p>Noted. Such potential impacts have been discussed with the archaeological team and highlighted through the SEA process. Impacts and mitigation measures presented in Chapters Seven and Eight of this ER.</p> <p>The archaeological sections of this SEA including baseline description, potential effects and mitigation have been prepared based on the research carried out by the archaeological team and reviewed by same.</p>
	All proposed development and strategies should be in compliance with the National Monuments Acts 1930 to 2004 and with the national policy on protection of archaeological heritage – ‘Framework and Principles for the Protection of the Archaeological Heritage’ published in 1999 by the Department of Arts, Heritage, Gaeltacht and the Islands.	Noted
<b>General Guidance</b>	<p>1 All areas of archaeological heritage should be addressed where relevant, including;</p> <p>a) Immovable cultural heritage e.g., monuments and ancient field boundaries.</p> <p>b) Underwater cultural heritage such as river fording points, shipwrecks, fish weirs, fish traps and other underwater ruins such as submerged jetties.</p> <p>c) Movable cultural heritage e.g., loose carved stones, sculptures, architectural fragments etc.</p>	This has informed the baseline chapter, see Chapter Four
	2. All proposed development within proximity to archaeological monuments should be subject to appropriate consultation, at the earliest possible stage, with the Department of Arts, Heritage and the Gaeltacht.	Agreed, this is now a mitigation measure –see Chapter Eight
	3. All impacts which may impinge on the archaeological heritage should be appropriately	Noted, please see Chapter Eight.

	<p>assessed by a suitably qualified archaeologist.</p> <p>4. Where there are no archaeological monuments present but the development is large in scale, e.g., over 0.5 hectares in area and over 1 kilometre in length, it is generally recommended that an archaeological assessment should be undertaken, unless there are substantial grounds to show that it is not necessary. Refer to Framework and Principles for the Protection of the Archaeological Heritage 1999, in particular section 3.6.6 in regard to EIA.</p> <p>5. Where appropriate, specialists in the field of archaeological heritage should be consulted throughout the process, from design through to implementation.</p> <p>6. All surveys pertaining to archaeological heritage must be of a high standard in order to allow informed decisions to be taken.</p> <p>7. All impacts must be assessed, to include ground disturbance, impacts on the setting of the monuments and visual impacts. These should include direct, indirect, temporary and cumulative impacts.</p> <p>8. Mitigation of impacts, identified through consultation, should be taken into account within the development at the earliest possible stages. Various approaches should be considered, such as avoidance, design modification and relocation where appropriate.</p>	
<b>Nature Conservation</b>	<p>Consultation in respect of scope of the SEA as well as opportunity to make observations in relation to the Natura Impact Statement (NIS) or Natura Impact Report (NIR), and the AA.</p>	Noted
	<p>General duties of a public authority to safeguard European sites and comply with Birds and Habitats Directive and related national legislation.</p>	Noted
<b>Plan and Plan Area</b>	<p>The need for additional development, works and services including during construction phases, should be considered and assessed e.g: lighting, site compounds, dredging, site investigations etc.</p> <p>Plan area appears to include the island, Mountshannon and the surrounds and interconnecting lake at a minimum. The outline of a significantly larger zone of influence is noted. The approach of subdividing part of a large water body (Lough Derg) as the zone of influence is questioned by the Department. Application and validity of same</p>	<p>Noted, agreed and such activities are considered in Chapters Seven of this SEA. Requirements for a Construction Environmental Management Plan included in Chapter Eight.</p> <p>This point is noted, the plan area and potential zone of influence is clarified further in Chapter Four of this SEA ER</p>

	should be examined and justified on scientific grounds nothing this may vary for certain features in certain contexts.	and for different parameters the zone of influence varies.
<b>Plan preparation and content</b>	<p>Plan should contain objectives and targets for conserving, maintaining and restoring biodiversity, flora and fauna, key elements of which are listed in Appendix 1 of this submission.</p> <p>It should be demonstrated that there is consistency between protective ecological and environmental objectives and other objectives for development and changes in intensity of usage. Where potential conflicts arise, they should be examined sufficiently at plan level to show how future projects or problems will be approached, managed and resolved.</p>	<p>Noted and agreed. Chapter Five presents same.</p> <p>Approach to assessment Chapter Seven addresses this comment and provides for subsequent mitigation as appropriate in Chapter Eight.</p>
	<p>The SEA process and NIS/NIR should influence in a positive way, the plan during its preparation. It is the plan itself that should demonstrate compliance with the Directives and associated legislation. For AA it must be able to pass the tests of that process.</p> <p>If there is reliance on mitigation measures in an appendix or other source, clear, effective and repeated cross referencing will be required.</p>	<p>Noted. Chapters One and Six of the plan summarise how SEA and AA influenced plan preparation and mitigation measures from same processes are replicated in Chapter Six of the plan.</p>
	<p>The plan should outline its relationship with future projects and visitor and tourism management and promotion. At plan level, targeted mitigation measures should be developed to guide future projects and demonstrate they will be captured for effective screening and project specific assessment, as well as a robust basis for assessment potential cumulative and in combination effects. Council should have necessary expertise, resources and procedures to ensure planning, design, screening, assessment and decisions are based on best practice, scientific evidence and aa in particular. Consideration of EIA at whole island level in the future should be explored.</p>	<p>Noted, and where this information is currently available has been included in Chapters Three Seven and Eight of this SEA ER.</p> <p>Noted.</p> <p>Clare CDP Objective 14.9 Environmental Impact Assessment provides for EIA as required.</p>
	<p>SEA required to list existing environmental problems – invasive species, and water quality status as well as additional pressures on water quality arising from the plan and plan area will require examination.</p>	<p>Noted, Chapter Four presents this information.</p>
<b>Plan Status and Appropriate Assessment</b>	<p>Consider whether plan is to given effect through landuse planning process or is it a plan for purposes of EU birds and habitats regulations 2011.</p>	<p>The former regulations give effect to the plan ie; through the land use planning process.</p>
	<p>Reference to case law regarding obligations of decision making authority to resolve scientific uncertainties and AA to demonstrate how differing</p>	<p>Noted, the AA process will present a clear, scientific basis for conclusions and</p>

	scientific opinions were addressed and reasons for selected one view over another	determinations.
<b>Available guidance &amp; ecological information</b>	Listed with links to same	Noted
Biodiversity, Flora and Fauna	Scope of the SEA should assess likely significant effects on all elements (see Appendix 1) including: European sites Proposed Natural Heritage Areas Annex IV species of flora and fauna Other species of flora and fauna and their habitats protected under Wildlife Acts, 1976-299 Habitats directive and Birds Directive defined in the Environmental Liability Directive Stepping Stones and ecological corridor	Noted, these are presented in Section 4.3 of this ER.
	Should be prepared by or in conjunction with suitably qualified ecologist. EPA's Integrated Biodiversity Impact Assessment of particular relevance.	Noted, prepared by Pat Doherty MCIEEM, with Ruth Minogue MCIEEM. Additional baseline by Dr Mary Turbidity. Guidelines have informed approach to assessment.
	Section 3.5 key principle and potential impacts are wide ranging and positive in general but do not adequately cover nature conservation sites, especially European Sites. Additional consideration to annex 1 habitats, habitat structure and function and ecological networks and stepping stones should be considered. The SEA must consider effects on areas or landscapes that have recognised national, European Union or international protection status.	Noted, and agreed. This section is expanded to reflect this observation. In particular see Chapters Four, Seven and Eight.
	Presence of annex 1 habitats is identified in plan area and scientific basis and justification for categorisation be presented.	Noted, NIR provides greater detail on this, Annex 1 habitats are presented in Section 4.3.1.
	Generally, no area should be identified or targeted for development without basic information on ecological sensitivities.	Noted, habitat map prepared and presented.
	Strategic Environmental objectives should be included for all nature conservation sites (not just European sites), protect species, and ecological corridors and stepping stones as outlined above.	Noted. SEO shall reflect same.
<b>Beatrice Kelly</b>	<b>Intangible heritage also should be considered</b>	<b>Noted, and agreed. This will</b>

<b>Heritage Council</b>	<b>especially as Ireland has ratified the Convention on Intangible Heritage, UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage (entered into force March 2016).</b>	<b>be referenced in Chapter Three and a discussion on same included in Chapters Four, Seven and Eight.</b>
	Inter-relationships between the different elements of landscape and heritage	Agreed, this will be addressed in particular in Chapters Seven and Eight of this SEA ER.
	Conservation Plan for Dalkey Island may offer useful elements.	Noted, this has been reviewed as part of this SEA

### 2.3 BASELINE DATA

The baseline data assists in describing the current state of the environment, facilitating the identification, evaluation and subsequent monitoring of the effects of the plan. It helps identify existing environmental problems in and around the plan area and in turn these can be quantified (for certain environmental parameters) or qualified. This highlights the environmental issues relevant to each SEA parameter and ensures that the plan implementation does not exacerbate such problems. Conversely this information can also be used to promote good environmental practices and opportunities for environmental enhancement, thereby improving environmental quality where possible.

Baseline data was gathered for all parameters. Additional primary research was undertaken for habitats, as well as bird and bat surveys. A detailed archaeological desktop review, as well as site visits and consultation also informed the archaeological and built heritage elements.

Other data was gathered from the SEA ER of the Clare County Development Plan 2017-2023, Irish Water, the EPA, Met Eireann and other sources as appropriate. Footnotes throughout the document, particularly in Chapter Four details the data source.

The SEA Directive requires that information be focused upon **relevant aspects** of the environmental characteristics of the area likely to be **significantly affected** by the plan and the likely change, both positive and negative, where applicable. As this SEA relates to visitor management in the plan area, taken to be Inis Cealtra, Mountshannon and access between same, the primary environmental baseline is focused on this area; the potential sphere of influence for the SEA is extended depending on the environmental parameter under discussion and this is explained further in Chapter Four.

### 2.4 CONSIDERATION OF ALTERNATIVES

The SEA assessed a number of alternative proposals particularly as they relate to the provision of visitor facilities on and off the island, as well as access to and from the island. This has taken the form of a matrix that assessed all the proposals that were developed and presented during public consultation in April 2016.

The consideration of alternatives also assessed the proposed visitor numbers and estimates as to the capacity of the island to accommodate increased visitor numbers over a five year period.

### 2.5 APPROACH TO ASSESSMENT OF SIGNIFICANT ENVIRONMENTAL IMPACTS

The assessment described within this Environmental Report aims to highlight the potential conflicts, if they are present, between the aims and proposals contained in this plan with the Strategic Environmental Objectives. Furthermore the assessment examines the potential impact arising from the plan's implementation on sensitive environmental receptors.

Key to assessing the above is setting a specific set of environmental objectives for each of the environmental topics. The objectives are provided in Chapter Five and include all aspects of the environment such as Cultural heritage, Population and Human health, and Biodiversity, Flora and Fauna.

The SEA, NIR and plan formulation is an iterative process and environmental considerations have informed all stages of the preparation of the plan, in order to avoid or minimise significant adverse environmental impacts. However, some individual proposals give rise to adverse impacts. Where the environmental assessment identifies significant adverse effects, consideration is given in the first instance to preventing such impacts; where this is not possible for stated reasons, to lessening or offsetting those effects.

In accordance with SEA guidelines the assessment identifies 'impact' under three headings. Firstly the quality of impact is addressed using the following terms:

- Potential Positive impact: A change which improves the quality of the environment.
- Potential Negative impact: A change which reduces or lessens the quality of the environment.
- Uncertain impact: The nature of any impact cannot be ascertained at this stage.

This initial stage aims to ascertain the quality, if any, of the potential impact. Each of the Plan's aims and proposals have been assessed for their impact and where a neutral impact is noted no further discussion is provided within this report. In this manner, the ER focuses on the negative and positive impacts and proceeds to a discussion on their significance and duration. Thus it is a more robust, more focused approach to understanding the potential impacts associated with the Inis Cealtra plan implementation.

Secondly, where a potential impact is noted, either positive or negative, the significance of impact is addressed. Significance is assessed in terms of the type/scale of development envisaged by the plan and the sensitivity/importance of the receiving environment. This is presented using the following terms:

- Profound: An impact which obliterates sensitive characteristics.
- Moderate: An impact that alters the character of the environment in a manner that is consistent with existing and emerging trends.
- Slight: An impact which causes noticeable changes in the character of the environment without affecting its sensitivities.
- Imperceptible: An impact capable of measurement but without noticeable consequences.

Thirdly the potential duration of identifiable impacts is discussed. The following terms are used:

- Short: Impact lasting one to seven years.
- Medium: Impact lasting seven to fifteen years.
- Long term: Impact lasting fifteen to sixty years.
- Permanent: Impact lasting over sixty years.
- Temporary Impact: lasting for one year or less.

Finally where it has been determined that elements of the plan may potentially result in a negative impact on an environmental receptor appropriate level mitigation measures are proposed.

## **2.6 MITIGATION**

Section (g) of Schedule 2B of the SEA Regulations requires information on the mitigation measures that will be put in place to prevent, minimise/eliminate any significant adverse impacts due to the implementation of the plan. Chapter Eight of this SEA ER highlights the mitigation measures that will be put in place to counter identified significant adverse impacts due to the plan's

implementation. The objectives contained within the Clare County Development Plan 2017-2023 are considered robust, environmentally sustainable and provide the framework for the landuse elements of the plan. However some unavoidable residual issues may remain and therefore mitigation measures are required. Chapter Eight details the mitigation measures necessary to prevent reduce and, as fully as possible, offset any significant adverse impacts on the environment of implementing the plan.

## **2.7 MONITORING**

Article 10 of the SEA Directive sets out the requirement that monitoring is to be carried out of the significant environmental effects of the implementation of the Inis Cealtra plan in order to identify at an early stage any unforeseen adverse effects and to be able to undertake appropriate remedial action. Chapter Nine presents the monitoring requirements for the plan, aligned where possible with those of the Clare CDP 2017-2023.

## **2.8 STRATEGIC FLOOD RISK ASSESSMENT**

The Planning System and Flood Risk Management Guidelines (DoEHLG 2009) provide a methodology to incorporate flood risk identification and management into land use strategies. It also requires the alignment and integration of flood risk into the SEA process. Potential flood issues in the plan area are an important consideration in the preparation of the plan, particularly flood risk areas identified around Mountshannon and potential sites for a new visitor centre.

JBA was appointed by Clare County Council, to prepare a Flood Risk Assessment (FRA) for the proposed Visitor Centre in Mountshannon. JBA Consulting undertook a review of the development proposals in the context of the Planning Guidelines noted above. The plan was informed by this assessment and recommendations arising from the Strategic Flood Risk Assessment (included in the Clare CDP 2017-2023) and the site level FRA have been integrated into the SEA process (see Chapter Four and Chapter Seven in particular).

## **2.9 DATA GAPS**

Undertaking the SEA of this plan has required additional primary research to address data gaps, in particular the bird, bat and habitat surveys undertaken over 2015-2016; as well as the considerable archaeological and built heritage research and condition surveys carried out in the same period. This has contributed significantly to a better understanding of these issues as they relate to the plan area.

Notwithstanding the above, other data gaps were identified and may be addressed at plan implementation stage, namely underwater archaeology and current habitat surveys around the village of Mountshannon. Although census 2016 data has become available, data in relation to tourism and economic activity in the village is not readily or currently available at this scale, nor are health related or transport related data (eg; car journeys for recreational use).

## 3 RELATIONSHIP TO PLANS, POLICIES AND PROGRAMMES

### 3.1 INTRODUCTION

Under the SEA Directive, the relationship between the plan and other relevant plans and programmes must be taken into account. A review of the relevant plans and programmes can be found in Appendix A.

The plan is a non-statutory plan and will help inform Clare County Council in its future management of the island. The preparation of the plan must be considered within the context of a hierarchy of policies, plans and strategies which include international, national, regional and local level policy documents. These documents set the policy framework within which the plan will operate.

The Clare County Development Plan (CDP) 2017-2023 will operate as the primary land use framework for the county and therefore this Plan; as such environmental protective objectives and policies of the CDP 2017-2023 will be applied during plan implementation stage. Chapter Eight of this SEA ER presents the main environmental protection and tourism related objectives from the above CDP in terms of mitigation measures. Appendix A also presents a summary of the legislation, convention and policies presented below.

A list of the key relevant international, national, regional and county policies included in the review are provided below in Section 3.2; Section 3.5 identifies key principles that have informed the SEA process arising from this review.

#### 3.1.1 International

- UN Convention of Biological Diversity, 1992
- The Convention on Wetlands of International Importance (The Ramsar Convention) 1971 and subsequent amendments
- EU Environmental Action Programme to 2020
- SEA Directive - Assessment of the effects of certain plans and programmes on the Environment, (2001/42/EC) 2001
- Environmental Impact Assessment Directive (85/337/EEC) (97/11/EC), 1985
- EU Biodiversity Strategy to 2020
- EU Directive on the Conservation of Wild Birds, (2009/147/EC) 1979. Known as the Birds Directive
- EU Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna, (92/43/EEC), 1992 known as the Habitats Directive
- European Communities (Birds and Natural Habitats) Regulations 2011
- Green Infrastructure Strategy
- The Stockholm Convention
- EU Soil Thematic Strategy
- Water Framework Directive (2000/60/EC) as amended
- Floods Directive (2007/60/EC)
- The Drinking Water Directive (DWD), (98/83/EC) 1998
- Groundwater Directive, (2006/118/EC) 2006
- EC Bathing Water Quality Directive, (2006/7/EC) 2006
- Kyoto Protocol
- The Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive
- EU Directive on Waste, (2006/12/EC), 2006
- EU Directive on Waste (2008/98/EC), 2008
- EU Urban Waste Water Treatment Directive (91/271/EEC), 1991

- Directive 2009/28/EC on the promotion of the use of energy from renewable sources
- The World Heritage Convention
- European Convention on the Protection of the Archaeological Heritage, 1992 (The Valletta Convention)
- Convention for the Protection of the Architectural Heritage of Europe, 1985 (Granada Convention)
- The European Landscape Convention 2000
- The Aarhus Convention
- Environmental Liability Directive 2004/35/EC

### 3.1.2 National

- National Landscape Strategy
- National Biodiversity Plan
- National Planning Framework (under preparation)
- Regional Spatial and Economic Strategies (to commence)
- Water Framework Directive River Basin Management Plans (2nd cycle in preparation)
- Shannon Catchment and Flood Risk Assessment and Management Study
- National Mitigation Plan (in preparation)
- Sectoral Climate Adaptation Plans (in preparation)
- Our Sustainable Future A framework for sustainable development in Ireland
- The National Spatial Strategy 2002 -2020
- Actions for Biodiversity 2011 – 2016, Ireland’s 2nd National Biodiversity Plan
- Wildlife (Amendment) Act 2000
- National Heritage Plan (2002)
- Guidelines for Planning Authorities on Sustainable Residential Development in Urban Areas (Cities, Towns & Villages) (2009)
- Geological Heritage Sites Designation (under the Wildlife Amendment Act 2000)
- Shannon River Basin District Management Plan
- Water Services Act (2007)
- Water Services (Amendment) Act (2012)
- Irish Water Services Strategic Plan SEA and AA
- Waterways Ireland Heritage Plan 2014-2020
- The Planning System and Flood Risk Management Guidelines (and Technical Appendices) for Planning Authorities (DoEHLG, OPW), 2009
- National Climate Change Strategy (2007-2012)
- Review of Ireland’s climate change policy and Climate Action and Low Carbon Bill 2013
- Smarter Travel, A Sustainable Transport Future, A New Transport Policy for Ireland 2009-2020
- National Monuments Act 1930 with subsequent amendments
- Architectural Heritage Protection - Guidelines for Planning Authorities (2011)
- National Inventory of Architectural Heritage (NIAH)
- A National Landscape Strategy for Ireland –2015
- Draft Landscape and Landscape Assessment Guidelines, (2000)
- Planning and Development Act 2000 (as amended).
- Planning Policy Statement, 2015

### 3.1.3 Regional and County

- Regional Planning Guidelines 2010-2020- to be replaced by Regional Economic and Spatial Strategies
- Shannon Catchment and Flood Risk Assessment and Management Study

- Wild Atlantic Way Operational Programme 2015-2020
- Clare County Development Plan 2017-2023
- County Clare Local Economic and Community Plan 2016
- Clare Local Biodiversity Action Plan 2014 – 2017
- Lough Derg Marketing Plan 2014

### 3.2 KEY IMPLICATIONS AND PRINCIPLES ARISING FROM THE PLAN, POLICY AND PROGRAMME REVIEW.

Arising from the review, a number of key principles and implications for the SEA ER can be distilled. It is the intention that these principles will be considered through the SEA process and will serve to inform the assessment. Many of these principles are already included in the Strategic Environmental Objectives developed for the Clare CDP 2017 -2023 and these will be used in the assessment process where possible.

Table 3 Key principles and implications for the SEA of the plan arising from the plan, policy and programme review.

SEA Topic	Principles/Implications
<b>Biodiversity, Flora and Fauna</b>	<ul style="list-style-type: none"> <li>• Conserve and enhance biodiversity at all levels</li> <li>• Avoid and minimise effects on nationally and internationally rare and threatened species and habitats through sensitive design and consultation, <b>recognising annex 1 habitats, annex II species, ecological connectivity, stepping stones, habitat structure and functions<sup>2</sup></b></li> <li>• Facilitate species and habitat adaption to climate change</li> <li>• Avoid and minimise habitat fragmentation and seek opportunities to improve habitat connectivity</li> <li>• Ensure careful consideration of non-native invasive and alien species</li> </ul>
<b>Cultural Heritage</b>	<ul style="list-style-type: none"> <li>• Conserve, preserve and record architectural and archaeological heritage</li> <li>• Avoid and minimise effects on historic environment features through sensitive design and consultation</li> </ul>
<b>Landscape</b>	<ul style="list-style-type: none"> <li>• Conserve and enhance the special and distinct landscape character and qualities of Inis Cealtra and its setting within Lough Derg</li> <li>• Avoid and minimise effects on landscapes through sensitive design and consultation</li> <li>• Consideration of key viewpoints and scenic routes</li> </ul>
<b>Water</b>	<ul style="list-style-type: none"> <li>• Maintain and improve water quality</li> <li>• Avoid and minimise effects on natural processes, particularly natural flood management and catchment processes through sensitive design and consultation</li> <li>• Adapt and improve resilience to the effects of climate change,</li> </ul>

<sup>2</sup> Amended following Scoping Submission by Dept of Arts, Heritage and the Gaeltacht.

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	<ul style="list-style-type: none"> <li>particularly flood risks associated with extreme weather –</li> <li>• Minimise water consumption/ abstractions</li> <li>• Design SUDS to facilitate ecological improvement/ enhancement where possible</li> </ul>
<b>Soil and Geology</b>	<ul style="list-style-type: none"> <li>• Avoid and minimise soil losses/ sealing</li> <li>• Maintain hydrological integrity of wetlands</li> <li>• Maintain productive capacity and prevent erosion of soils</li> <li>• Ensure careful consideration of non-native invasive and alien species issues</li> </ul>
<b>Material Assets</b>	<ul style="list-style-type: none"> <li>• Adapt and improve resilience to the effects of climate change</li> <li>• Promote local/ sustainable sourcing of materials –</li> <li>• Promote sustainable design and innovation to reduce material consumption</li> <li>• Avoid and minimise waste generation</li> <li>• Maximise re-use of material resources and use of recycled materials</li> <li>• Minimise energy consumption and encourage use of renewable energy</li> <li>• Promote sustainable transport patterns and modes where possible.</li> </ul>
<b>Air Quality and Climate</b>	<ul style="list-style-type: none"> <li>• Adapt and improve resilience to the effects of climate change</li> <li>• Encourage reduction in greenhouse gases through transport, energy, built development.</li> </ul>
<b>Inter-relationships</b>	<ul style="list-style-type: none"> <li>• Maintain and improve the health of people, ecosystems and natural processes</li> <li>• Minimise effects on landscape and historic environment features</li> <li>• Adapt and improve resilience to climate change and extreme weather events</li> <li>• Actively seek to integrate opportunities for enhancement</li> </ul>

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## 4 ENVIRONMENTAL RESOURCES

### 4.1 INTRODUCTION

This chapter describes the principal environmental parameters that are of relevance to the Inis Cealtra plan. It includes a description of the relevant aspects of the current state of the environment, the existing environmental problems, environmental characteristics of the areas likely to be significantly affected, and the likely evolution of the environmental parameters without implementation of the plan.

This section aims to describe the environmental context within which the plan will operate and the constraints and targets that this context imposes on the plan. .

The purpose of this section is to provide enough environmental baseline data to:

1. Support the identification of environmental problems;
2. Support the process of assessing the environmental effects, and
3. Provide a baseline against which future monitoring data can be compared.

#### 4.1.1 Plan Area and Zone of Influence.

Clarification was sought by statutory consultees<sup>3</sup> on the definition of the plan area, and the sphere of influence of the plan. This is provided below:

**The plan area** covers the Island of Inis Cealtra and the shoreline, the village of Mountshannon and the access route across Lough Derg to and from Mountshannon Harbour to Inis Cealtra.

The **sphere of influence** varies according to the environmental parameter under consideration and is outlined as required for each SEA parameter. Overall, the sphere of influence is presented in the figure below and is based on the following:

- Acknowledgement of the access links between Mountshannon/Knockphort and Inis Cealtra
- Visitor management and visitor centre siting around the Mountshannon Area
- Regional Roads of RR463 and R352 provides an accessible boundary and covers a scenic road designation in the Clare CDP.
- The cluster of drowned drumlins of which Inis Cealtra is one and consistency of limestone bedrock between Inis Cealtra and neighbouring islands within this area;
- The landpoints between Aughinish Point near Ogonnoloe (southern point) and Inishparran Point (northern point).

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<sup>3</sup> Please see Scoping Submission by Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs Table 2.4

Figure 2 Zone of Influence for plan



Plate 1 Aerial view of Inis Cealtra and Lough Derg (google images)

## 4.2 CULTURAL HERITAGE –ARCHAEOLOGY, BUILT HERITAGE AND INTANGIBLE HERITAGE.

### 4.2.1 Archaeology<sup>4</sup>

The archaeological resources of Inis Cealtra are extensive and of great significance. The following section provides an overview of these resources whilst the plan (in particular Chapter Two Context and appendix One provide greater detail and analysis of the archaeology of the island).

Inis Cealtra (National Monument no. 5) is an island of approximately 20 hectares of rich land situated near the west shore of Lough Derg, Co. Clare, close to the Tipperary and Galway borders, within the civil parish also named Inis Cealtra. The whole island is designated as a National Monument and forms part of the tentative list of World Heritage Sites submitted to UNESCO in 2010.



*Plate 2 St Caimin's Church and Round tower, Lawrence Photographic collection (National library of Ireland)*

Inis Cealtra forms part of the Early Medieval Monastic Sites (other sites within this list are Clonmacnoise, Durrow, Glendalough, Kells and Monasterboice). It hosts a major medieval ecclesiastical complex as well as evidence for post-medieval and modern pilgrimage and burial. It is one of a number of major ecclesiastical sites dating to the early medieval period (c.400–c.1200) located on the Shannon, Ireland's premier waterway, including Clonmacnoise and Clonfert further upriver, Tuamgraney and Killaloe downriver, and Terryglass, Lorrha, Birr, and Roscrea to the east across the lake. The site was prominent in its early stages, though little is visible above ground from this period.

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<sup>4</sup> This section was written by Bernadette McCarthy, Clíodhna O'Leary, and Pat Wallace and is an extract from the considerable and substantial review and analysis of the archaeological resources of the island that forms a key part of the plan.

By the 11th century, the site had become particularly powerful on a regional level, supporting a relatively large and diverse community as a powerhouse of prayer, learning, industrial activity, and political intrigue. The corpus of sculptural remains from this period is of an exceptional size and level of preservation, while most of the visible stone buildings date from the 11th–12th centuries, when the local Dál Cais, and specifically the Uí Briain, strategically invested in the site.

At the dawn of the late medieval period (c.1200–c.1500) Inis Cealtra was still at the apex of its wealth and power, but like many other early ecclesiastical sites its political importance dwindled with shifting power structures, predominantly as a result of the decline in Uí Briain dominance, that led to its gradually becoming more of a focus for local pastoral care. During this period, however, and certainly by the dawn of the post-medieval period (c.1500–present) Inis Cealtra compounded its reputation as a pilgrimage destination of not only regional but European-wide renown. The 17th century brought a hiatus to ecclesiastical life on Inis Cealtra and other sites, but from the 18th century the island continued to be of importance on a regional level as a pilgrimage site while also continuing to be used for burial by locals into the modern period. The island also sustained limited habitation during this period.

*Plate 3 St Caimins Church with the round tower in the background, Inis Cealtra. (R.Minogue)*



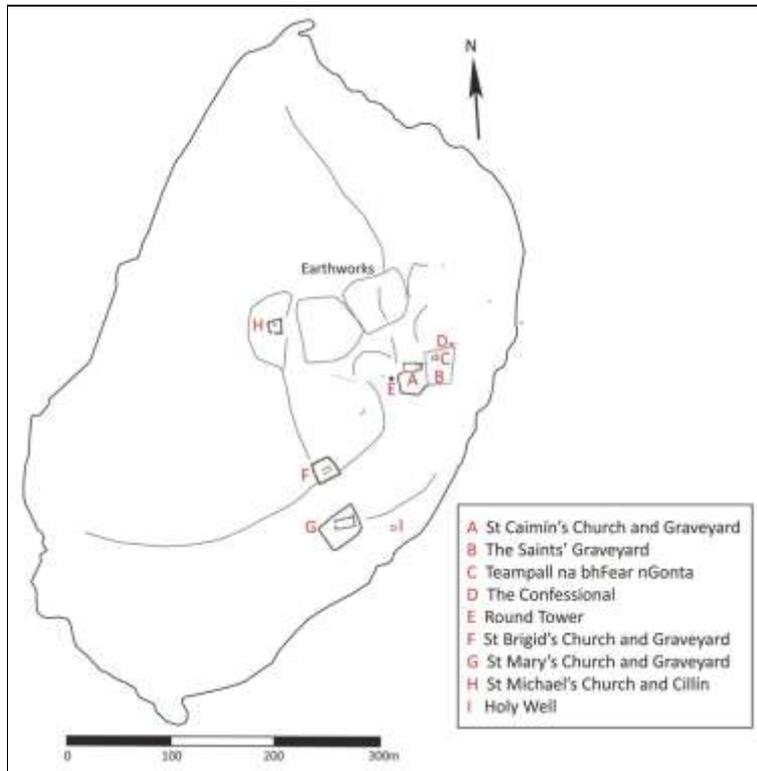
The monuments are focused on the eastern side of the island (Fig. 3) and include the following:

- four pre-1200 churches,
- a round tower,
- an exceptionally large corpus of early medieval cross-slabs and grave-slabs (much of which is still in situ),
- high crosses and cross fragments, cross-bases, small crosses,
- sundials,
- bullaun stones,
- a shrine complex,
- a holy well,
- a range of earthworks and routeways dating from the early medieval period onwards,
- a post-medieval church and children's burial ground on a probable early medieval church site,

- three graveyards with some rare 17th- and 18th-century grave memorials, and
- other post-medieval and modern grave monuments.

In addition to this rich array of surviving monuments, the site was partially excavated as part of a research project under Liam de Paor in the 1970s (de Paor 1997; 2013), contributing to our potential to understand life on Inis Cealtra over the millennia and showing that a wealth of settlement archaeology remains below the surface on the island. A comprehensive analysis of the material record from the excavation is currently underway (O’Sullivan and Seaver 2015).

Figure 3 Inis Cealtras archaeological Features. (C. O’Leary).



Whilst the island is clearly significant for the 11<sup>th</sup> and 12<sup>th</sup> century archaeology, there is evidence of earlier activity as follows:

- Late Neolithic/Early Bronze Age flint arrowheads and axeheads found north of St Brigid's Church reflect at least occasional visits to the island in this period.
- Logboats found off the north eastern shore of the island may also be associated with prehistoric activity on Inis Cealtra.



*Plate 4 Pilgrims' path running east/west from St Michael's to St Caimín's (C. O'Leary).*

#### **4.2.2 Underwater Archaeology**

In addition to the logboats located off the northeast shore of the island (approximately 40m), there is potential for other underwater archaeology to be present; this includes archaeology that has been submerged owing to the changing water levels of Lough Derg associated with the Ardnacrusha scheme. Known submerged archaeological artefacts include the following:

- According to the Underwater Archaeology Unit (UAU), a number of logboats have been identified near Inis Cealtra's northeast shoreline, about 40m offshore (GPS: N52 55.036, W08 26.788; Karl Brady pers. comm.);
- the Wreck Inventory of Ireland database lists four known wrecks in the waters adjacent to Inis Cealtra and a number of other wrecks in the general Lough Derg area. These wrecks are protected under the National Monuments Acts, 1930-2014.

There has yet to be a detailed underwater archaeological survey of the waters around Inis Cealtra but there are likely to be more logboats located in and around the island, as well as the possibility of other vessel types and vernacular craft surviving in the surrounding waters, and possibly other archaeological sites such as jetties, waterfronts, and piers, and artefacts such as anchors and fish traps.

Due to changes in water level, some of Inis Cealtra's monuments are now located offshore or very close to the edge of the shore as outlined in the inventory (Appendix 3 of the plan), such as a bullaun (RMP: CL029-009025-) now offshore while the 'bargaining stone' (RMP: CL029-009022-) is located very close to the southeast shoreline. The remains of a post-medieval landing stage (RMP: CL029-009026-) was located some distance inland from the water's edge on the east side of the island in Macalister's time (1916); this was not identified during the current survey but it demonstrates that the island's water levels have changed considerably overtime, even prior to the building of Ardnacrusha dam.

#### **4.2.3 Architectural Heritage**

The term 'architectural heritage' is defined in the Architectural Heritage (National Inventory) and Historic Monuments Act, 1999, as meaning all:

- a) structures and buildings together with their settings and attendant grounds, fixtures and fittings,
- b) groups of such structures and buildings, and
- c) sites which are of architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest.'

An Architectural Conservation Area (ACA) is a place, area, group of structures or townscape that is of special, architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest or value, or contributes to the appreciation of protected structures.

ACAs could include, for example, a terrace of houses, a streetscape, a town or village centre or a group of structures associated with a specific building such as a country house or an industrial or maritime building. Structures in an ACA are important in their contribution to the character of the area. Any works that would have a material effect on the special character of an ACA require planning permission.

In the plan area, Mountshannon Village is designated as an ACA and also has a number of protected structures. Scarrif/Tuamgraney south of Mountshannon are also designated as ACAs, see Figure 4 below.

Figure 4 Architectural Conservation Areas



A protected structure is defined as any structure or specified part of a structure, which is included in the Record of Protected Structures. A structure is defined by the Act as; ‘any building, structure, excavation, or other thing constructed or made on, in or under any land, or any part of a structure’.

Each local authority has a legal responsibility to include a Record of Protected Structures (RPS) in its Development Plan. Structures, or parts of structures, can be added to the Record if they are deemed of special, architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest or value.

The National Inventory of Architectural Heritage (NIAH) is the national body responsible for making recommendations to the planning authorities as to which buildings they should include in their RPS. Table 4 and Figure 5 presents this RPS information.

Figure 5 Record of Protected Structures, Mountshannon.

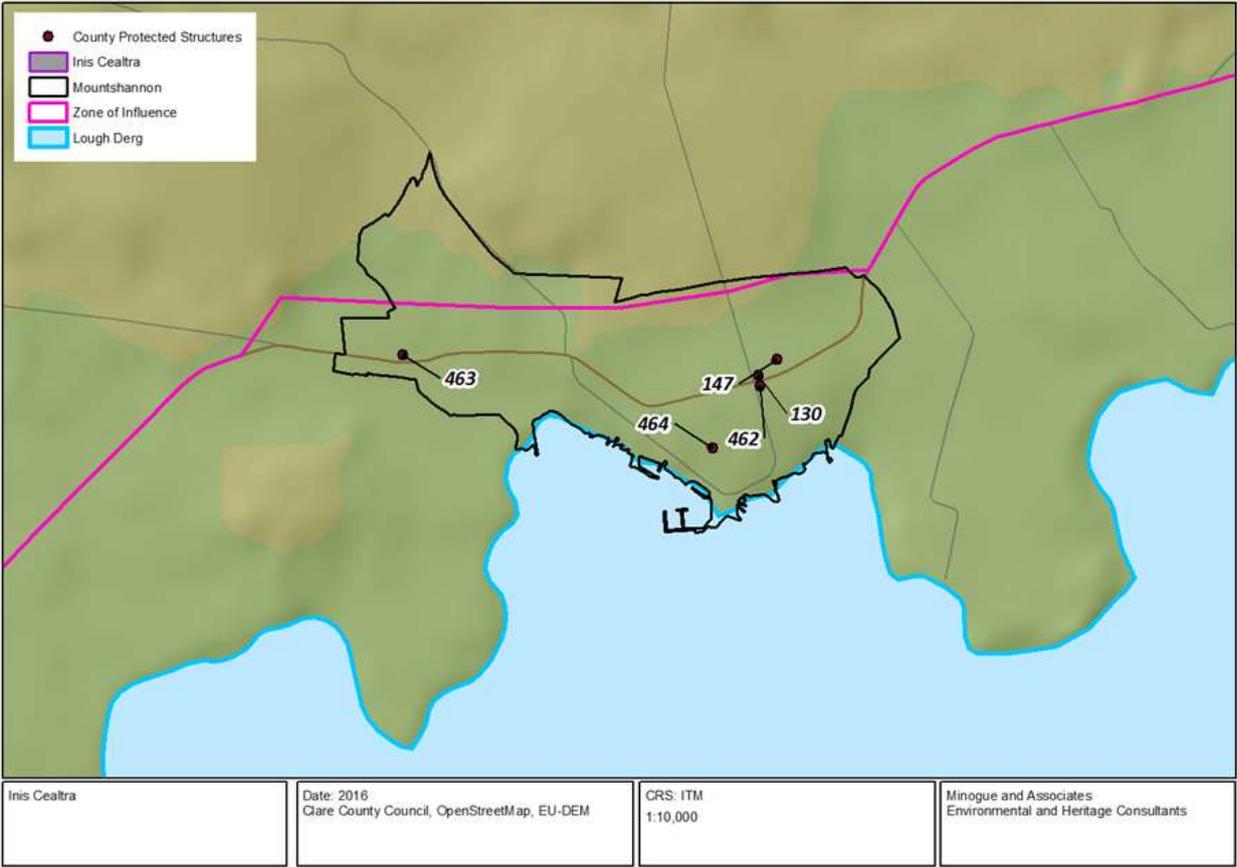


Table 4 Record of Protected Structures Mountshannon.

Name, RPS and NIAH Reference	Description	Plate
<p><b>Former Methodist church:</b> RPS: 130 NIAH: 20300504</p>	<p>End-of-terrace three-bay single-storey single-cell Methodist Church, c.1810, with lancet-arch openings; renovated, 1886; formerly in use as Church of Ireland school, 1914-1932; now in use as store. Wrought iron gates and railings.</p>	
<p><b>St Caimin's Church of Ireland church</b> RPS:147 NIAH: 20300505</p>	<p>Detached four-bay double-height rubble sandstone-built Church of Ireland Church, built 1789, with lancet arch openings; renovated, c. 1831, with single-bay three-storey crenellated central tower added to left side elevation having corner pinnacles and single-bay single-storey lean-to vestry added to rear; refenestrated, c. 1985. Graveyard to site with various cut-stone grave markers and mausolea. Wrought iron piers with wrought iron gates and railings. Re-roofed 2004.</p>	
<p><b>Keanes Pub</b> RPS:461 NIAH: 20300509</p>	<p>Terraced four-bay two-storey house, c.1890, with render shouldered architrave to door opening, moulded architraves to window openings having keystones and panelled pilasters; renovated, c. 1985, with left ground floor remodelled having timber fascia pub front inserted with flat-roofed timber canopy over</p>	

Name, RPS and NIAH Reference	Description	Plate
<b>The Old Rectory</b> <b>RPS:464</b> <b>NIAH: 20300502</b>	<p>Detached four-bay two-storey red brick rectory, c. 1905, on a T-shaped plan with single-bay two-storey hipped gabled projecting porch to centre having gablet over, two-bay two-storey recessed bay to right, single-bay single-storey canted bay window to left side elevation and single-bay two-storey return to rear; renovated and extended to rear, c. 1990, comprising two-bay two-storey flat-roofed lower block and single-bay two-storey lower return having single-bay single-storey lean-to central bay; now in private residential use. Detached four-bay single-storey outbuilding. Rubble stone piers.</p>	
<b>Market House</b> <b>RPS:462</b> <b>NIAH: 20300503</b>	<p>Detached three-bay two-storey rubble stone built market house, c. 1740, on a corner site with gabled central bay, single-bay side elevations and originally with open arcade to ground floor having round-headed arches; renovated, c. 1920, with arcade remodelled; attached single-bay single-storey elliptical-headed carriageway to left having cut-stone voussoirs. Restored 2009.</p>	
<b>Old School House</b> <b>RPS:463</b> <b>NIAH: 20300510</b>	<p>Detached five-bay single-storey rubble stone-built school house with dormer attic, dated 1846, on a U-shaped plan comprising three-bay recessed central block with ogee headed door opening to centre having hood moulding over, single bay gabled projecting end bays with central bays to side elevations having keystones and hood mouldings over window openings; renovated, c. 1980, to accommodate residential use. Restored 2010.</p>	

In addition to the above, protected and identified structures, there are a number of smaller, vernacular features or elements of industrial heritage that are also important, both for contributing to local landscape character and telling the story of previous human activities and uses of the surrounding land. These include the vernacular features on the island including piers and the fisherman's cottage, (by the existing northwest pier).



Plate 5 Interior of Fisherman's Hut (Photos: C. O'Leary)

Within Mountshannon harbour and village, there are a high number of wrought iron gates and architectural features associated with the design and planning of Mountshannon as a linen village from the 1740s.

The pier at Knockaphort is now a concrete jetty, although an earlier 1<sup>st</sup> edition Ordnance Survey map shows an earlier quay and boathouse from the 1880s. The pier at Mountshannon was constructed in 1845 in order to land the marls dredged from the lake, the pier was extended further in the 1970s by the Board of Works<sup>5</sup>.

#### 4.2.4 Intangible cultural heritage

Ireland recently ratified the Convention for the Safeguarding of the Intangible Cultural Heritage<sup>6</sup>. The term is defined as follows:

“intangible cultural heritage” means the practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognize as part of their cultural heritage. This intangible cultural heritage, transmitted from generation to generation, is constantly recreated by communities and groups in response to their environment, their interaction with nature and their history, and provides them with a sense of identity and continuity, thus promoting respect for cultural diversity and human creativity. For the

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<sup>5</sup> The Shannon Navigation Heritage Survey and Inventory, Waterways Ireland, 2009.

<sup>6</sup> This reference to intangible cultural heritage and Ireland's ratification of the convention was riasd by the Heritage Council through the SEA Scoping process.

purposes of this Convention, consideration will be given solely to such intangible cultural heritage as is compatible with existing international human rights instruments, as well as with the requirements of mutual respect among communities, groups and individuals, and of sustainable development.”

In the context of Inis Cealtra this relates most clearly to the ritual practices and beliefs as well as folklore and local history associated with the island and environs. The island still contains a number of burial plots and continues to function as a spiritual location with masses and burials taking place occasionally. In addition, a cillín (children’s graveyard) associated with St Michael’s church is present on the island.

For other visitors to the island, the historical landscape and remains of ancient human activity confers a particular and sacred sense of place to the island.

Given the length of human activity and practices on the island, there are numerous folklore and oral history narratives. This living landscape is an important element and consideration for the plan area.

#### **4.2.5 Existing issues –Cultural Heritage**

The following archaeological vulnerabilities were identified and further detail on same are provided in the main plan document.

- Lack of cohesion and communication between the two bodies who own the island (Clare County Council and the Office of Public Works) threatens the archaeology. Less ‘visible’ archaeology, such as the earthworks and below-ground archaeology, is particularly at risk of being neglected.
- Following excavation in the 1970s, a number of grave markers from the children’s burial ground (cillín) associated with St Michael’s Church were left lying ex situ in the area. The area has since become very overgrown and this has caused upset amongst members of the community. Respect for the deceased and their graves on this island is an essential consideration.
- Lack of awareness is generating visitor impacts currently with observations of visitors climbing over upstanding remains, hanging archways and other visitor impacts such as damage to ex-situ archaeological stone material; the latter is also potentially at risk of theft. At present, there is also a wide range of ex-situ loose stones being stored in and around the OPW chalet including an early medieval cross-inscribed grave-slab.



*Plate 6 Loose masonry to south side of OPW chalet ( C. O'Leary).*

- Lack of awareness of best practice threatens the archaeology of the island. An example would be in relation to the less 'visible' archaeology of the island, such as the foundations of St Michael's Church and the surrounding area as well as the post-medieval 'cottage' ; these would be vulnerable to damage if cutting back of overgrowth was undertaken by someone who did not understand their archaeological value. Loose, ex-situ stone is also vulnerable to being moved or lost.
- Cattle were brought to the island in March 2016 and it was noted in April that trampling by cattle had denuded and damaged the earthworks in various places as well as generally rendering the ground uneven across the island. The ground was then very wet due to heavy rainfall and the erosion was considerable. The most problematic area is the D-shaped enclosure surrounding St Michael's, as well as various other earthworks around the island.

*Plate 7 Damage to outer enclosure of St Michael's caused by cattle ( B. McCarthy)*



- Heavy stocking can damage the below ground archaeology through erosion and other physical damage. Cattle and other grazing animals tend to follow the line of a fence, which can lead to considerable erosion in its vicinity.



*Plate 8 Damage to earthwork west of round tower caused by cattle (C. O'Leary)*

- Carved stones, particularly those displaying incised decoration and inscriptions, are highly vulnerable to weathering, human and animal impact, and other factors.

*Plate 9 Cross-inscribed grave-slabs suffering from delamination: left and centre in the Saints' Graveyard, with RMPs CL029-009096- and CL029-009101-; right in St Caimín's Church with RMP CL029-009106- (C. O'Leary).*



- Carved stones, particularly in St Caimín's Church, are now covered in green algae, with bird and bat faeces and uric acid a further threat; as well as rusting and expansion of the ferrous metal supports to the same stones. Stones set in cementitious material are also vulnerable to damage.



*Plate 10 Cross-slabs, south wall of St Caimín's Church, note bird faeces and green algae (C. O'Leary).*



*Plate 11 Wheeled cross-head, south wall of St Caimín's Church, note breaks, metal supports, and cementitious material (C. O'Leary).*

- Unsupervised digging of graves can lead to archaeological material being damaged and inappropriate styles of grave monument can visually impact the historic integrity of the site. There is a risk of destabilising a ruin by digging graves too close to the walls.
- As noted above, many of the graves in the cemeteries associated with St Caimín's and St Mary's have risen above ground level.
- While fencing can help prevent damage to monuments by humans and animals, it causes ground disturbance. The physical structure of a fence can also have a significant landscape impact both on the setting and appearance of an individual monument and on the wider landscape and therefore negatively impacts the historical integrity of a site.

4.



*Plate 12 Graves which have risen in St Caimin's Graveyard (BMcCarthy)*

- Modern signage negatively impacts the visual character of the site and therefore visitor experience. Current signage provides out-of-date information that misleads visitors.
- The initial 50m or so of a path which was gravelled in c.2001 and which connects the northern tip of the island near the northwest pier with the main ecclesiastical complex is

often very wet and mucky, and has suffered from erosion (Plate 12); the stretch further on (Plate 13), which is part of an old 'road' marked on both the 1st Ed. and 2nd Ed. OS maps and Macalister's plan (1916–17, pl. VII), generally remains dry. The path leading from the east shore to the main complex of monuments is also often wet and quite eroded.



*Plate 12* Path laid down c.2001 leading from the northwest pier to the main cluster of archaeological monuments (B. McCarthy).



*Plate 13* Existing tourist track (right) leading from northwest pier to monuments in the eastern part of the island, earthwork (left) (: B. McCarthy).

- Both the northwest and east piers are an integral part of the post-medieval, vernacular archaeology of the island, and may have earlier origins. Both piers have suffered the effects of weathering and are in need of repair.
- There has yet to be a detailed underwater archaeological survey of the waters around Inis Cealtra but there are likely to be more logboats located in and around the island, as well as the possibility of other vessel types and vernacular craft surviving in the surrounding waters,

and possibly other archaeological sites such as jetties, waterfronts, and piers, and artefacts such as anchors and fish traps.

Condition surveys in 2016 identified a number of serious concerns about the following structures in particular:

- Tree growth on top of round tower, Vegetation on this scale is likely to have implications for the structure. Also of concern is the complete breakdown of pointing mortar to the flanching on the skyward surface of the tower wall with the dislodged stones to the north east.
- A further issue of grave concern is the structural integrity of the section of wall that is built up to the south elevation of Saint Caimín's church. This shows a strong lean towards the graveyard. This lean would appear to be recent.
- Further structural concerns are found in the bulge to the east end of the south wall to St Mary's Church and to the north west corners of both St Brigid's and St Mary's Graveyard enclosure where temporary shoring is in place.
- The most widespread condition noted throughout the site was the deterioration of masonry caused by the use of cementitious material used in conservation work during the 1960s and 70s. At this time the incompatibility of the hard setting, impermeable cementitious material with softer absorbent traditional masonry was not understood.
- Continuing changing water levels may have an impact on these and other monuments. Associated with this, climate change, temperature changes, and increased wind and rainfall can compromise archaeological monuments

#### **4.2.6 Evolution of cultural heritage in the absence of the plan**

As can be shown from the list above, there are a high number and wide ranging issues in relation to the cultural heritage of the plan area, and the archaeological resources on and around the island in particular.

In the absence of a plan that would facilitate a co-ordinated and integrated approach to the management of the island, on-going issues as listed above may continue and exacerbate existing problems; alternatively responses to cultural heritage may be undertaken on a piecemeal or on an emergency basis only.

### **4.3 BIODIVERSITY, FLORA AND FAUNA**

In general terms biodiversity<sup>7</sup> refers to:

- Different habitats such as woodlands, wetlands, grasslands and estuarine habitats and the range of flora and fauna species they support.
- Different species such as plants, mammals, birds, insects, fish, microbes, mosses and fungi, and their inter-relationships such as food chains and cohabitation.
- Genetic diversity within species which is vital for healthy populations of individual species to survive. Ecosystems diversity which are the relationships between different species, their habitats and their local, non-living environment (geology, hydrology and microclimate).
- Features of the landscape, which by virtue of their linear and continuous structure (such as hedgerows or streams) or their function as links (such as ponds or small woods) are essential for the migration, dispersal and genetic exchange of wild species.
- Flora and Fauna are the plant and animal life, respectively.

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<sup>7</sup> Text from draft SEA ER of Clare County Development Plan 2017-2023

A wide range of economic and social benefits and services result from the protection of biodiversity, for example, it forms the basis of our landscapes, provides for food and clean water supplies, opportunities for waste disposal, nutrient recycling, flood storage and regulation, amenity and recreational opportunities through development of green infrastructure networks.

Within County Clare there are habitats of high biodiversity and conservation value and a number of designated sites associated within the county which are designated as Ramsar Sites, Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Natural Heritage Areas (NHAs).

Natural Heritage Areas also have a significant role in supporting the species using Natura 2000 sites mainly relating to mobile fauna such as mammals and birds which may use pNHAs and NHAs as “stepping stones” between Natura 2000 sites. Article 10 of the Habitats Directive and the Habitats Regulations 2011, place a high degree of importance on such non-Natura 2000 areas as features that connect the Natura 2000 network. Features such as ponds, woodlands and important hedgerows form key “stepping stones”.

Submissions on the SEA Scoping process identified the following as relevant to this SEA and this section follows this structure.

- European sites, including (candidate) Special Areas of Conservation (SACs) and Special Protection Areas (SPAs): these are sites of international importance for nature conservation and form part of Ireland’s contribution to the Natura 2000 network within the European Union.(S4.3.1)
- Habitats Directive – Annex I habitats, Annex II species and their habitats, and Annex IV species and their breeding sites and resting places (wherever they occur), including ‘protected species and natural habitats’ as defined in the Environmental Liability Directive (2004/35/EC) and European Communities (Environmental Liability) Regulations, 2008;(S4.3.1)
- Annex IV (Habitats Directive) species of flora and fauna, and their key habitats (i.e. breeding sites and resting places), which are strictly protected wherever they occur, whether inside or outside the above sites, e.g. otter and bats;(S4.3.1)
- Birds Directive – Annex I species and other regularly occurring migratory species, and their habitats (wherever they occur), including ‘protected species and natural habitats’ as defined in the Environmental Liability Directive (2004/35/EC) and European Communities (Environmental Liability) Regulations, 2008;(S4.3.1)
- Other species of flora and fauna and their key habitats which are protected under the Wildlife Acts, 1976-2000, wherever they occur, including species protected under the Flora Protection Order;(S4.3.5)
- Stepping stones and ecological corridors including nature conservation sites (other than European sites), habitat areas and species locations covered by Article 10 of the Habitats Directive (S4.3.10).

#### **4.3.1 European Sites**

Table 5 lists the cSACs and SPAs within a 15km buffer of the zone of influence for the plan as well as the qualifying interests for their designation. These are illustrated in Figures 3 and 4.

The plan area is situated within the Lough Derg SPA which is designated for a number of bird species Cormorant, Tufted Duck, Goldeneye, Common tern and waterbirds, plus wetland habitats.

*Table 5 Special Areas of Conservation and Special Protection Areas within 15km of the zone of influence of plan*

Site Code	Site Name	Qualifying Interests
000248	Cloonmoylan Bog SAC	This site is designated for the following habitats: Active raised bogs, Degraded raised bogs still capable of natural regeneration,  Depressions on peat substrates of the Rhynchosporion and Bog woodland [
000261	Derrycrag Wood Nature Reserve SAC	This site consists of Old sessile oak woods with Ilex and Blechnum in British Isles, listed under Annex I of the EU Habitats Directive.
000308	Loughatorick South Bog SAC	Designated for the presence of the Blanket bog (active only) habitat, listed under Annex I of the EU Habitats Directive
000319	Pollnaknockaun Wood Nature Reserve SAC	This site consists of Old sessile oak woods with Ilex and Blechnum in British Isles, listed under Annex I of the EU Habitats Directive.
001013	Glenomra Wood SAC	This site consists of Old sessile oak woods with Ilex and Blechnum in British Isles, listed under Annex I of the EU Habitats Directive.
001313	Rosturra Wood SAC	Designated for the presence of Old sessile oak woods with Ilex and Blechnum in the British Isles
001912	Glendree Bog SAC	Designated for the presence of the Blanket bog (active only) habitat, listed under Annex I of the EU Habitats Directive
002126	Pollagoona Bog SAC	Designated for the presence of the Blanket bog (active only) habitat, listed under Annex I of the EU Habitats Directive
002165	Lower River Shannon SAC	Designated for the presence of the following habitats under Annex I of the EU Habitats Directive: Sandbanks which are slightly covered by sea water all the time, Estuaries, Mudflats and sandflats not covered by seawater at low tide, Coastal lagoons, Large shallow inlets and bays, Reefs, Perennial vegetation of stony banks, Vegetated sea cliffs of the Atlantic and Baltic coasts, Salicornia and other annuals colonizing mud and sand, Spartina swards (Spartinion maritimae), Atlantic salt meadows (Glaucopuccinellietalia maritimae), Mediterranean salt meadows (Juncetalia maritimi), Molina meadows on calcareous, peaty or clayey-silt laden soils (Molinion caeruleae) and Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae). Annex II species which are present at this site include the Freshwater pearl mussel (Margaritifera margaritifera), Sea lamprey (Petromyzon marinus), Brook lamprey (Lampetra planeri), River lamprey (Lampetra fluviatilis), Salmon (Salmo salar), Bottle-nosed dolphin (Tursiops truncatus) and the Otter (Lutra lutra).

Site Code	Site Name	Qualifying Interests
002241	Lough Derg, North-East Shore SAC	Designated for the presence of the following: <i>Juniperus communis</i> formations on heaths or calcareous grasslands, Calcareous fens with <i>Cladium mariscus</i> and species of the Caricion <i>davallianae</i> , Alkaline fens, Limestone pavements, Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion <i>incanae</i> , Salicion <i>albae</i> ) and <i>Taxus baccata</i> woods of the British Isles [91J0]
002258	Silvermines Mountains West SAC	Designated for the presence of the following Northern Atlantic wet heaths with <i>Erica tetralix</i> , European dry heaths and Calaminarian grasslands of the <i>Violetalia calaminariae</i>
002312	Slieve Bernagh Bog SAC	Designated for the presence of blanket bog, wet heath and dry heath which are habitats that are listed under Annex I of the EU Habitats Directive
000030	Danes Hole, Poulnalecka SAC	This site is significant as it is a winter hibernation site and a mating site of the Lesser Horseshoe Bat ( <i>Rhinolophus hipposideros</i> ), which is a species listed under Annex II of the EU Habitats Directive.
004058	Lough Derg (Shannon) SPA	Designated for the following birds and supporting habitat: Cormorant ( <i>Phalacrocorax carb</i> ), Tufted Duck ( <i>Aythya uligula</i> ), Goldeneye ( <i>Bucephala clangula</i> ) and Common Tern ( <i>Sterna hirundo</i> ).  Wetland and Waterbirds
004168	Slieve Aughty Mountains SPA	Designated for the following bird species: Hen Harrier ( <i>Circus cyaneus</i> ) and Merlin ( <i>Falco columbarius</i> )
004165	Slievefelim to Silvermines Mountains SPA	Designated for the following bird species: Hen Harrier ( <i>Circus cyaneus</i> )

Figure 6 SACs within 15km buffer of plan sphere of influence.

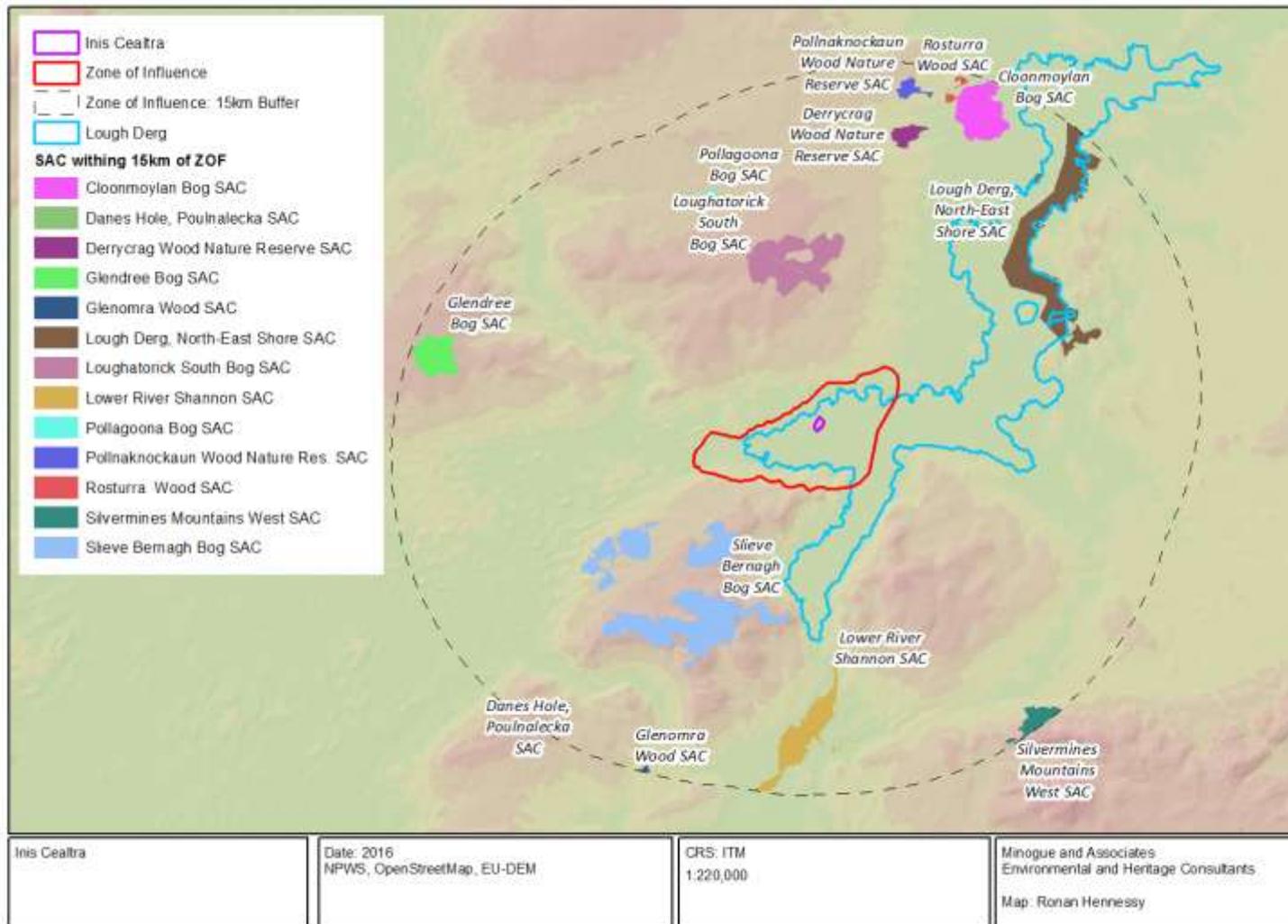
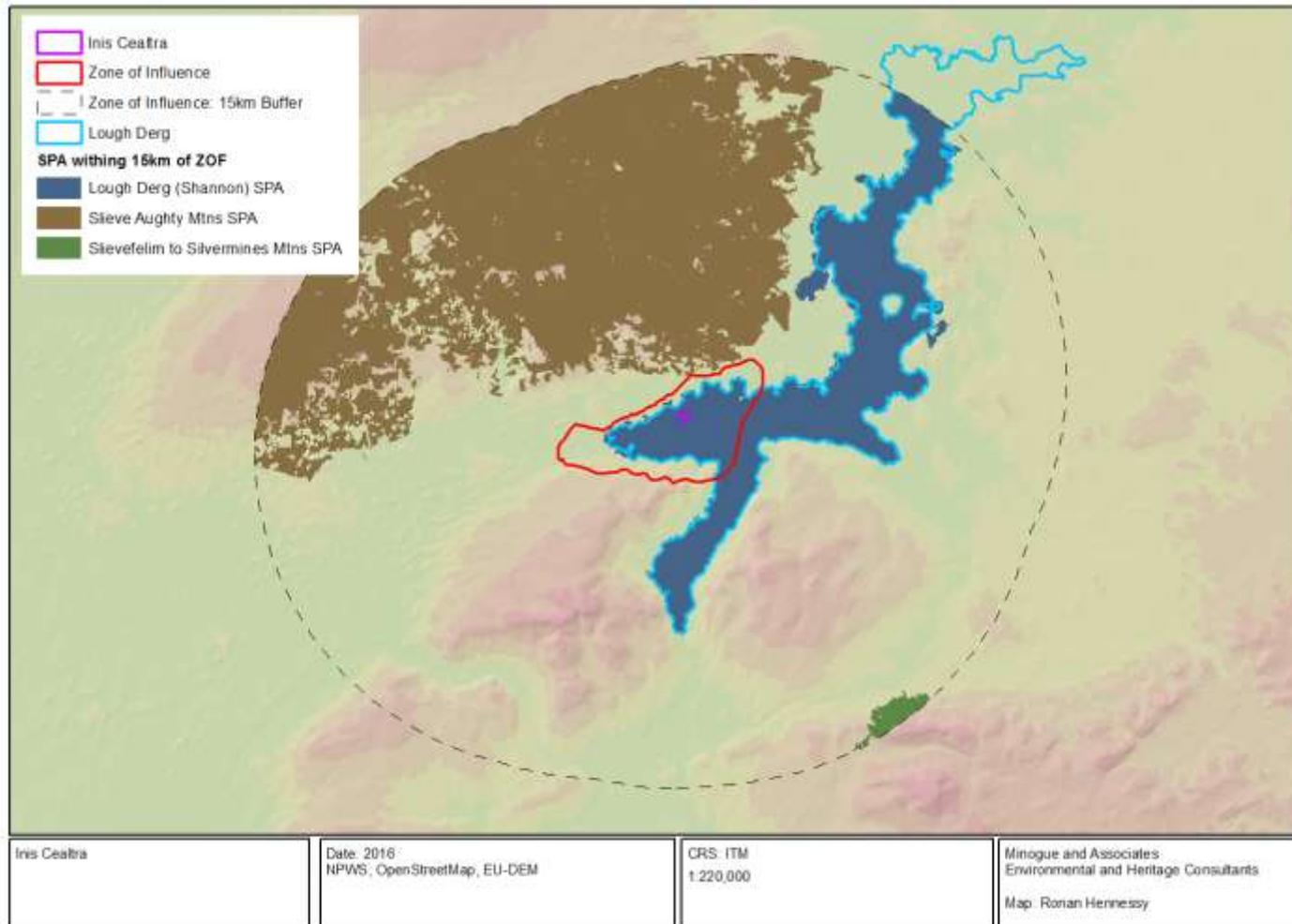


Figure 7 Special Protection Areas within 15km of zone of influence of plan



## Annex I Habitats

The only Annex I habitat identified on or in the immediate vicinity of Inis Cealtra is fringing marsh habitat which corresponds to the Annex I habitat *hydrophilous* tall herb fringe communities of plains and of the montane to alpine levels (6430), Further information on this habitat is provided in Section 4.3.5 below and in Doherty Environmental (2016).

The Annex I habitat Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (91E0) occur to the west of Inis Cealtra, on the mainland in the townland of Knockaphort.

The Annex I habitat *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (6410) occurs at Knockaphort to the west of Inis Cealtra.

The extent of these Annex I habitat are shown on Figure 8 below. (Note that only 9% of the area mapped as *Molinia* meadows in Figure 8a is representative of 6410 habitat (see Devaney et al. 2013)).

Figure 8: Annex I habitats at and in the vicinity of Inis Cealtra



## Annex II/IV (Habitats Directive) flora and fauna, their key habitats (breeding sites and resting places)

Resting or breeding places of the following Annex IV species have been recorded on Inis Cealtra:

- Otter (*Lutra lutra*)
- Soprano pipistrelle bat (*Pipistrellus pygmaeus*)
- Natterer's bat (*Myotis nattereri*); and
- Brown long-eared bat (*Plecotus auritus*).

### **Annex I (Birds Directive) Birds, their key habitats (breeding sites and/or roosting places)**

The following bird species listed on Annex I of the Birds Directive are associated with Inis Cealtra:

- Little egret (*Egretta garzetta*)
- Greenland white-fronted geese ( *Anser albifrons flavirostris*) and
- Kingfisher (*Alcedo atthis*).
- 

#### **4.3.2 Natural Heritage Areas (NHA)and proposed Natural Heritage Areas**

Under the Wildlife Amendment Act (2000), Natural Heritage Areas are legally protected from damage from the date they are formally proposed for designation. The aim of the NHA network is to conserve and protect nationally important plant and animal species and their habitats. They are also designated to conserve and protect nationally important landforms, geological or geomorphological features. Planning authorities are obliged by law to ensure that these sites are protected and conserved. NHAs and pNHAs, although not part of the European network, often provide an important supporting role to it. Article 10 of the Habitats Directive, and the Habitats Regulations 2011, place a high degree of importance on these sites as features that connect the European network.

The following figures present the NHAs and pNHA within a 15km buffer of the sphere of influence of the plan. Table 6 presents summary information on each of these sites.

Figure 9 Natural Heritage Areas within 15km buffer of plan area.

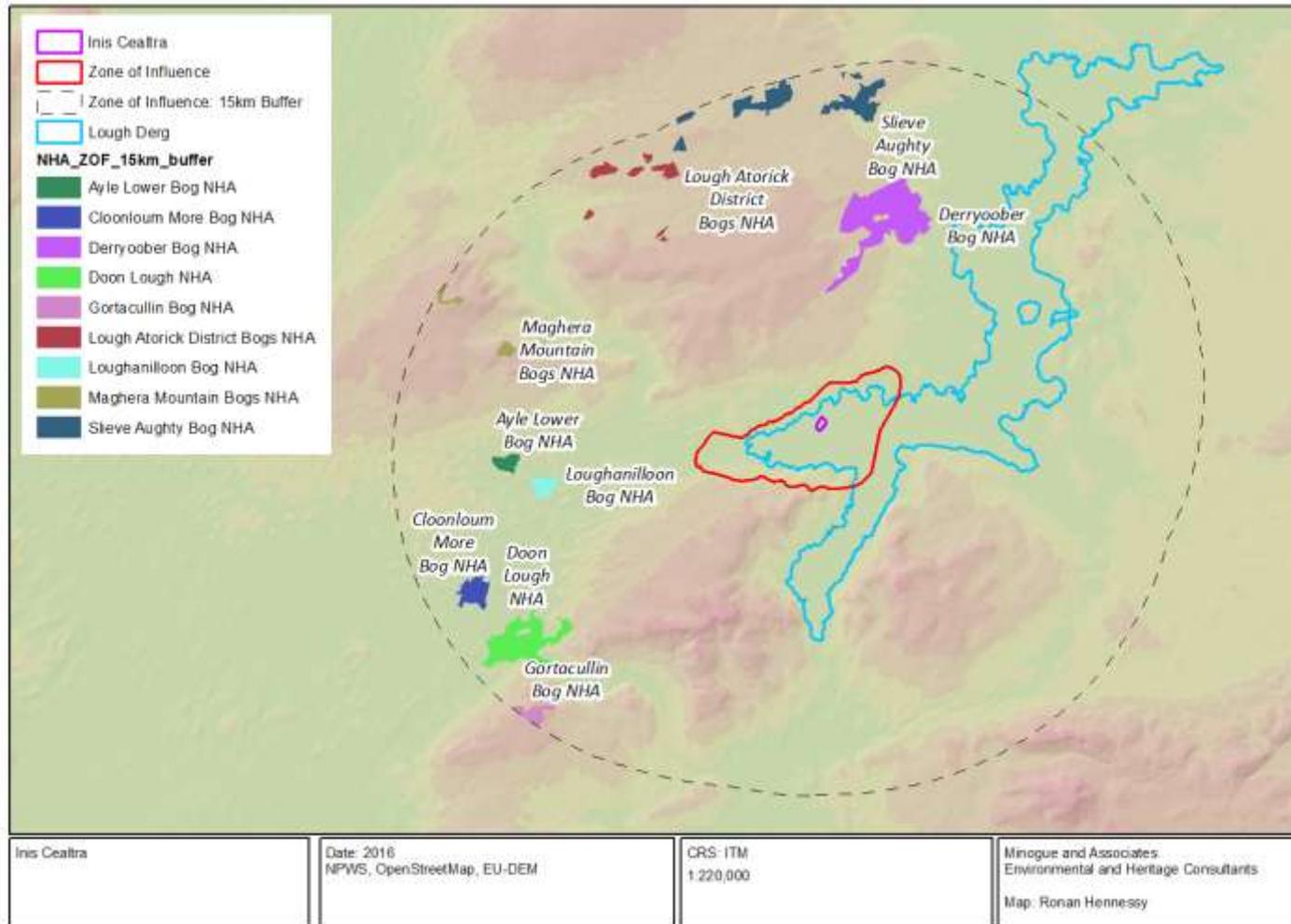


Figure 10 Proposed Natural Heritage Areas within a 15km buffer of plan area.

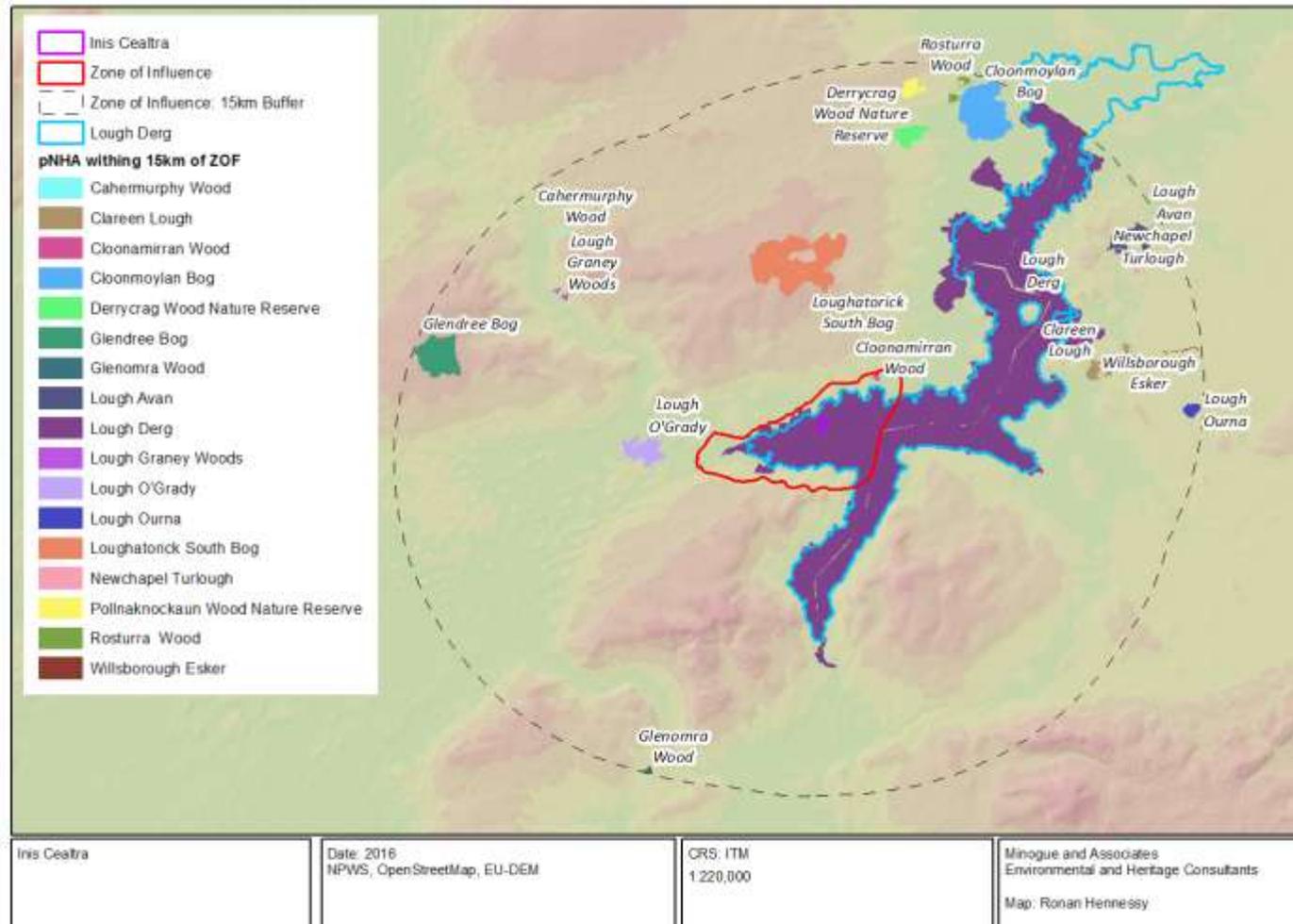


Table 6 Natural Heritage Areas and proposed Natural Heritage Areas within 15km buffer of sphere of influence.

Sitecode	Site_name	Summary description
000337	Doon Lough NHA	This site consists of raised bog which is a rare habitat within the EU. This NHA is of significant importance due to its location. It is one of the most westerly raised bogs in Ireland
000993	Ayle Lower Bog NHA	A raised bog which is a rare habitat within the EU can be found at this location This NHA is of significant importance due to its location. It is one of the most westerly raised bogs in Ireland and it seems to have semi- natural margins along the stream that flows through i
001020	Loughanilloon Bog NHA	This site consists of raised bog which is a rare habitat within the EU. It supports a range of microhabitats, including hummocks and a flush. The diversity of the site is enhanced by the presence of a lake
001229	Slieve Aughty Bog NHA	Supports a significant area of upland blanket bog, a globally scarce resource.
002307	Cloonloun More Bog NHA	A raised bog which is a rare habitat within the EU can be found at this location This NHA is of significant importance due to its location as it is one of the few remaining raised bogs in the County.
002377	Lough Atorick District Bogs NHA	Designated for the presence of upland blanket bog with intermediary characteristics between blanket and raised bog types.
002379	Derryoover Bog NHA	Derryoover Bog NHA is a site of high conservation value supporting excellent blanket bog habitat. Blanket bog is a globally scarce resource.
002401	Gortacullin Bog NHA	Gortacullin Bog NHA is a site of considerable conservation significance containing upland blanket bog and wet heath. The site supports a good diversity of blanket bog microhabitats, including hummock/hollow complexes, flushes and regenerating cutover with willow and birch scrub.
002442	Maghera Mountain Bogs NHA	Consists of a diversity of habitats such as, heath, flush, scrub and upland blanket bog which is the dominant habitat
<b>Site Code</b>	<b>pNHA Name</b>	
000011	Lough Derg	Description of pNHA not available, see Lough Derg (Shannon) SPA description.
000022	Cahermurphy Wood	value of this site comes from the presence of oak woodland which is on relatively fertile soil. Ireland has very few areas of this woodland
000248	Cloonmoylan Bog	Description not available please see Cloonmoylan bog SAC description
000261	Derrycrag Wood Nature Reserve	Description of pNHA not available, please see Derrycrag Wood Nature Reserve SAC description.

Sitecode	Site_name	Summary description
000308	Loughatorick South Bog	Description of pNHA not available, see description of Loughatorick South Bog SAC
000319	Pollnaknockaun Wood Nature Reserve	Not available please see Pollnaknockaun SAC description
000650	Lough Ourna	The lake is a mosaic of reed-beds dominated by Common Reed ( <i>Phragmites australis</i> ) and open water This is an interesting and unusual lake in the process of terrestrialisation. The wetland habitats are of interest particularly if they still harbour Golden Dock. The woodland adds diversity to the site and its own interest is promoted by its ecological position in relation to the lake.
000653	Newchapel Turlough	The level of the turlough fluctuates as water is conducted in or out of the basin through small passages in the rock. Specialist species typical of areas of fluctuating water levels include Lesser Marshwort ( <i>Apium inundatum</i> ) and the moss <i>Fontinalis antipyretica</i> as well as Water Germander ( <i>Teucrium scordium</i> ), which apart from the shores of Lough Derg and Lough Ree is rare and restricted to turloughs in East Clare and North Tipperary
000929	Clareen Lough	This site comprises a system of wetlands to the north of the village of Puckaun in North Tipperary. At its north-west side the site is connected with Lough Derg.  Extensive reed-beds occur across much of the site, there being associated with the five or six lakes present
000943	Willsborough Esker	Willsborough Esker is situated approximately 9km north of Nenagh in Co. Tipperary. The main habitats at this site are scrub and woodland. Much of the esker is dominated by a dense scrub of Hazel ( <i>Corylus avellana</i> ), Ash ( <i>Fraxinus excelsior</i> ), Hawthorn ( <i>Crataegus monogyna</i> ), Holly ( <i>Ilex aquifolium</i> ) and Gorse ( <i>Ulex europaeus</i> ) along with occasional Spindle ( <i>Euonymus europaeus</i> ) and Yew ( <i>Taxus baccata</i> ).
001013	Glenomra Wood	Not available please see SAC description
001019	Lough O'Grady	The main interest of this site is as a waterfowl site, especially for Greenland Whitefronted Geese. However, there is also a good diversity of habitats ranging from open water to wet grassland/marsh and wet woodland and scrub. There has been relatively little damage to the site.
001313	Rosturra Wood	No description available, please see SAC description.
001686	Cloonamirran Wood	On the western shore of Lough Derg, 1km east of Mountshannon, County Clare, Cloonamirran Wood occupies an area of raised bog which has been naturally recolonised by woodland species. Downy Birch ( <i>Betula pubescens</i> ) and Holly ( <i>Ilex aquifolium</i> ) have become established as the dominant species with some areas of willow ( <i>Salix</i>

Sitecode	Site_name	Summary description
		spp.) and Alder ( <i>Alnus glutinosa</i> ). There are also a few oaks ( <i>Quercus</i> spp.) which are regenerating nicely. As this site has developed naturally with very little human intervention, it provides a very valuable example of plant succession.
001714	Lough Graney Woods	The wood is a native mixed woodland of Downy Birch ( <i>Betula pubescens</i> ), Holly ( <i>Ilex aquifolium</i> ), Hawthorn ( <i>Crataegus monogyna</i> ), Hazel ( <i>Corylus avellana</i> ), oak ( <i>Quercus</i> spp.) and Ash ( <i>Fraxinus excelsior</i> ). This site is a good example of acid woodland regenerating naturally.
001912	Glendree Bog	No description available, please see SAC description.
001995	Lough Avan	Lough Avan is a wetland area situated to the north-east of the village of Coolbaun in North Tipperary. A high degree of habitat diversity exists for a site of this size, ranging from lakes and ponds through to dry broadleaved woodland. The habitat and species diversity displayed by this site is extremely valuable in an area that is otherwise intensively farmed.

#### 4.3.3 Statutory Nature Reserves and Refuges for Flora or Fauna, Wildfowl Sanctuaries

- Caher (Murphy) Nature Reserve in the Sliabh Aughty mountains, is located within 15km northwest of the plan area and is the closest statutory nature reserve.(please see Table 3 for description).
- Five wildfowl sanctuaries are located in County Clare; the closest to the plan area is Ballyallia Lake, north of Ennis.
- Within the plan area, or sphere of influence there are no areas designated under the Wildlife Act 1976 -2000 as refuges for Fauna or Flora.;
- The closest National Park is that of the Burren National Parks and there are no World Heritage Sites designated for biodiversity reasons within the plan area.

#### 4.3.4 Freshwater Pearl Mussel<sup>8</sup>

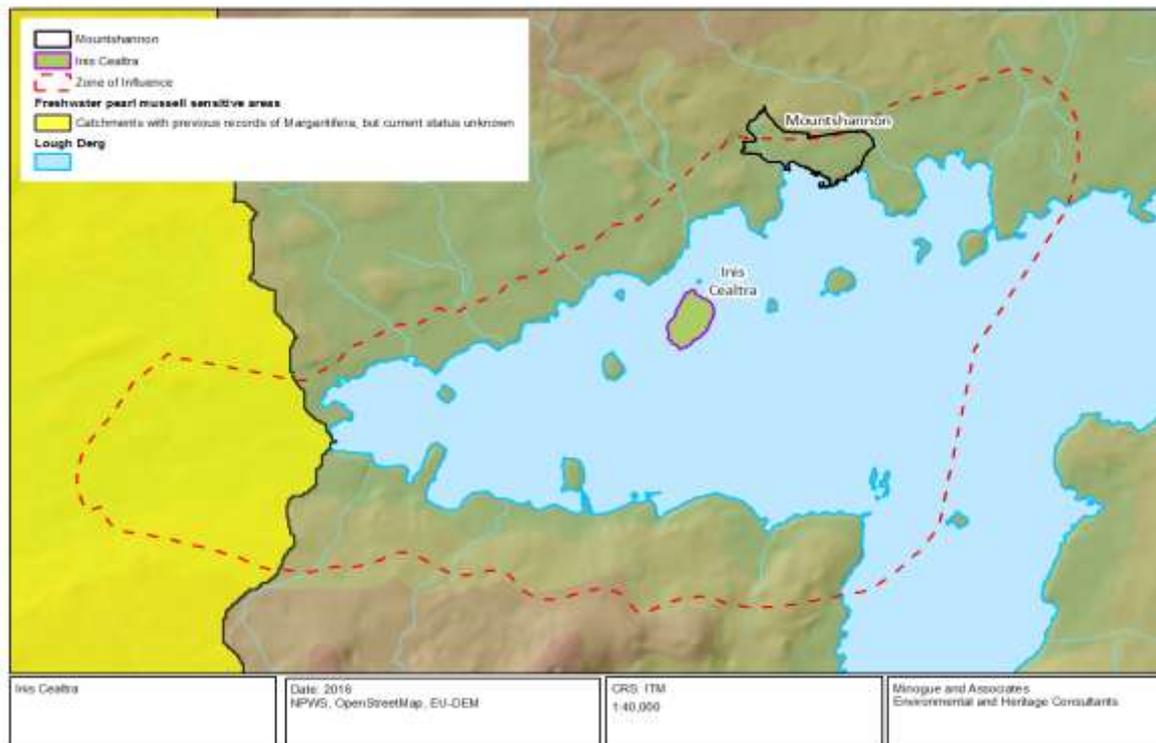
The freshwater pearl mussel is an extremely sensitive species which is currently on in IUCN Red List of Threatened Species and is rated as ‘critically endangered’ throughout the island of Ireland. Populations of the freshwater pearl mussel can be damaged in a numbers of ways including the removal of river boulders and gravels, or through works such as building bridges, weirs or bank reinforcements within the mussel habitats. There has been a considerable decline in species distribution and numbers throughout the island of Ireland with all designated populations currently at unfavourable conservation status.

In Ireland, regulations have been introduced (The European Communities Environmental Objectives (Freshwater Pearl Mussel) Regulations 2009, S.I. No. 296 of 2009) which set objectives for FPM catchments. A requirement of these regulations is the production of sub-basin management plans for each of the 27 designated populations of FPM. The FPM sub-basin plans identify critical local pressures and impacts on the freshwater pearl mussel and provide

<sup>8</sup> Much of this text is from the SEA ER of the draft Clare CDP 2017-2023 .

possible measures for restoration to favourable conservation status. Within the zone of influence, one catchment is present in the eastern part,(Shannon-Scarriff Graney catchment) whilst adjoining the zone of influence, a second catchment(Shannon-Woodford catchment) is identified as freshwater pearl mussel Sensitive Areas by National Parks and Wildlife Service. These margaritifera sensitive areas contain catchments of other extant populations or catchments with previous records. The location and extent of these sensitive areas is shown in the figure below:

Figure 11 Freshwater Pearl Mussel Sensitive Area within zone of influence of plan



#### 4.3.5 Biodiversity, Flora and Fauna in the plan area.

##### Inis Cealtra

##### Habitats

A detailed ecological assessment of Inis Cealtra was undertaken in 2015 and 2016 and is outlined in Doherty Environmental (2016). Inis Cealtra has been traditionally managed for the majority of the last century for livestock grazing and an ecclesiastical monument. The majority of the island has been in the ownership of the O'Brien family from 1927 until 2015 when the ownership was transferred to Clare County Council.

The majority of the island consists of improved agricultural grassland (GA1) that is grazed by cattle between February/March and October/November. Woodland habitat fringes the western, north-eastern and southern shorelines. This woodland is generally dominated by ash and sycamore and is classified as broadleaved woodland (WN2) habitat. Oak is rare on the island. The woodland in general is poorly structured, largely due to the linear nature of the woodland and limited canopy cover. An analysis of historical mapping suggests that the woodland on the island developed from treelines which are indicated on the historical 25" maps, completed between the 1880's and 1913. Earlier 6" maps from the 1830's to 1850's do

not indicate the presence of trees on the island and it is likely that the island was predominantly treeless at this time.

Scrub habitat (WS1) is associated with the woodland habitat along the western, south-eastern and north-eastern shorelines. The dominant scrub species include blackthorn and hawthorn. Willows are at most occasional and alder is rare on the island. The presence of buckthorn on the island is notable and it is abundant to the south-west and south-east of the island. Spindle is rare while holly is occasional.

Scrub is spreading on the island with an increase in the extent of this habitat noted towards the landward sides of woodland habitat. The spreading scrub habitat is dominated by brambles, hawthorn and elder.

The island is fringed by marsh habitat, which corresponds to the EU Habitats Directive Annex 1 habitat hydrophilous tall herb fringe communities of plains and of the montane to alpine levels (6430). High quality examples of 6430 habitat occur along the western shoreline, where cattle disturbance has been less of an issue. 6430 habitat is also present on the northern, eastern and southern shorelines but high levels of grazing intensity have adversely affected the structure and function of this habitat. The overall extent of marsh habitat on the island that is representative of 6430 habitat is approximately 1.6 ha. However the majority of this is in unfavourable conservation status due to high grazing pressure.

Reed and tall sedge swamp habitat fringes the northern end of the island. The habitat is dominated by common club-rush with yellow iris and water horsetail also occurring in shallower areas. The extent of this habitat has increased significantly along the northern fringes of the island and also to the west of the island towards Knockaphort.

Other terrestrial habitats included exposed calcareous rock, in the form of exposed boulders along the shoreline, amenity grassland (GA2) surrounding the ecclesiastical structures and built land (ED3).

No protected flora species have been recorded from the island.

### **Flora and Fauna**

The island supports a range of breeding bird species with over thirty species using the island as a breeding site. Wetland bird species associated with fringing tall sedge habitats during the breeding season include tufted duck (a species listed as a special conservation interest of the Lough Derg SPA), mallard, coot and moorhen. No wetland birds, such as common terns, cormorant and gull species have been recorded breeding on the island. Black-headed gull frequently roost on the island during the breeding season but are not known to use the island as a breeding site. Kingfisher has been observed foraging and commuting along the western shore of the island.

During the winter the island serves as a roost site for a range of wetland species. Snipe regularly roost throughout the island, but are generally concentrated to north-facing slopes towards the north of the island. Small numbers of Greenland white-fronted geese have been recorded roosting on the island. Little egret regularly forages along the island shoreline during the winter months, while the very northwest tip of the island has been identified as a roost site for small flocks of lapwing.

A range of bat species have been recorded foraging within and along the island's shoreline. Bats recorded foraging here include Soprano pipistrelle, Common pipistrelle, Leisler's bat, Natterer's bat, Daubenton's bat and brown long-eared bat. Soprano pipistrelle is the dominant species of bat using the island and the main foraging areas are located along the island's northern and north-western shores. Soprano pipistrelle has been recorded roosting in small

numbers in St Caiman’s Church and the island’s round tower. Bat droppings, indicative of *Myotis* species, have also been recorded from the fisherman’s hut, near the existing pier on the north-western shore of the island. Aside from these structures, there are a number of mature trees on the island that have been identified as having the potential to function as roost sites for bats. These trees are mainly located along the northern and western shores of the island and their locations coincide with areas of high bat foraging activity.

Evidence of otters was noted along the shoreline of the island with a couch site and spraint recorded on the south-eastern tip of the island and a second spraint recorded on the northern side of the island in 2016.

## Mountshannon and Environs

### Habitats

An overview of habitats around the village of Mountshannon is sourced from a 2008 East Clare habitat survey that is out of date by now but provides an indication of habitats present. The figure below presents this habitat survey data<sup>9</sup>.

Figure 12 Habitats identified for Mountshannon area, 2008.



The principal habitats identified around Mountshannon village are:

1. GS- Wet Grassland
2. GS2- Dry meadows and grassy verges
3. GA2- Amenity grassland (improved) – area around the harbour
4. BC4- Cultivated land and
5. BL3- Built land and artificial surfaces (village and road).

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<sup>9</sup> County-clare-habitat-survey-survey-of-natural-habitats-in-east-county-clare, 2008. Map from Biodiversity Ireland.

## Flora and Fauna

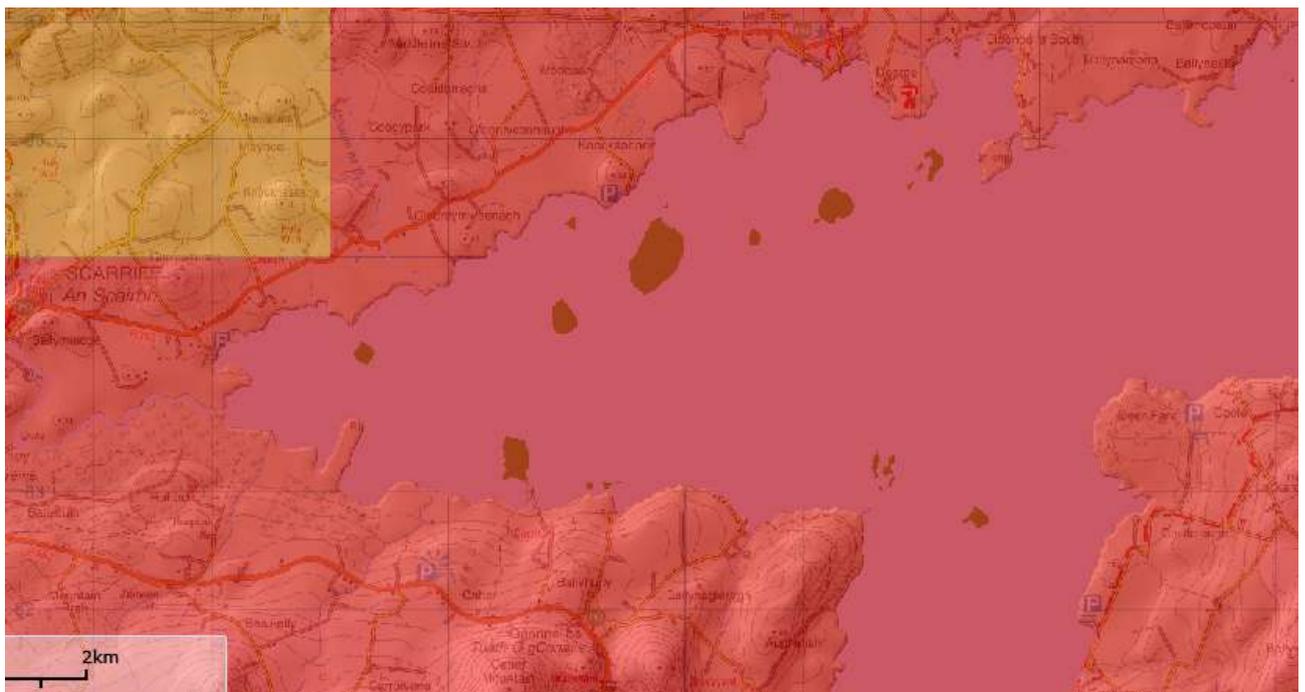
The NPWS Rare and Protected Species database was consulted for records of species of conservation importance. According to this database, the study area lies within the 10km grid squares (hectads), the following are listed in this database:

Table 7 Rare and Protected Species Database

Name	Latin	Location 10km
Fallow Deer	Dama dama	Bodyke
Pine Marten	Martes martes	Bodyke
Lutra lutra	Otter	Carrogar Bay, Ogonnolloe
Inula salinica	Irish Fleabane	
Cervus elephus	Red deer	Carrogar Bay, Ogonnolloe
Fallow Deer	Dama dama	Carrogar Bay, Ogonnolloe

Bats are also present in this area with Daubenton Bats associated most strongly with the lake, but other species including Leislars, Common and Soprano Pipistrelle utilising woodland and hedgerows in particular for foraging and commuting. The bat habitat suitability map for all bats is produced below, with the red area showing the areas of highest habitat suitability for all bats.

Figure 13 Bat Habitat Suitability index (Biodiversity Ireland).



#### 4.3.6 Aquatic fauna

The Lough Derg Biodiversity Project<sup>10</sup>, as well as the Water Framework Directive data has been used to identify principal fish species present in the lake. A total of seven fish species and one type of hybrid were recorded on Lough Derg during the survey. Species present as follows:

- Bream; Brown trout; European eel; Perch; Pike; Pollan; Roach; Roach x Bream hybrid

The Lough Derg Native Fish Biodiversity project has also identified sea lamprey in the lake that appear to attack brown trout, pike, bream and roach. This research has also found that pollan are still extant in the lake though at low levels, that the genetic diversity of brown trout in the lake is high and also that the invasive species *Gammarus tigrinus* is present. *Gammarus tigrinus* coexists in Ireland with the native opossum shrimp *Mysis relicta* and there is mutual predation (Bailey et al. 2006). However, the mysid has been forced to change its use of microhabitat, exposing itself to increased fish predation due to the presence of *G. tigrinus* (Bailey et al. 2006). Rudd has also largely disappeared from the lake and is being replaced by roach in terms of biomass.

#### 4.3.7 Wetlands

A wetland is an area that is saturated by water and this saturation has allowed specially adapted plants and animals to establish. Clare is home to many different wetland types due to the wet climate, topography, geology, hydrology and soil types. Many of these are regarded as being internationally important. Wetlands are a qualifying interest in the Lough Derg SPA in which the plan will operate.

Wetlands are effectively the border between the open water and dry land. Reeds, sedges, water forget-me-not, marsh marigold and purple loosestrife provide cover for ducks and wading birds. Other wetlands, such as bogs, heath and fens, occur where the water table is close to the surface, or where the bedrock is impenetrable.

In addition to the designated wetlands there are many others; the 2008 Clare Wetland Survey identified one wetland Cloonamirran Wood, within the sphere of influence of the plan.

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<sup>10</sup> <http://www.biodiversityireland.ie/wordpress/wp-content/uploads/Igoe-Lough-Derg-Native-Fish-BP-March-5-2011-web-version.pdf>

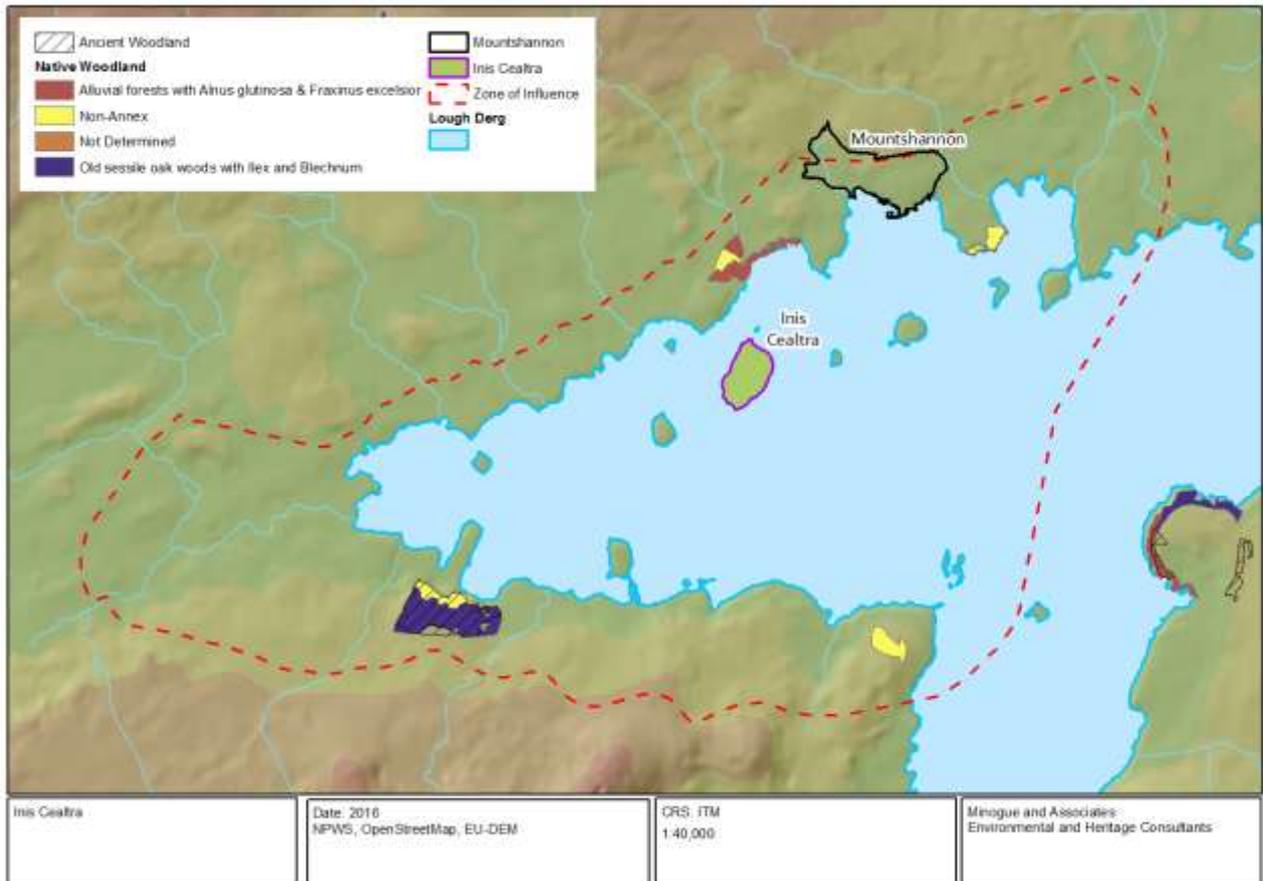
Figure 14 Wetlands from County Clare Wetland Survey 2008.



#### 4.3.8 Woodland

Loughshore woodland is a key characteristic of much of the Lough Derg area; woodlands and scrub identified on Inis Cealtra is described in Section 4.3.5. The National Inventory of Native Woodland identified four areas within the sphere of influence of the plan and these are shown below in Figure 15.

Figure 15 Native Woodland from NPWS Native Woodlands Survey 2003-2007 (updated 2011)



Clare County Council also commissioned a tree survey that included Mountshannon in 2015. Figure 16 shows the existing trees and open spaces in the village. The treelines and hedgerows where present should be considered as part of the local ecological network and green infrastructure (see following section).



Figure 16 Existing Trees and Open Spaces, Mountshannon Village, 2015.

#### 4.3.9 Stepping stones and ecological corridors.

As natural habitats become more fragmented as a result of human activity, habitat patches and corridors within a landscape mosaic become increasingly important for species to allow movement between populations, Figure 17 below presents an overview of the landscape mosaic with stepping stones and corridors.

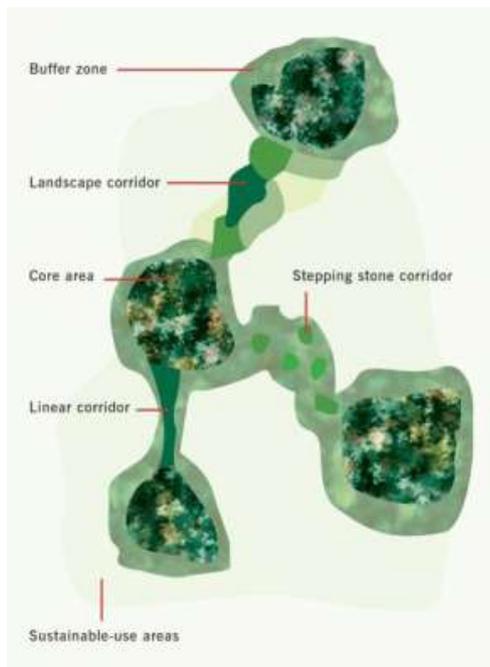


Figure 17 Landscape mosaic with stepping stones, corridors and core areas (source: <http://www.sicirec.org/definitions/corridors>)

Within the plan area, ecological corridors can include in particular, hedgerows, shoreline vegetation, roadside grassy verges and streams other watercourses. Hedgerows function as locally important corridors for a number of bat species and the mature treelines that fringe the loughshore also function as ecological corridors within the plan area. Hedgerows are also particularly important for facilitating movement through the landscape for flying insects including butterflies, and bees.

The hedgerow network of the agricultural landscape combined with the shoreline vegetation increases the habitat and network for a range of bird species ranging from farmland to riparian bird species; these provide nesting sites, shelter, protection and food for these species. The attractiveness of hedgerows for small mammals also means raptors can hunt along hedgerow corridors.

Stepping stones relate to small pockets of habitat can be used by species to shelter, rest or food provision. They can play an important role in facilitating longer distanced dispersal as well as refuges for species to breed in<sup>11</sup>. These can provide important links between larger protected areas and corridors, in this context, this could include small areas of fen or wet grassland within the wider predominantly agricultural pasture landscape. A number of islands close to Inis Cealtra may also function as stepping stones or refugia. Figure 18 below shows the closest islands to Inis Cealtra as follows:

- Young's Island – c. 560m northeast of Inis Cealtra accessible by three piers and featuring pathways and seats.
- Bushy Island – c.1.15km, northeast of Inis Cealtra, accessible by pier, nesting site for a pair of White Tailed Eagles
- Red Island – c.600m south west of Inis Cealtra, densely covered by gorse and scrub and not accessible.



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<sup>11</sup> "Science for Environment Policy": European Commission DG Environment News Alert Service, edited by SCU, The University of the West of England, Bristol.

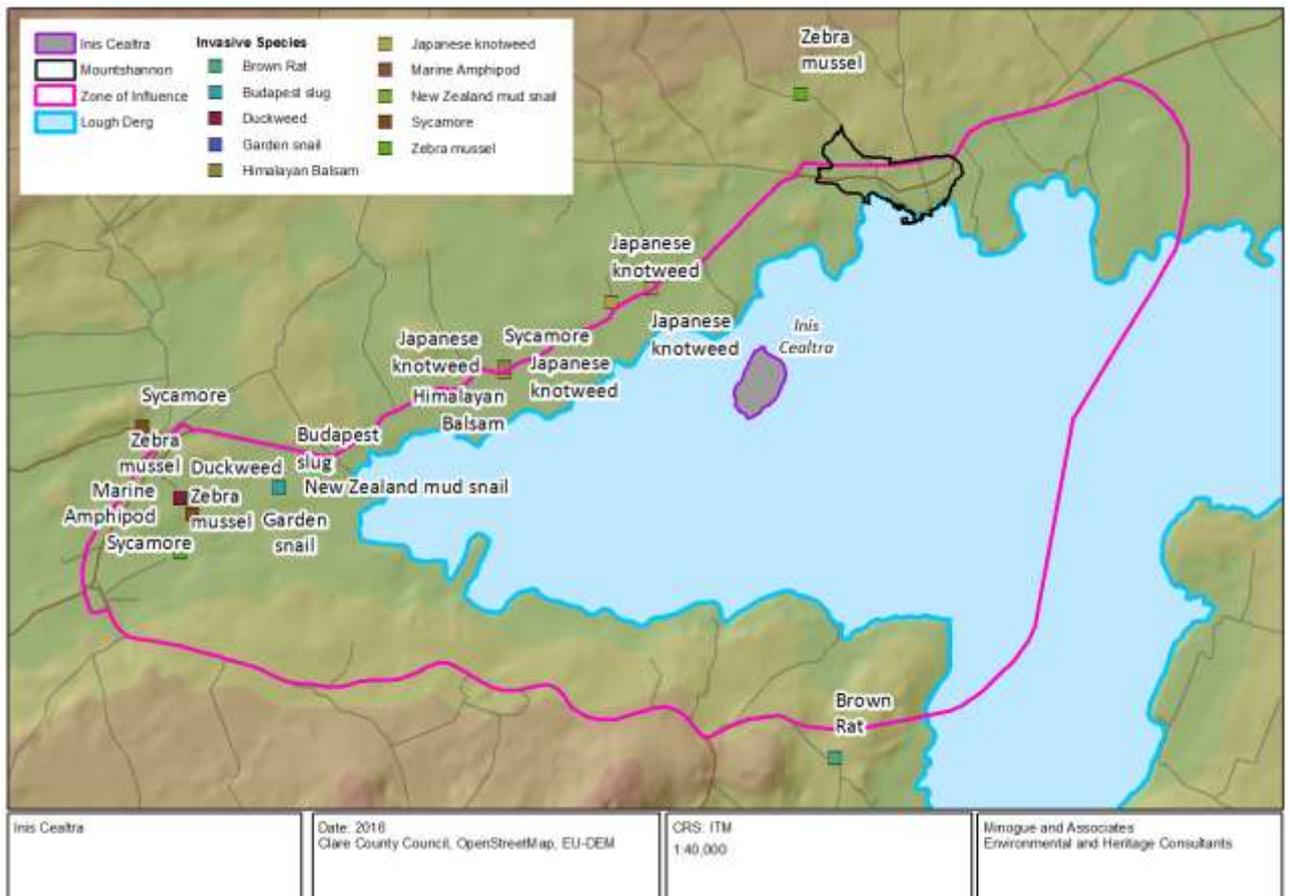
*Figure 18 Islands closest to Inis Cealtra (google maps)*

#### **4.3.10 Invasive Species**

Invasive species are species that have been introduced, generally by human intervention, outside their natural range and whose establishment and spread can threaten native ecosystem structure, function and delivery of services. After habitat loss, invasive species are the second biggest threat to biodiversity. There are ecological and socio-economic impacts as a result of invasive species, the extent of which are likely to increase in the Plan area without an effective management strategy including raising awareness which will inform on identification and how to reduce the risk of introducing and spreading invasive species. The EU adopted “Regulations on the prevention and management of the introduction and spread of invasive non-native species” (2013/0307(COD)) came into force on the 1st of January 2015. This regulation seeks to address the problem of invasive species in a comprehensive manner so as to protect native biodiversity and ecosystem services, as well as to minimize and mitigate the human health or economic impacts that these species can have.

The Regulation foresees three types of interventions; prevention, early detection and rapid eradication, and management. Invasive species can be spread particularly through aquatic ecosystems and therefore the identification and management response to this issue is particularly relevant to the plan. Figure 19 shows the recorded invasive species in the sphere of influence.

Figure 19 recorded Alien and Invasive Species within sphere of influence.



Inland Fisheries Ireland<sup>12</sup> have also identified Priority Invasive species (fish, aquatic invertebrate and riparian/aquatic plants), as follows:

- Asian clam *Corbicula fluminea*
- Zebra mussel *Dreissena polymorpha*
- Chinese mitten crab *Eriocheir sinensis*
- Bloody red shrimp *Hemimysis anomala*
- Chub *Leuciscus cephalus*
- Dace *Leuciscus leuciscus*

Priority Invasive Aquatic and Riparian Plant Species in Ireland (IFI)

- Nuttall's waterweed *Elodea nuttallii*
- Curly leaved waterweed *Lagarosiphon major*
- New Zealand pigmyweed *Crassula helmsii*
- Parrot's feather *Myriophyllum aquaticum*
- Fringed water lily *Nymphoides peltata*

<sup>12</sup> Aquatic and Riparian Invasive Species Research in Republic of Ireland. Presentation by Joe Caffrey Inland Fisheries Ireland, Belfast 2013.

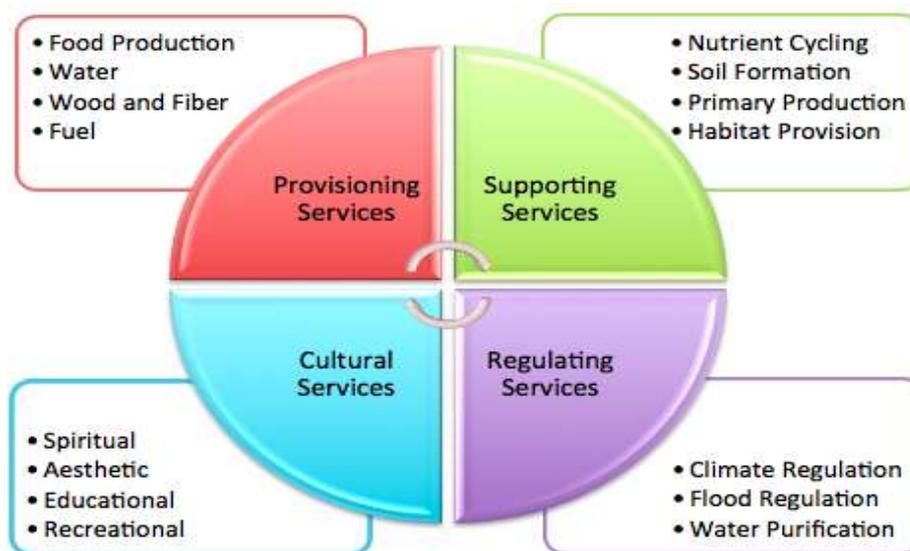
- Water fern *Azolla filiculoides*
- Himalayan balsam *Impatiens glandulifera*
- Knotweed spp *Fallopia spp*
- Giant hogweed *Heracleum mantegazzianum*
- Rhododendron *Rhododendron ponticum*

#### 4.3.11 Ecosystem Services

Awareness about the roles and functions of ecosystems has increased in recent years and it can be a useful means to highlight their importance and value services to society. The Economics of Ecosystem Services and Biodiversity (TEEB) study defines ecosystem services as: ‘the benefits people receive from ecosystems’.

Humans are ultimately dependant on the natural environment and ecosystem services highlight how these systems provide and interact to create the essential components for human well- being. Four key services are identified for ecosystems and are shown in the following Figure 20.

Figure 20 Ecosystem Services



Source: Millenium Ecosystem Assessment, 2005.

Clare County Council commissioned a tree survey in 2015 and this included a survey of trees in public lands in the settlement of Mountshannon. This was further developed through an ecosystem services study of the ecosystem services<sup>13</sup> that these trees provide in Mountshannon. Key findings from this study are as follows:

<sup>13</sup> Ecosystem Services provided by Mountshannon Village Trees, Bernard Carey and Brian Tobin, 2016.

Table 8 Ecosystem Services provided by trees in public lands Mountshannon.

<b>Number of trees measured</b>	418
<b>Survey area</b>	6.85 ha
<b>Tree cover :</b>	1.52 ha
<b>Most common species</b>	Betula species (29%) Rowan/Mountain Ash ( <i>Sorbus aucuparia</i> )(16%) Sycamore ( <i>Acer pseudoplatanus</i> (11%)
<b>Pollution removal</b>	<1 tonne/year (€480/year)
<b>Carbon storage</b>	116 tonnes (€2,223)
<b>Carbon sequestration</b>	4 tonnes/year (€77/year)
<b>Oxygen production</b>	9 tonnes/year (€331/year)
<b>Avoided runoff</b>	235 m <sup>3</sup> /year (€134/year)
<b>Structural values</b>	€544,0001
<b>Most valuable individual tree</b>	The ‘Bé Binn’ champion oak (€422,209)

#### 4.3.12 Existing issues –Biodiversity, Flora and Fauna

Issues present within the plan area are as follows:

- Much of the existing grassland on Inis Cealtra is rank and of poor species diversity;
- The alluvial woodland present around the northern part of the island includes sycamore which can become invasive over time
- Invasive species present in the aquatic and terrestrial habitats around the plan area the zebra mussel, Himalayan balsam and knotweed.
- Habitat loss, fragmentation and encroachment through human activity
- A general lack of recognition and appreciation of biodiversity outside of European sites. This is particularly relevant in relation to wildlife corridors and habitats and the role they play in the migration, dispersal and genetic exchange of wild species.
- Impacts on water quality are a significant threat. The Plan area is rich in wetlands and supports an abundance of water sensitive habitats and species; however, these are at risk from both point source pollution and diffuse pollution, particularly wastewater treatment.
- Reclamation or development in wetlands and floodplains have already led to significant problems with flooding, and the continuation of this type of activity will further exacerbate issues of clean water supplies, nutrient recycling, flood storage and regulation.
- Disturbance to wildlife, and particularly birds, occur as a result of inappropriately sited development and increased recreational pressure.
- The loss of key “stepping stones” between European sites which are not afforded the same protection as SACs ad SPAs or as pNHAs or NHAs.
- Climate change and increased severe weather events, such as storm and precipitation events, associated changing water levels, increased siltation to freshwater systems and habitat loss and fragmentation.

#### **4.3.13 Evolution of biodiversity, flora and fauna in the absence of the plan**

In the absence of the plan, a number of impacts could arise; without a proposed woodland and grassland management plan for the island sycamore would likely increase in the alluvial woodland and without detailed biosecurity measures there is an increased risk of accidental introduction of alien and invasive species on the island.

Visitor impacts would continue and be exacerbated in the absence of a plan with increased trampling along existing informal tracks, and use of woodland and shrubs for toilets. The absence of filtering access to the island could give rise to increased paths through more sensitive ecological areas following desire lines rather than carefully designed pathways. Cattle grazing has also caused poaching during wet weather and this can result in run off to the lake.

### **4.4 WATER RESOURCES INCLUDING FLOODING**

#### **4.4.1 Water Quality**

A desk-based assessment of water quality in the study area was conducted. The sources of the water quality information include:

- Water Framework Directive water body status information arising from the Water Framework Directive monitoring programme (EPA, 2011);
- Bathing water quality information outlined in the EPA's most recent bathing water quality report, The Quality of Bathing Water in Ireland, An Overview for the Year 2012 (EPA, 2013);
- Nutrient sensitive areas under the Urban Waste Water Treatment Regulations, 2001 (SI No. 254 of 2001);
- Information from Catchments.ie website, and
- GSI aquifer vulnerability information.

#### **4.4.2 Catchment**

A catchment is an area where water is collected by the natural landscape and flows from source through river, lakes and groundwater to the sea. The plan lies is located within the Lower Shannon Catchment. An overview of the catchment is provided below from [www.catchments.ie](http://www.catchments.ie).

“This catchment covers an area of 1,820km<sup>2</sup> and comprises Lough Derg and its catchment. The catchment is characterised by flat limestone plains, a small proportion of which are karstified to the east of Lough Derg, and the uplands of the Devil's Bit Hills in the southeast, the Slieve Aughty Mountains in the west and the Slieve Bearnagh and Arra Mountains in the south, between which the Shannon escapes to the south from Lough Derg. All of these upland areas are underlain by old red sandstone with metamorphic and volcanic rocks in the higher summit areas. This catchment can be divided into two regions, the area draining into the western and eastern sides of Lough Derg.”

#### **4.4.3 Surface Waters.**

Inis Cealtra and Mountshannon are located within the Shannon (Lower) Sub-catchment. The mean depth overall of the water in Lough Derg has been estimated to be 7.6m and reaches a

maximum depth of 36m. The water level is regulated, with a range of water level fluctuation of 0.3m<sup>14</sup>.

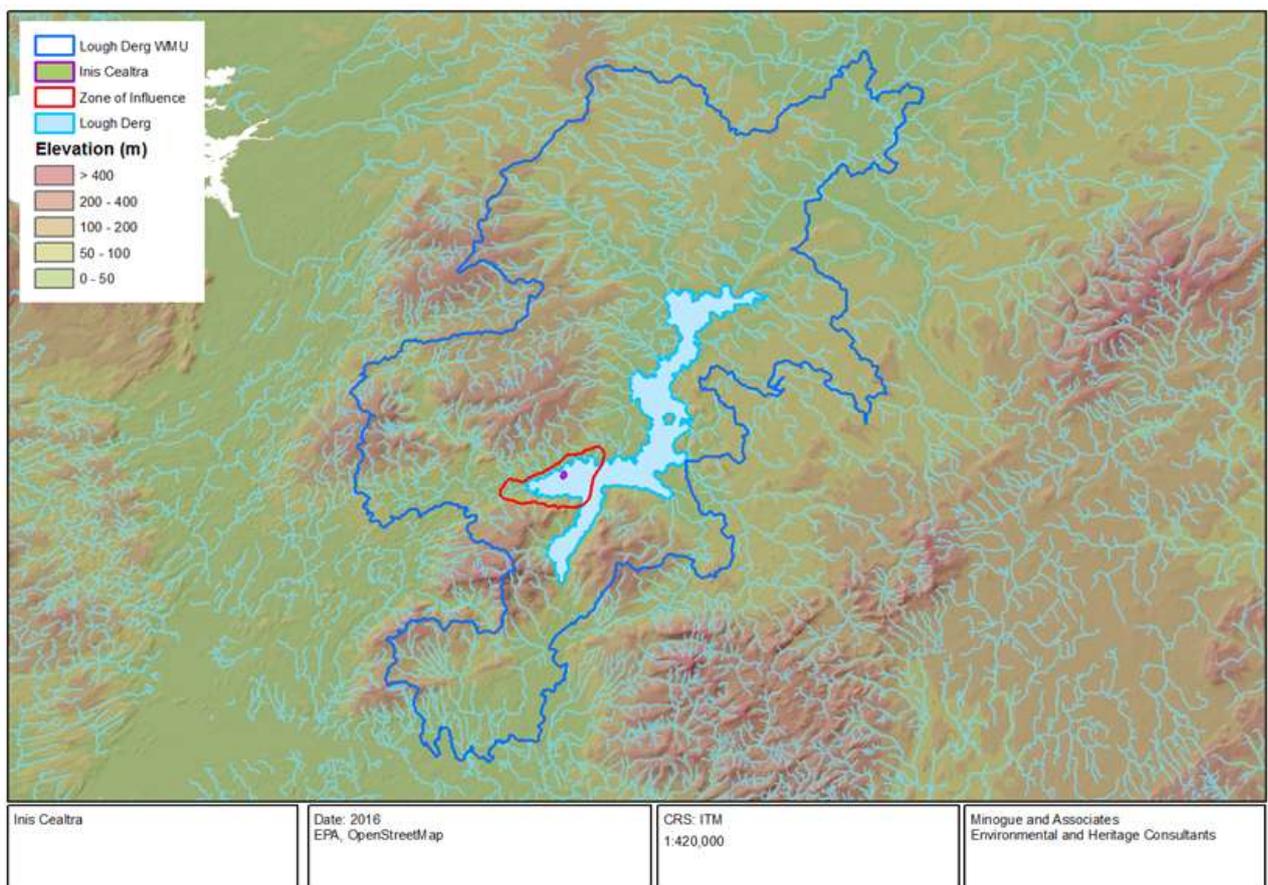
Lough Derg is a Protected Area under the Water Framework Directive (WFD) due to its classification as both a:

1. A nutrient sensitive area ( nitrate vulnerable zones designated under the Nitrates Directive (91/676/EEC) and areas designated as sensitive under the Urban Waste Water Treatment Directive (91/271/EEC).
2. An area designated under the Birds Directive (79/409/EEC) and the Habitats Directive (92/43/EEC).

The lake is characterised now as oligotrophic/mesotrophic. The ecological status of Lough Derg is poor (based on 2010-2015 data). The chemical status of the lake is good.

The Water Framework Directive Lough Derg Water Management Unit Action Plan identifies nutrient input to the lake as being diffuse sources of phosphorus, 71% from agriculture, 10% from unsewered properties, 8% from forestry and 7% from WWTP. The action plan also states for Mountshannon Wastewater Treatment Plant, the capacity not be exceeded.

Figure 21 Lough Derg Water Management Unit.



<sup>14</sup> Bathing Water Profile, Mountshannon, Lough Derg EPA 20

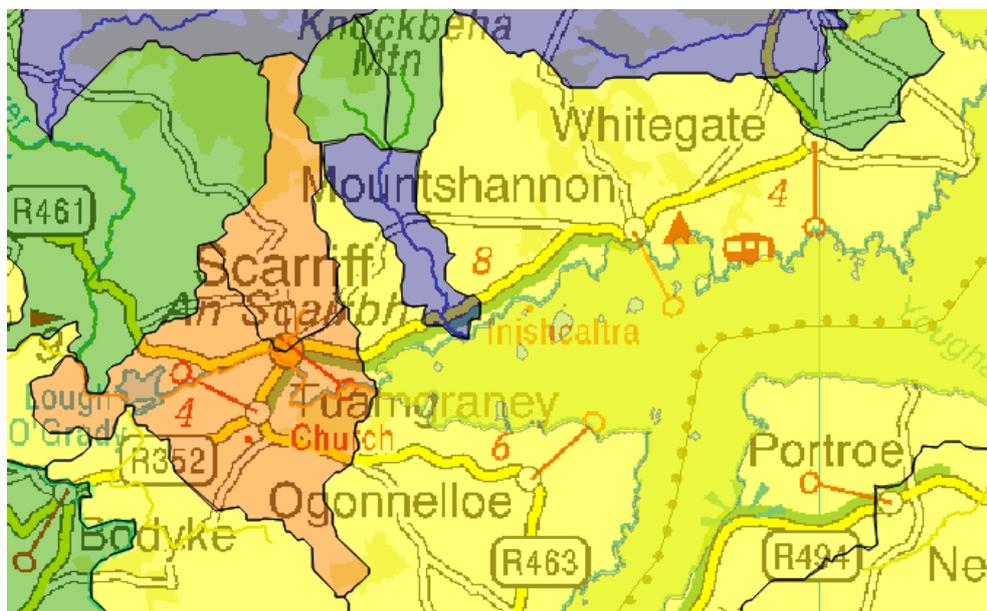
The main rivers that drain into the sphere of influence from the foothills and lakes associated with the Sliabh Aughty and Bernagh ranges are listed below. Figure 18 shows the overall Q value status for these waterbodies.

These include the following:

- Scarriff River (tributary of the River Graney); Q value –poor;
- Bow (tributary of Lower Shannon): Q value- high;
- Shannon (Mountshannon area): Q value-Moderate, and
- Derrainy (tributary of Shannon Lower); Q Value –Good.

There is no surface water ie; streams on Inis Cealtra but there is a spring associated with the holy well. This is fed by groundwater from a locally important aquifer in the limestone bedrock. The subsoil on the island is considered to be of moderate permeability due to the well- draining characteristics of the soil. Limestone bedrock is closest to the surface around the holy well and this would increase vulnerability to pollution in this area.

Figure 22 Surface Water Quality Plan Area



#### 4.4.4 Bathing Waters.

There is a designated bathing area east of the main harbour at Mountshannon that has up to 150 visitors during peak times. The quality of the bathing water is identified as excellent in the most recent EPA bathing water quality report (2013). The bathing water at Mountshannon is situated on the shores of Lough Derg in East Clare. The designated bathing area is approximately 0.01 km<sup>2</sup> in size and extends 70m along the shoreline. The monitoring location is opposite the lifeguard hut.

Plate 14 View of Mountshannon Harbour (R.Minogue)

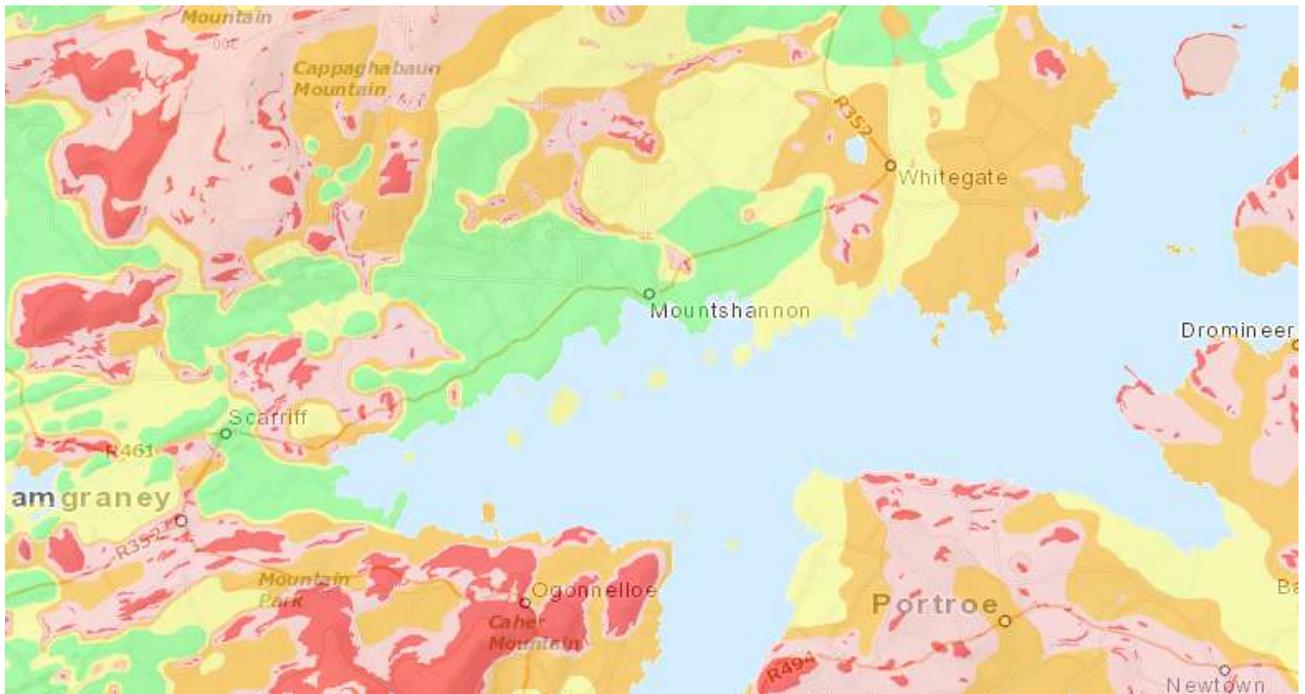


#### 4.4.5 Groundwater

Groundwater is a further significant resource and refers to water stored underground in saturated rock, sand, gravel, and soil. Surface and groundwater functions are closely related and form part of the hydrological cycle. The protection of groundwater from land uses is a critical consideration and groundwater vulnerability is becoming an important management tool. The entire island of Ireland has been designated as a Protected Area for Groundwater under the WFD. Groundwater is important as a drinking water supply as well as the supply to surface waters. In addition, groundwater supplies surface waters. Groundwater is exposed to higher concentrations of pollutants that are retained in the layers of rock and soil. The exposure to pollutants lasts much longer as groundwater moves at a slower pace through the aquifer. The quality of our drinking water supply, fisheries and terrestrial based habitats is intrinsically linked with groundwater quality. The Geological Survey of Ireland (GSI) aquifer categories are based on their vulnerability to pollution, i.e. the ease at which it can enter the subsurface layers. The classification of extreme or high vulnerability means that the groundwater in these areas is very vulnerable to contamination due to hydrogeological and soil factors.

The Geological Survey of Ireland's Groundwater Vulnerability Mapping shows the groundwater vulnerability for the area with areas of orange identified as high vulnerability, pink - extreme vulnerability and red identifying areas where bedrock is at or near surface/karst features. As Figure 23 shows, the Mountshannon village and immediate environs are green; this is classified as low vulnerability.

Figure 23 Groundwater Vulnerability Mapping for sphere of influence (Geological Survey of Ireland).



The sphere of influence area is underlain by a locally important aquifer; described by the GIS as ‘Bedrock which is moderately productive only in local zones’

Overall the groundwater status within the County is primarily of good status and this applies to the sphere of influence of the plan also.

#### 4.4.6 Flooding and Flood risk

The Planning System and Flood Risk Management, Guidelines for Planning Authorities, 2009, issued by the DoEHLG and undertaken in conjunction with the OPW, requires Planning Authorities to prepare an Strategic Flood Risk Assessment (SFRA). The primary purpose of the SFRA is to determine flood risk within a particular geographical area, in this instance, the plan areas associated with the plan.

It should be noted the SFRA is an ever evolving document, which is to be reviewed and updated on a regular basis in the light of emerging information, flood data and an improved understanding of flood risk. Section 4.20 of the above Guidelines states:

‘Flood risk identification (Stage 1) to assess whether full flood risk assessment is required, should ideally be carried out in a manner that is integrated with the SEA process rather than constituting an additional and separate process. Any subsequent stages of flood risk assessment should also be carried out in a way that is integrated with the SEA process.’

Under the Floods Directive, by 2015 Ireland must have Flood Risk Management Plans established focused on the prevention, protection and preparedness for areas identified to be at significant risk of flooding.

Preliminary Flood Risk Assessment was undertaken in 2011, this process selected Areas for Further Assessment as set out in Article 5 (1) of the Floods Directive. In turn these have formed the basis of the Catchment Flood Risk Assessment and Management (CFRAM) plans, which have been issued in draft form in 2016. Mounshannon is located within the Unit of Management 2526:Shannon –Upper and Lower. Mounshannon is not identified as an area for

further assessment on these draft plans. Inis Cealtra is identified as a Possible Area for Further Assessment. The rivers and streams within the sphere of influence are all identified as fluvial flood zones with extents shown based on 1 in 100year events. See Figure 24 below which presents the Draft Preliminary Flood Risk Assessment for the plan area.

Figure 24 Draft PFRA Plan Area



Following the Planning Guidelines<sup>15</sup>, development should always be located in areas of lowest flood risk first, and only when it has been established that there are no suitable alternative options should development (of the lowest vulnerability) proceed. Consideration may then be given to factors which moderate risks, such as defences, and finally consideration of suitable flood risk mitigation and site management measures is necessary.

It is important to note that whilst it may be technically feasible to mitigate or manage flood risk at site level, strategically it may not be a sustainable approach.

Flooding can be exacerbated by development through removal of flood plain and therefore flood storage, by altering watercourses and increasing surface water run-off. Flooding can also pose a threat of water contamination due to inundation of waste water treatment systems, agricultural run-off and surface water run-off from developments.

The above guidelines identify flood zones A to C; and these are categorised as follows:

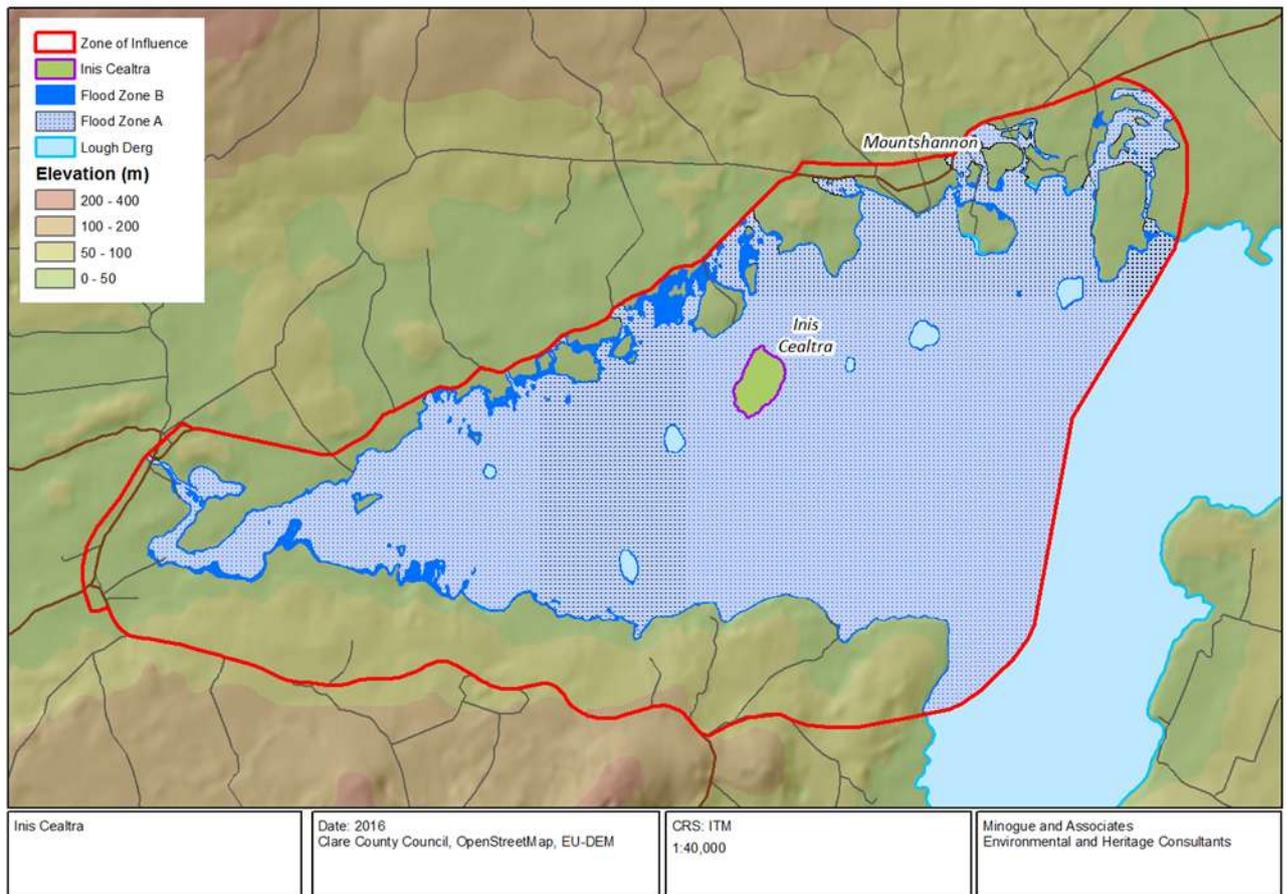
**Flood Zone A** – where the probability of flooding from rivers and the sea is highest (greater than 1% or 1 in 100 for river flooding or 0.5% or 1 in 200 for coastal flooding);

**Flood Zone B** – where the probability of flooding from rivers and the sea is moderate (between 0.1% or 1 in 1000 and 1% or 1 in 100 for river flooding and between 0.1% or 1 in 1000 year and 0.5% or 1 in 200 for coastal flooding); and

**Flood Zone C** – where the probability of flooding from rivers and the sea is low (less than 0.1% or 1 in 1000 for both river and coastal flooding).

Figure 24 presents flood zones A and B in the sphere of influence of the plan.

<sup>15</sup> This text is taken from the SEA ER of the draft Clare CDP 2017-2023.



Clare CDP 2017-2023 states that:

An appropriately detailed flood risk assessment will be required in support of any planning application. The level of detail will vary depending on the risks identified and the proposed land use. As a minimum, all proposed development, including that in Flood Zone C, must consider the impact of surface water flood risks on drainage design. In addition, flood risk from sources other than fluvial and tidal should be reviewed.

For sites within Flood Zone A or B, a site specific "Stage 2 - Initial FRA" will be required, and may need to be developed into a "Stage 3 - Detailed FRA". The extents of Flood Zone A and B are delineated through this SFRA. However, future studies may refine the extents (either to reduce or enlarge them) so a comprehensive review of available data should be undertaken once a FRA has been triggered.

Within the FRA the impacts of climate change and residual risk (including culvert/structure blockage) should be considered and remodelled where necessary, using an appropriate level of detail, in the design of finished floor levels. Further information on the required content of the FRA is provided in the Planning System and Flood Risk Management Guidelines.

Any proposal that is considered acceptable in principle shall demonstrate the use of the sequential approach in terms of the site layout and design and, in satisfying the Justification Test (where required), the proposal will demonstrate that appropriate mitigation and management measures are put in place.

As part of the plan preparation, JBA consulting was commissioned to undertake a flood risk assessment of the area around Mountshannon proposed for the Visitor Centre. Please see

Chapter 7 and Chapter 8 for the results and mitigation measures resulting from this flood risk assessment.

#### **4.4.7 Water Supply from Lough Derg**

In March 2015, Irish Water published a Project Need Report which outlined the need for the Eastern and Midlands Region Water Supply Project in a national context. It included assessments of projected population and industrial growth (2014-2050) and savings expected from water conservation and leakage management. Between 2007 and 2011, ten new water supply options for meeting projected growth in water demand in the East and Midlands of Ireland were evaluated at a 'high' level as part of the legal process under the Strategic Environmental Assessment (SEA). Out of the ten Water Supply Options evaluated at this 'high level,' four were identified as technically viable options.

These four Options were independently validated by Irish Water and were found to remain appropriate to be brought forward for further consideration in the planning process. In November 2016, Irish Water published the Final Options Appraisal Report (FOAR) which identified abstraction from the Parteen Basin in Tipperary as the Preferred Scheme for a new source of water supply for the Eastern and Midlands Region. Alongside the FOAR, Irish Water has also published an Environmental Impact Statement (EIS) Scoping Report. The EIS Scoping Report considers potential issues which may arise from the preferred scheme and describes how any impacts will be assessed.

The proposed water abstraction from Lough Derg could lead to potential ecological, environmental and climate change effects amongst others. A formal Planning Application is scheduled to be lodged with An Bord Pleanála towards the end of 2017. The design will be developed to enable preparation of a complete Planning Application. Detailed design of the project will commence upon receipt of Planning Consent. Subject to Planning Consent, construction is expected to commence in approximately 2021 and will last until 2024/2025<sup>16</sup>.

#### **4.4.8 Existing issues –Water resources**

In relation to the sphere of influence of the plan a number of issues relating to water resources arise:

- The overall ecological poor status of Lough Derg
- The presence and influence of aquatic and riparian invasive species
- Diffuse sources of pollution arising from agriculture, forestry, wastewater and septic tanks
- Increased precipitation and extreme weather events associated with climate change and the potential impacts on same, in particular increased surface run off and increased sediment loading to the lake
- Flood risk and potential impacts on the cultural heritage of Inis Cealtra and increased surface run off and flood risk associated with any proposals in flood zones around Mountshannon.
- Ensuring that there is sufficient wastewater and potable water supply in advance of visitor facilities associated with the plan
- Issues around water abstraction, supply and assimilative capacity of receiving waters.

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<sup>16</sup> This update is taken from Irish Water Website accessed on 27.09.2016.

<http://www.watersupplyproject.ie/frequently-asked-questions/>

#### **4.4.9 Evolution of water resources in the absence of the plan**

Whilst there is a significant amount of European and national legislation for the protection and enhancement of water resources and quality, the absence of a plan and strategic approach to the management of Inis Cealtra and the wider area could mean piecemeal and adhoc development that may impact cumulatively on water resources and quality; particularly around flood risk, surface water runoff and invasive species.

### **4.5 GEOLOGY AND SOIL**

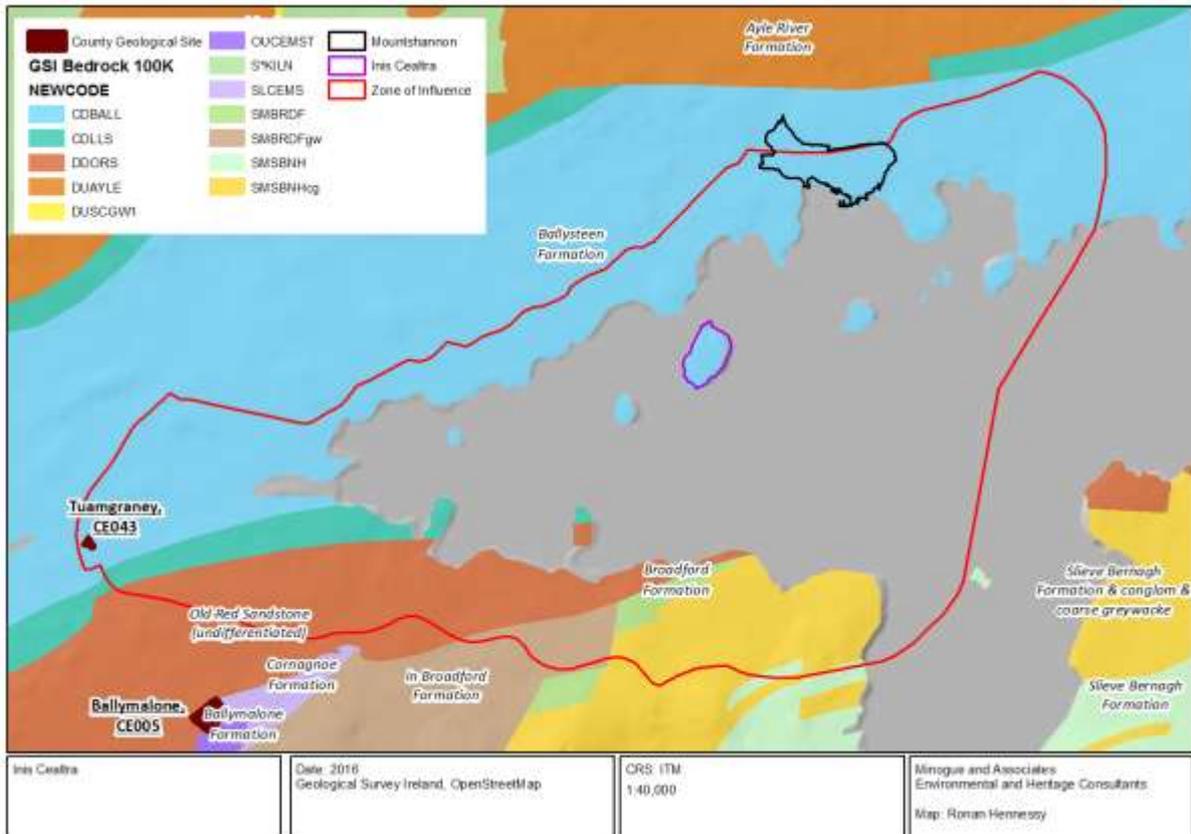
#### **4.5.1 Geology**

Inis Cealtra and the Mountshannon area is underlain by Lower Carboniferous Limestone (Ballysteen Formation) and the island itself is a drowned drumlin; formed of subsoil associated with a glacier moving northeast to southwest during the last Ice Age (73,000BP - 10,000 years BP). Other than limestone outcrops on the island, much of the bedrock is covered by a layer of till, which is naturally fertile and well- draining, reflecting the limestone base. The bedrock in the southern area of the sphere of influence is dominated by old red sandstone and conglomerate and coarse greywacke.

Geological Heritage sites are listed in the Clare CDP 2017-2023; the only one within the sphere of influence is the limestone outcrop in the village of Tuamgraney and coded CE043.

Figure 25 below shows the bedrock division between the lower lying limestone dominated shoreline of the lake and the harder, rising foothills of Sliabh Aughty to the north and Sliabh Bernagh in the south of the plan area.

Figure 25 Bedrock and Geological Heritage Sites within sphere of influence of plan



#### 4.5.2 Soil

Soil can be considered as a non-renewable natural resource because it develops over very long timescales. It is an extremely complex, variable and living medium and performs many vital functions including: food and other biomass production, storage, filtration and transformation of many substances including water, carbon, and nitrogen. Soil has a role as a habitat and gene pool, serves as a platform for human activities, landscape and heritage and acts as a provider of raw materials. Such functions of soil are worthy of protection because of their socio-economic as well as environmental importance. Soils in any area are the result of the interaction of various factors, such as parent material, climate, vegetation and human action.

There is no overarching soil legislation in place currently,; however the Seventh Environment Action programme recognises the challenge of soil degradation and provides by 2020 that land be managed sustainably with soil adequately protected.

Figure 26 below shows the primary soil types within the sphere of influence and Figure 27 presents the quaternary geology which has demonstrates the influence of the glacial processes operating in this area, notably through the retreat of the ice sheets, and creation of drumlins and ribbed moraines around the area.

Figure 26 Soil Map

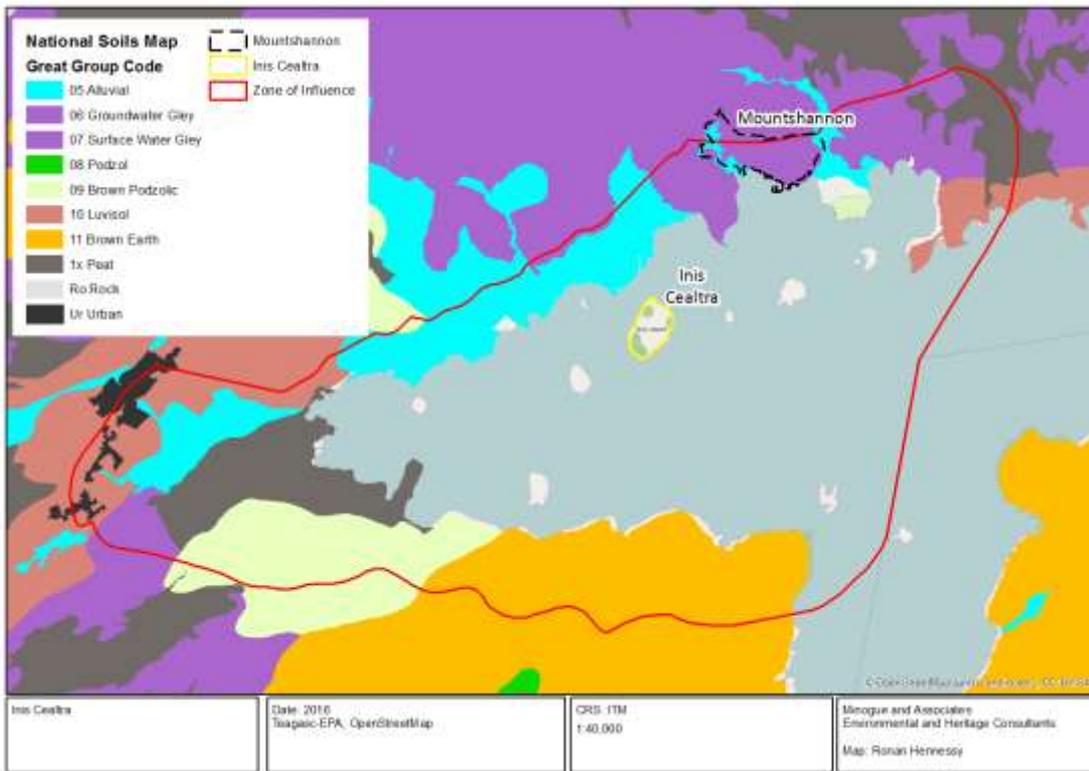
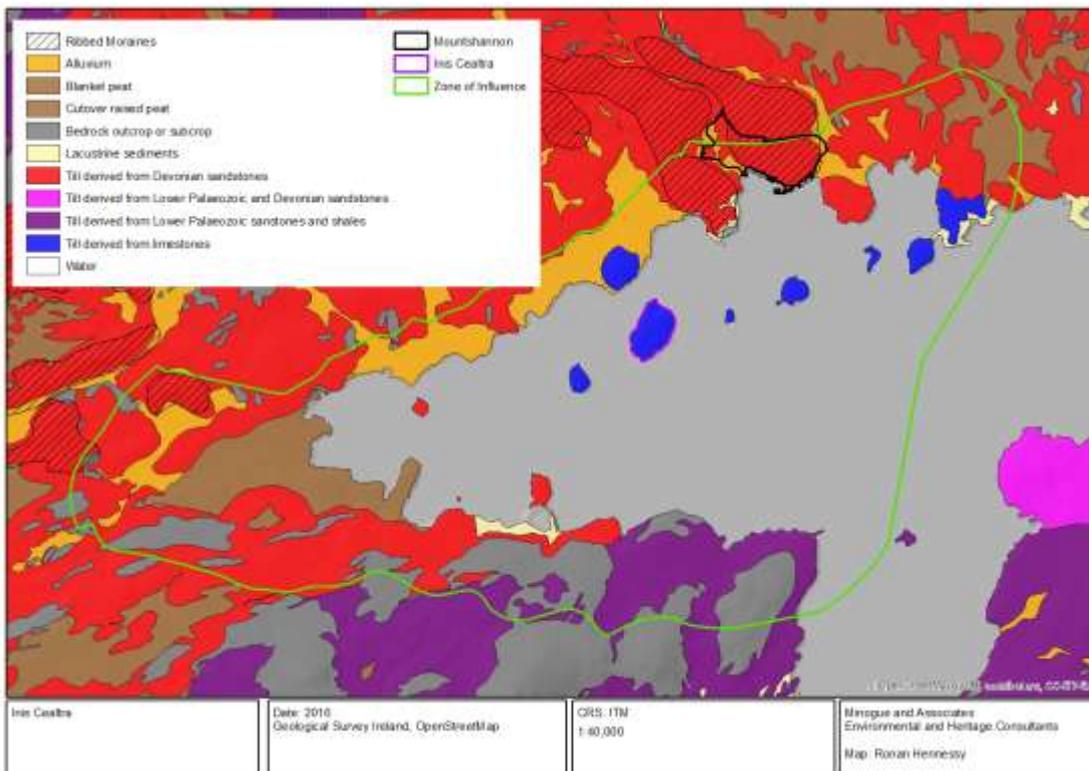


Figure 27 Drift or Quaternary Geology



### **4.5.3 Existing issues – Geology and Soil**

Greenfield development involves the building upon and thereby sealing off of soil, thus representing an environmental problem.

There is potential that soil may be polluted and contaminated as a result of pollution from development which is not serviced by appropriate waste water infrastructure and from agricultural sources.

In terms of tourism development, soil and geology impacts relate most frequently to loss of greenfield sites, or quarrying of bedrock for specific tourism developments (though these would be regulated through the implementation of the CDP policies); however, localized impacts can arise associated with recreational use such as trampling, soil erosion and run off, compaction of soil and damage to sensitive habitats.

It is noted that cattle grazing has resulted in poaching in certain part of the island.

Because of the complex interrelationship between water, air and soil, declining soil quality can contribute to negative or declining water or air quality and function.

### **4.5.4 Evolution of geology and soil in the absence of the plan**

Potentially on going trampling impacts on soil particularly grasslands associated with cattle grazing; this can also impact on underground archaeology.

## **4.6 LANDSCAPE**

In terms of Landscape, the Lough Derg area is identified in the Clare CDP 2017-2023 as a Heritage landscape and the island lies within Unit 7 Lough Derg Basin in the County Landscape Character Assessment. A description of this LCA is provided below:

### **4.6.1 Key characteristics of this LCA are as follows:**

- Highly scenic area with recognised ecological value (SAC).
- Lough shores often enclosed by semi-natural deciduous woodland creating an attractive rural sense.
- Numerous wooded islands scattered around Lough including an important monastic sixth century settlement at Inis Cealtra.
- Settlement is relatively sparse along the shoreline with narrow roads running from shoreline to main road. A number of towns and villages such as Tuamgraney, Scarriff and Killaloe reflect the importance of the lough for communications.
- Long views afforded across the Lough to Arra Mountains in Tipperary and Sliabh Bernagh in Clare.

### **4.6.2 Historical and Human Influences (County Clare LCA 2002)**

The slopes towards Lough Derg and the small drumlin area north of Scarriff is a patchwork of fields with sinuous and straight boundaries. A group of enclosures indicate prehistoric or early historic settlement on the spur from Caher Mountain at Carrowcore, Aughinish and Ballyhurly. The vantage point dominates the western slopes to the Lough and modern-day vistas with enclosures in the foreground add to the visual amenity of this area.

Within this matrix there are patches of historic woodland and Wood Park, the park of a Big House (a 'Designed Landscape'). Nearby, Mountshannon is frequently described as an estate

village. It was a minor part of the extensive estate of the First Earl of Cork in the early decades of the seventeenth century and a linen industry was developed during the early to mid-eighteenth century.

The lough margin may preserve a variety of historic piers or slipways, whilst the lough itself is likely to contain fish traps, crannogs and ritual deposits. Inishcealtra is an important devotional centre and early monastery.

Today, the undulating lowland farmland commonly composed of small fields, are enclosed by dense hedgerows and trees that slope gently towards the loughshore. Hedgebanks are also evident within this area and create a strong landscape element along the narrow roads and lands. Settlement is sparse along the shoreline, with narrow routes running from the shoreline to the higher slopes. Elsewhere, scattered settlements prevail throughout the area, comprising individual farm units and cottages, with many traditional two storey and whitewashed buildings present.

Killaloe, Scarriff and the villages of Tuamgraney and Mountshannon are located along the elevated lough road, with Killaloe being an important bridging point across the Shannon. A number of small bays, inlets and quaysides are apparent along the lough shore, as well as recreational facilities such as boating, golfing and camping.

Consultees identified the whole of Lough Derg as being of intrinsic value with the sheer scale of the lough considered to be a distinctive and valued feature. In particular, the area south of Tuamgraney and east of Ogonnoloe was identified as being of particularly high landscape value. The distinction between the villages of Mountshannon, Tuamgraney and Killaloe with the surrounding unspoilt open lough countryside was further identified as being of a high value. Mountshannon village was also regarded as a significant element in the landscape for its setting, traditional dwellings and vernacular dormer windows.



*Plate 15 Holy Island as illustrated in the 1912 Book of Munster (Gutenberg.org)*

### 4.6.3 Landscape Condition and Sensitivity

Overall, this is a highly scenic area, well maintained and intact. However, increasing development pressures are apparent. The lack of screening contributes to the main degradation of the landscape within this area. In particular, inappropriate housing development (such as chalet style holiday homes) on the Tipperary side of the lough negatively impacts on views across the lough. Along the main lough road, increased ribbon development is evident. The inappropriate siting of houses in visible higher slopes without appropriate screening further intrudes on the natural landscape.

The lough shore would be very sensitive to development, particularly if this results in clearing of the lough shore woodland that is strongly characteristic of this southern part of Lough Derg. Development on the higher slopes without appropriate screening would also be very visible. A certain amount of natural screening is afforded by the hedgerows and hedgebanks within this area, and further small scale development may be absorbed, as long as due care is given to the siting, design and boundary treatments. The cumulative impact of development on the water quality of the lough itself must also play a crucial role in determining development.

### 4.6.4 Mountshannon and Inis Cealtra

As part of the 2015 Tree Survey of County Clare, an townscape appraisal was undertaken, including one for Mountshannon. The village is described as follows:

Mountshannon enjoys an elevated location overlooking the harbour and the lough. It is effectively a one-street village, tree-lined and with 4 pubs (one of which is a hotel), a corner shop/cafe, restaurant, garage/shop and pizzeria. The traditional townscape character is still evident in the uniformity of buildings, and the centre of the village is designated as an Architectural Conservation Area. The picturesque Protestant church is located in a well-wooded churchyard to the west of the village centre.

The village has been regularly successful in the Tidy Towns awards, having won the national prize in 1981, silver in 2004 and 2012 and numerous bronzes over the years. A particular feature of the central part of the village is the Aistear Inis Cealtra, a 4.5 acre Community Park where over 500 trees and shrubs have been planted along the walk between the harbour and the village. The Park includes a maze signifying a pilgrimage through time, measured by the history of spirituality in Ireland. At the entrance to the Park there is a stone with a hole facing toward Inis Cealtra. There is also a picnic area created out of wood carved by local artists and encircled by willow hedging. To the rear of the maze is a labyrinth consisting of lawn cut at different heights, flower beds and hornbeam hedging (modelled on the pavement labyrinth at Chartres Cathedral in France).

Many notable trees in the village are associated with the public open spaces, particularly along the Harbour Road bordering Aistear Inis Cealtra, where there are good specimens of Sycamore, Horse Chestnut, Silver Birch and Beech. The northern and western boundaries of the Community Park are lined with good rows of Sycamore and Horse Chestnut and Silver Birch respectively. In the vicinity of the open space at Lakeside Close there is a fine group of mature Oaks, as well as Sycamore and Silver Birch.

Main Street is characterised by several semi-mature trees of Oak and Maple, together with large mature specimens of Beech and Sycamore (Category A) and a couple of mature Oaks in private properties. At the junction of Main Street and the Harbour Road there is a particularly fine group of Scots Pine (Category A), Silver Fir and Oaks, and further west, a mature roadside hedgerow of Ash and Sycamore (Category A). The eastern approach to the village is well-defined by a significant group of trees dominated by mature Birch and an under-storey of

Mountain Ash. Along the western approach (just outside the Settlement Boundary) there is a visually important group of mixed trees dominated by Silver Birch with Mountain Ash understorey and mature specimens of Beech, Ash and Aspen.

Within St. Caimin's Churchyard there are a number of mature Sycamore, Silver Fir and Yew. There are numerous other mature trees and hedgerows along property boundaries and within private gardens that greatly contribute to the green character of the village.

#### **Key landmarks:**

The round tower of Inis Cealtra is a key landmark and feature within this part of Lough Derg and views towards the island, identifiable by the round tower can be seen at various locations particularly around the elevated stretch of the R352 near Ogonnoloe, and from Mountshannon Harbour itself.

#### **4.6.5 Existing issues – Landscape**

Elements and features that contribute to local landscape character can be eroded through amendments to features such as walls, wrought iron gates, windows and inappropriate hedging and tree planting. The cumulative impact of this can change over time.

A key characteristic of the plan area is the lakeshore vegetation including alluvial woodland and reedbeds –these are considered to be largely protected through existing legislation however.

The setting and landscape context of Inis Cealtra is essential to both understanding the island and also is a defining contributor to the islands overall attractiveness; as such any proposals require very careful consideration in how they may impact on the landscape integrity of the island and its environs.

Finally, the conservation assessment of 2016 has identified structural risks to the round tower and the reduction of the round tower in height would represent a considerable change to a very well-known and recognised landscape feature.

#### **4.6.6 Evolution of landscape in the absence of the plan**

In the absence of the plan, the landscape policies and objectives in the existing CDP 2017-2023 would apply; again cumulative impacts could arise on landscape character and scenic amenity without a consistent and strategic approach to visitor management and interpretation associated with Inis Cealtra.

### **4.7 POPULATION AND HUMAN HEALTH**

#### **4.7.1 Population and Demographic Information**

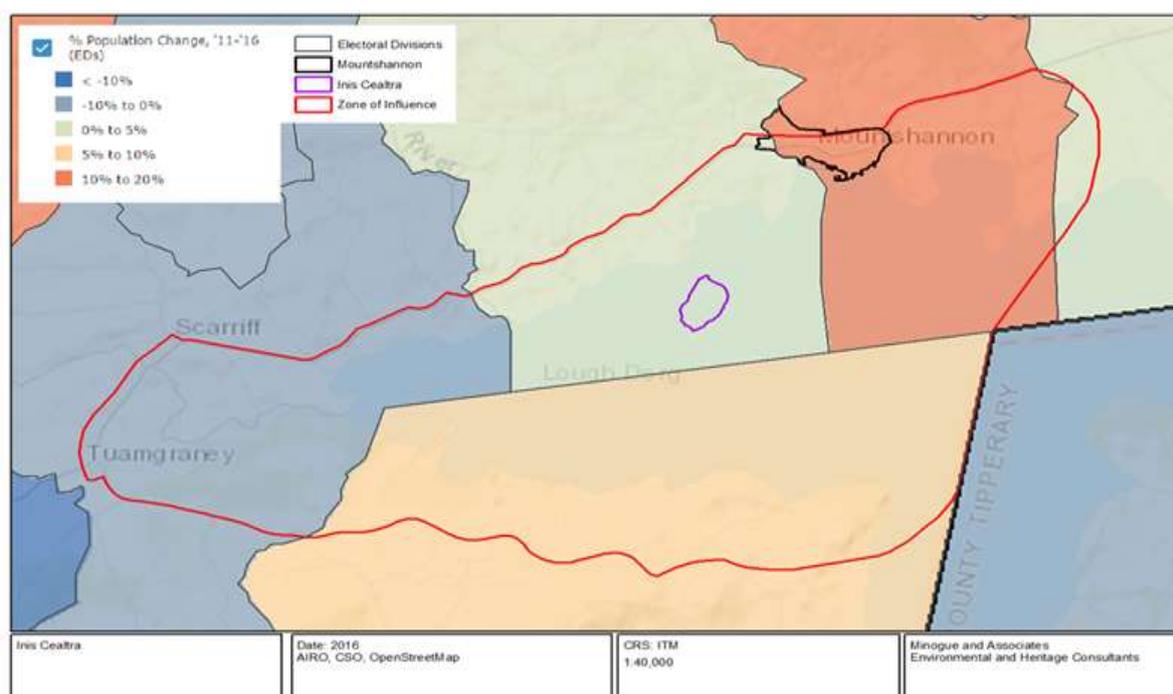
Preliminary Census data shows the following population data for Mountshannon DED, see Figure 28 below, and the neighbouring DEDs Inis Cealtra North/South to the east and Drumann to the west. Scarriff DED at a population of 1,280 has the highest population within the sphere of influence and reflects its Service town status in the Clare CDP 2017-2023) Medical, legal, educational, retail and public transport services operate from Scarriff.

Killaloe, at the south of the lake has a population of 2,044; and is designated a small town in the CDPs.

*Table 9 2016 Preliminary Census Data based on District Electoral Division.*

District Electoral Division	2016	Percentage Population Change 2011 to 2016	Holiday Homes
Mountshannon DED	423	16%	94
Inis Cealtra N/S	318	1%	11
Drummann	605	3%	40
Scarrif	1,280	-6%	15

Figure 28 Population Change DEDs around Mountshannon 2011-2016 Census



#### 4.7.2 Economic Activity and services

Mountshannon offers visitors several bars and restaurants and accommodation at the Mountshannon Hotel (16 beds), Lakeside Holiday Rentals (18 self-catering lakeside holiday rentals) as well as a variety of bed & breakfasts and a campsite. There are a variety of local activities including golf, walking, cycling, fishing, swimming and boat hire. Woodland Forest park is located less than 3km from Mountshannon with carparks, picnic tables and sculpture. The main recreational area is the Aistear Park which has a playground and performance space as well as a maze. Two churches are located in the village. The following presents the most recent data (Census 2011) for economic activity in the three DEDs.

Table 10 Economic Activity 2011

DED	Agriculture Fisheries and Forestry	Professional Services	Managers, Directors, Senior Officials	Commerce and Trade	Manufacturing	Other
Mountshannon	14	35	8	21	13	22

Inis Cealtra N/S	25	36	19	16	22
Drummann	41	62	21	26	14

#### 4.7.3 Index of Deprivation.

In simple terms, the Pobal HP Deprivation Index is a method of measuring the relative affluence or disadvantage of a particular geographical area using data compiled from various censuses. A scoring is given to the area based on a national average of zero and ranging from approximately -35 (being the most disadvantaged) to +35 (being the most affluent). Again for 2011 data, the index of relative Deprivation shows that Mountshannon and Dumann are marginally below average, whilst Inis Cealtra N/S is marginally above average.

#### 4.7.4 Human Health

Human health can be determined by social, environmental and economic factors, among others. Human health may be impacted upon in a variety of ways and by a number of environmental receptors such as water, biodiversity, climate, flooding, air and major accidents, etc. The exposure to contaminants or pollutants can have serious implications for human health. Potential impacts on population and human health include inadequate water and wastewater and waste infrastructure, contamination of soils, excessive noise, flooding and poor air quality in areas where there are large volumes of traffic and the associated health impacts.

The Institute of Public Health states: ‘Where people live affects their health. There are a number of elements of the living environment that influence health including the built environment, travel choices and the communities in which people live. The design, maintenance and location of buildings influence health. Similarly, public spaces and transport networks can facilitate health by providing opportunities for physical activity, social interaction and access to social goods’. Disadvantaged people are more likely to live in poor quality built environments and have limited access to transport and local amenities supporting healthy choices.

#### Noise

In the context of the plan, the ambient noise levels are generally low with noise associated with agricultural activity and boating the main generators of noise at certain times of the year. The village although having a regional road traversing through the main street is not subject to excessive noise levels from traffic.

#### 4.7.5 Existing issues – Population and human health

Increasing the economic viability of the village of Mountshannon would enhance economic activity and increase economic activity through provisioning of appropriate services.

Balancing the aims of increasing tourism activity and promotion of Inis Cealtra whilst retaining the spiritual and community use of the island are also important considerations.

Wastewater and water supply in and around the village and proposed development activity (See Section 4.8 Material Assets)

#### 4.7.6 Evolution of population and human health in the absence of the plan

The main consideration is to enhance and ensure the village and environs accrues benefits associated with tourism in the area; in the absence of the plan it is uncertain whether Inis

Cealtra will be protected or promoted appropriately and the dispersal of wider benefits such as visitor centres etc may not be realised.

## 4.8 MATERIAL ASSETS

The EPA SEA Process Draft Checklist (2008) defines material assets as the critical infrastructure essential for the functioning of society such as: electricity generation and distribution, water supply, wastewater treatment, transportation, etc. In this context, any physical developments associated with the Inis Cealtra plan would be assessed in line with requirements of the Clare CDP 2017 -2023.

An overview is provided below.

### 4.8.1 Transport

Within the sphere of influence of the project there is very limited public transport, Clare Bus runs a service from Whitegate, passing through Mountshannon to Scarrif; and Bus Eireann runs a twice weekly service that stops at Mountshannon to Limerick.

The bulk of transport is along the road network by private car, with the Regional road, the R352 the main route. ***The National Transport Authority has recently prepared a series of Regional Transportation Models in support of its transport planning remit. Consideration of this modelling in terms of traffic related effects can be used to guide and help assess transport considerations at plan implementation stage<sup>17</sup>.***

*Plate 16 Existing pier at northwest shore of Inis Cealtra (R. Minogue)*



<sup>17</sup> Inserted following a submission from the EPA on the draft plan and SEA ER

Access to the island is by boat only. While Knockaphort is the closest mainland embarkation point, Mountshannon to the north-east of the island is the closest substantial settlement with relatively modern harbour facilities. Three landing stages have been identified on the island: The north-western slipway is currently the main access to the island. A submerged slipway (constructed in 1970s) has been identified to the immediate east of the northern headland, and a lesser-used east pier sits in shallow water due east of the complex focused on St Camin's Church. Notwithstanding the basic nature of the current island jetties, the island is in effect accessible by boat from anywhere on the Shannon system.

Killaloe/Ballina is at the south end of Lough Derg, while Portumna is at the north end, the R352 is the main road linking these two settlements along the lake and travels through Mountshannon.

On a recreational base, the plan area is popular for cycling (on and off-road); a national waymarked way, the East Clare Way runs through the plan area; and planning permission has been granted for the Lough Derg Canoe Trail, which will provide access around the lake and facilities for storing canoe at certain existing locations, including Mountshannon.

Figure 29 below shows the existing navigation routes from Mountshannon for boats from the harbour.

Figure 29 Existing Navigation Routes (Waterways Ireland)



#### 4.8.2 Water Supply

Irish Water provided the following response in relation to Mountshannon and water services in the Draft Clare CDP 2017-2023:

##### Water Supply

The village is served by a public water supply which has sufficient capacity to cater for the target population.

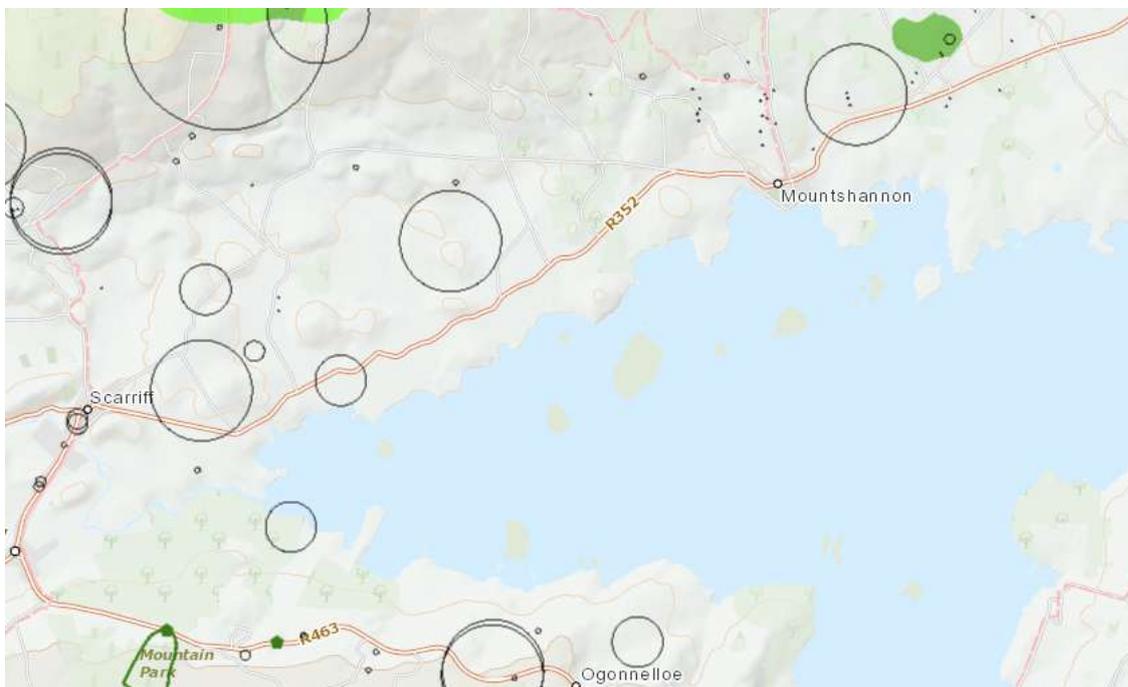
The EPA also undertook an audit of the drinking water plant in Mountshannon in 2015 to assess the disinfection system on this supply and provided the following summary and key findings:

The supply serves approximately 300 consumers. Treatment consists of chlorination. Clare County Council (CCC) estimate that approximately three premises located prior to the Mountshannon reservoir receive inadequately disinfected water.

1. Irish Water is requested to submit proposals, with timeframes, to ensure that all consumers on this supply receive adequately disinfected water, which has the appropriate contact time of 15 mg.min/l, as recommended by the World Health Organisation.
2. Irish Water should relocate the chlorine monitor so as to eliminate the risk of cross contamination from waste water.
3. Irish Water is requested to submit a minimum of three bacteriological samples taken before the reservoir, prior to the disinfection contact time being achieved. The timeframe for installation of the chlorine monitor was 1st February 2016.

In addition to the public water supply, a number of dwellings use springs and groundwater sources for drinking water. The figure below shows the known groundwater wells and springs based on a variety of data sources and collated by the GSI. The green areas at the perimeter of the figure indicate Drinking Water source protection areas.

Figure 30 Groundwater Wells, Springs and Source Protection Zones (GSI).



#### 4.9.3 Water and Wastewater

The CDP 2017-2023 Core Strategy chapter identified a population target increase for Mountshannon from 173 persons (2011) to 224 (2023 target), with an accompanying household increase of 19. The Core strategy provides for 2.47 ha of residential zoned land under this calculation and the water and wastewater capacity is identified as available under this scenario.

The SEA ER of the Clare CDP 2017-2023 states that

‘The Mountshannon WWTP has undergone an aeration upgrade since the last County Development Plan between 2011 -2012 increasing the PE of the plant to 750PE and the overall

energy efficiency which will also provide a reduction in costs. This upgrade will provide for future residential development within the village and exceeds the current population statistics which indicate the total population in this settlement was 152.’

### Water Supply and Wastewater

There is no wastewater treatment or drinking water supply on Inis Cealtra; it is understood when cattle graze the island they access freshwater from the shore .

### 4.8.3 Adapting to Climate change

It is recognised that Ireland’s climate will alter as a result of climate change. Future impacts of climate change in Ireland will be both direct and indirect, resulting from spillover from impacts in other parts of Europe and the rest of the world. Predicted negative impacts in Ireland include:

- more intense storms and rainfall events
- an increased likelihood of flooding in rivers and on the coast, where almost all cities and large towns are situated
- water shortages in summer in the east and the need for irrigation of crops
- changes in the distribution of species
- the possible extinction of vulnerable species.

Recent research on Ireland’s climate has also confirmed the pattern of climate change. Planning for and adapting to climate change is a significant challenge and the National Climate Change Adaptation Framework (2012) requires local authorities to integrate climate change adaptation (as well as mitigation) considerations into their statutory plans. Local Authority adaptation guidelines research report 164, and Integration of Climate Change recommend reviewing Major Weather Events in the plan area and this is presented below:

Table 11 Major Weather Events 1986 to 2016 (Met Eireann)

YEAR	DATE	EVENT	Summary-Study Area
2014	12 February	<u>Storm Darwin</u>	The climate records suggest that the Darwin storm was broadly a 1 in 20 year event although locally, the categorisation as 'worst in living memory' may be appropriate in the worst affected regions. The most severe winds were experienced in Galway, Clare, Limerick, Kerry and Cork and in coastal areas in the south and northwest. The strong winds were also notable in regions around the M7 motorway corridor from Limerick to Dublin.  The 159 km/h (86 knots) gust at Shannon Airport was the highest February value recorded since 1945 and the highest overall since 1961
2013/14	Winter	<u>Winter Storms</u>	The winter of 2013/14 was severely affected by an exceptional run of winter storms, culminating in serious coastal damage and widespread, persistent flooding.  The Polar jet stream extended across the Atlantic right over Ireland marking the tracks of successive storms resulting in wet and stormy weather. A combination of strong winds, tidal surges and low pressure conspired to cause widespread damage and flooding during the latter half of December 2013 and into the middle of February 2014. Peak wave periods were unusually long and record

YEAR	DATE	EVENT	Summary-Study Area
			wave heights culminated in severe flooding and widespread damage chiefly along the southern, western and north western coastal areas. The effects of the storms were exacerbated by very high tides, causing significant disruption to individuals, businesses and infrastructure
2010	Nov/Dec	<u>Severe Cold Spell</u>	<p>Following the middle of November 2010, the weather turned progressively colder. By the end of the month, we had accumulations of snow over most of the country, accompanied by extremely low temperatures.</p> <p>The very cold weather continued into early December with further sleet and snow, accompanied by daytime temperatures close to freezing and night-time values dropping below -10°C . This particular cold spell was notable for being the earliest spell of significant duration (started in November). It was also notable for the sustained extreme low temperatures.</p>
2009/10	Winter	<u>Coldest winter for almost 50 years</u>	Mean air temperatures for the season were around two degrees lower than average for the 1961-90 period and it was the coldest winter since 1962/3 everywhere. Rainfall totals (including snowfall) for the season were below normal almost everywhere, with only around half of the seasonal totals recorded in some places. At most stations it was not as dry as the winter of 2005/6, but at Shannon Airport it was the driest since 1963/4.
2009	November	<u>Severe flooding in many parts of the country.</u>	The rainfall of November 2009 was notable for the number of stations which recorded their highest ever November monthly rainfall; for the number of wet days and the number of heavy precipitation days. The return period analysis indicates that the rainfall totals over the longer durations (8 days or more) in the midlands, and parts of the southwest and northwest, were extremely rare events.
2008	Summer	<u>Heavy rain and flooding</u>	A 60-minute fall of 38.4mm at Shannon Airport on the 6th August was the highest for any month in the station's 63-year history.
2006	Summer	<u>Warmest summer since record breaking year of 1995</u>	Summer rainfall totals were below normal everywhere and were well below normal over most of the southern half of the country. It was the driest summer since 1995 at most stations and the driest on record at Shannon Airport, where measurements began in 1945.
1997	24 December	<u>Windstorm</u>	A very severe event in Munster and South Leinster, comparable with storms of January 1974. Shannon Airport recorded winds of 96mph, the highest winds since 1961.
1995	Summer	<u>Warmest Summer</u>	Mean air temperatures above 2°C almost everywhere.

YEAR	DATE	EVENT	Summary-Study Area
		<u>on record</u>	
1991	5 January	<u>Windstorm</u>	5-6 <sup>th</sup> January, with another gale developing 7 <sup>th</sup> January.
1990	February	<u>Storms and heavy rain</u>	
1987	January	<u>Heavy Snowfall</u>	Approximately 7 to 12cm snow falls reported around East Munster

#### 4.8.4 Existing Issues- Material Assets

- A sustainable water supply and addressing the issue of wastewater treatment.
- The village currently has capacity but the seasonal effects of increased visitor numbers, provision of a visitor centre and increasing visitors to the island all requires additional research and assessment.
- Limited public transport services and over reliance on the private car for journeys.
- Currently there are also issues around people using the shrubs for toilets on the island.
- Planning for climate change and the changing water levels in the on the archaeological resources.

#### 4.8.5 Evolution of Material Assets in absence of plan

In the absence of the plan, the above issues will continue and capacity in the village as outlined in the Clare CDP 2017-2023 will likely be sufficient.

Should visitor numbers to the island remain as currently estimated (5 to 10,000 per annum) the material assets capacity will largely remain the same with allowances made for planned growth over the lifetime of the Clare CDP 2017-2023.

### 4.9 INTERRELATIONSHIP OF THE ABOVE COMPONENTS

In accordance with the SEA Directive, the interrelationship between the environmental parameters above must be taken into account. Although all such parameters may be considered interrelated and may impact on each other at some level environmental sensitivity mapping is commonly used to help identify areas of greater or lesser sensitivity. The map below shows the overall environmental sensitivity for the plan area and sphere of influence, and follows the same approach (ie: ranking of environmental parameters) as that used in the Clare CDP 2017- 2023 SEA process.

By mapping key environmental layers (GIS) to produce an environmental sensitivities map, it provides a visual impression which can assist in identifying which areas within the Plan area which experience the highest concentration of environmental sensitivities and consequently the areas potentially most vulnerable to potential environmental impacts from development. This can be a useful guide when considering the strategic options in relation to the plan during the early stages in the plan making process, and identifying areas that are of greater or lesser vulnerability. The key datasets used to inform this sensitivity mapping were as follows;

- Landscape Character Areas
- Ecological Designations (SAC, SPAs, NHAs)
- Groundwater Vulnerability
- Source Protection Areas

- Flooding
- WFD River and Groundwater and TraC status
- Nature Reserves
- Wetland Habitats

The environmental sensitivities map below shows the level of overlap of environmental sensitivities and the range of physical environmental factors that require consideration in identifying locations for potential physical proposals associated with the plan. It is important to note that the environmental factors not reflected on this map, e.g. those that are point specific, like protected structures, were not included as it was considered by their inclusion; it would potentially give a visual mis-representation of sensitivity when considering potential areas for future growth.

Also important to note is that the physical extent of the environmental sensitivity can extend beyond the defined area on the map, as the potential impact can be generated at a location remote from the mapped area. For example, a development outside of a designated site boundary does not mean that it cannot impact on it. This is particularly relevant in relation to freshwater pearl mussel where developed outside of either a designated SAC catchment for freshwater pearl mussel or a pearl mussel sensitive area takes place on high risk soils such as peat the impacts can be realised for a significant distance downstream of the development and hence within the catchment of the pearl mussel.

In modelling, each variable was assigned a value for example Groundwater Vulnerability was assigned values as follows;

X (Subset of Extreme) = 5 E (Extreme) = 4 H (High) = 3 M (Moderate) = 2 L (Low) = 1

Given the archaeological importance of Inis Cealtra, and the exclusion of point specific elements, it must be noted that this map currently under represents the cultural heritage significance of the island.

Notwithstanding the above, the environmental sensitivity map at this scale demonstrates the important and overall sensitivity of water resources in the plan area –these include the surface waters draining into the Shannon catchment and Lough Derg itself. Parts of the Lough Derg shoreline are also particularly sensitivity as they support important local habitats and woodland habitats in particular. Figure 31 presents the environmental sensitivity map.

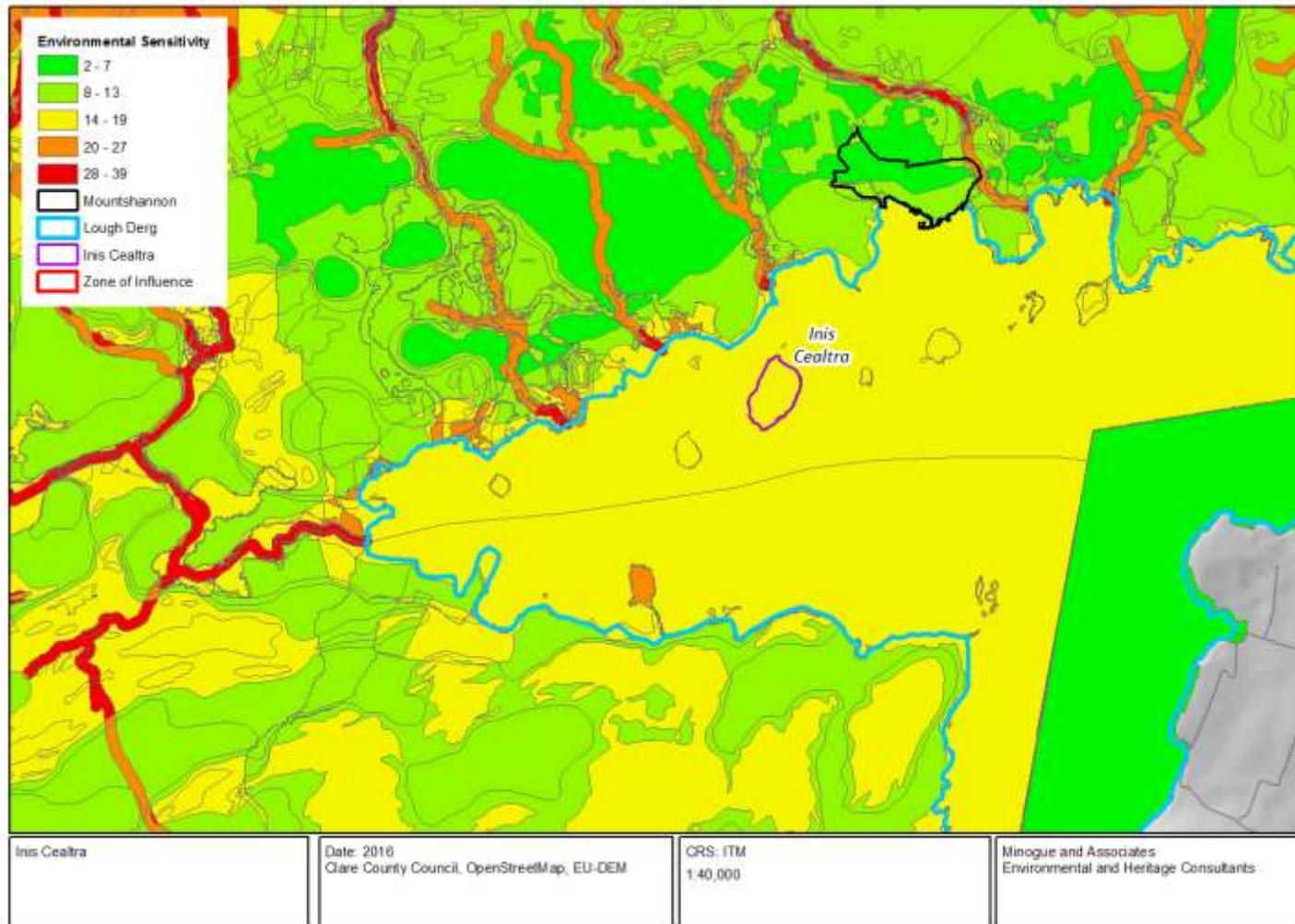
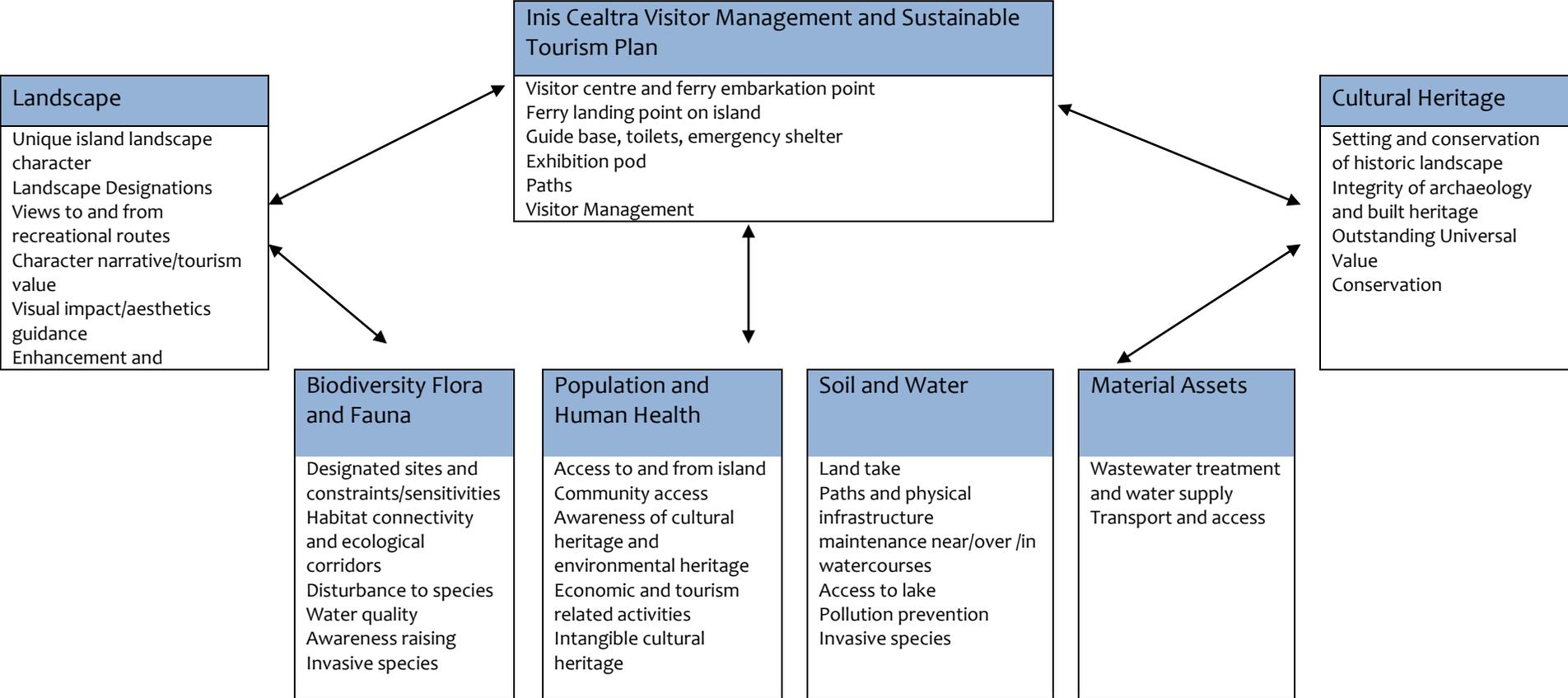


Figure 31 Environmental Sensitivity Map

The interaction of cultural heritage, landscape and ecology and how human activity have influenced the plan area are all critical components that have operated over time to help create this distinctive area of which Inis Cealtra is a recognisable and iconic element. Figure 32 below highlights these key inter-relationships as they relate to the plan.

Figure 31 Primary Interrelationships



## 5 STRATEGIC ENVIRONMENTAL OBJECTIVES

### 5.1 INTRODUCTION

This overall aim of the SEA is to facilitate environmental protection and to allow the integration of environmental considerations into the preparation and implementation of the Inis Cealtra plan. To that end, the SEA process assesses the draft plan as it evolves in terms of its environmental impacts, positive, negative, neutral, cumulative and synergistic and also in terms of duration ie: short, medium, long term, temporary, permanent, and secondary effects. This process highlights how improvements can be integrated into the draft plan to increase its environmental performance and maintain environmental resources.

A series of environmental objectives are presented in this chapter and are developed into a monitoring programme in the form of targets and indicators which are presented in more detail in Chapter Nine Monitoring Programme. To facilitate consistency with the primary landuse plan for the County and reflect data gathering requirements, these SEOs reflect where possible the SEOs developed for the SEA of the Clare County Development Plan 2017-2023; where necessary the SEOs are adapted to reflect particular environmental considerations for this plan. Italic text with a footnote shows where the SEO was amended during the SEA Scoping consultation; italic text with no footnote shows where the SEO has been adapted to the specific context of the plan.

### 5.2 STRATEGIC ENVIRONMENTAL OBJECTIVES FOR THE INIS CEALTRA PLAN

Table 12 SEOs for plan

Parameter	Strategic Environmental Objectives	Clare County Development Plan 2017-2-023 -main Policies and Objectives <sup>18</sup>
<b>Cultural Heritage</b>	<p>CH1 – Protect and conserve the cultural heritage including the built environment and settings; archaeological (recorded and unrecorded monuments), architectural (Protected Structures, Architectural Conservation Areas, vernacular buildings, materials and urban fabric) and manmade landscape features (e.g. field walls, footpaths, gate piers etc.).</p> <p>CH2 – To protect, conserve and enhance local folklore, traditions and placenames within the Plan area.</p> <p>CH3 – To ensure the restoration and re-use of existing uninhabited and derelict structures where possible opposed to demolition and new build (to promote sustainability and reduce landfill)</p>	<p><i>CDP15.1 Architectural Heritage</i></p> <p><i>CDP 15.2 Vernacular Heritage</i></p> <p><i>CDP 15.8 Sites, Features and Objectives of Archaeological Interest</i></p> <p><i>CDP 15.10 Zones of Archaeological Protection</i></p> <p><i>CDP 15.13 Underwater Archaeology</i></p> <p><i>CDP 15.14 Cultural Development</i></p>
<b>Biodiversity, Flora and</b>	B1 – Protect, conserve, enhance where possible and avoid loss of diversity and integrity of the broad range of habitats, recognising annex 1 habitats, annex II	<p><i>CDP 14.2 European Sites</i></p> <p><i>CDP 14.3 Requirement for</i></p>

<sup>18</sup> Additional column showing links between SEOs and key provisions of the Clare CDP 2017-2023 was inserted following a submission by the EPA.

<b>Fauna</b>	species, ecological connectivity, wildlife corridors, , stepping stones, habitat structure and functions <sup>19</sup> .	<b>Appropriate Assessment under the Habitats Directive</b>
	B2 – To achieve the conservation objectives of European Sites (SACs and SPAs) and other sites of nature conservation.	<b>CDP 14.7 Non-designated Sites</b>
	B3 - Conserve and protect other sites of nature conservation including NHAs, pNHAs, National Parks, Nature Reserves, Wildfowl Sanctuaries as well as protected species outside these areas as covered by the Wildlife Act.	<b>CDP 14.14 Inland Waterways and River Corridors</b>
	B4 - Meet the requirements of the Water Framework Directive and the Shannon River Basin Management Plan/National River Basin Management Plan	<b>CDP 14.17 Woodland, Trees and Hedgerows</b>
	B5 – To minimise and, where possible, eliminate threats to bio-diversity including invasive species.	<b>CDP 14.26 Alien and Invasive Species</b>
	B6 - Promote green infrastructure networks, including riparian zones and wildlife corridors	<b>CDP 8.21 Water Framework Directive</b>
<b>Geology and Soil</b>	S1 – To maximise the sustainable re-use of the existing built environment, derelict, disused and infill sites (brownfield sites), rather than greenfield sites	<b>CDP 14.13 Habitat Fragmentation</b>
	S2 – Minimise the excavation and movement of soils within site works	<b>CDP 15.4 Vernacular Heritage</b>
	S3 – Minimise the consumption of non-renewable deposits on site.	<b>CDP 8.31 Construction and Demolition Waste</b>
	S5 - Conserve, protect and avoid loss of diversity and integrity of designated habitats, geological features, species or their sustaining resources in designated ecological sites.	<b>CDP 14.7 Non designated sites</b>
<b>Water</b>	W1 – Protect and enhance the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystem (quality, level, flow).	<b>CDP 8.21 Water Framework Directive</b>
	W2 – Maintain or improve the quality of surface water and groundwater to status objectives as set out in the Water Framework Directive (WFD), the Shannon River Basin Management Plan and POMS.	<b>CDP 8.22 Protection of Water Resources</b>
	W3 – Implement appropriate sustainable drainage systems (SuDS) in the County.	<b>CDP 18.6 Strategic Flood Risk Assessment</b>
	W4 – Reduce the impact of polluting substances to all waters and prevent pollution and contamination of	<b>CDP 14.19 Wetlands</b>

<sup>19</sup> Amended on foot of Scoping consultation.

	<p>ground water by adhering to aquifer protection plans and to maintain and improve the quality of drinking water supplies.</p> <p>W5 - Promote sustainable water use and water conservation in the plan area and to maintain and improve the quality of drinking water supplies.</p> <p>W6 –Protect flood plains and areas of flood risk from development through avoidance, mitigation and adaptation measures.</p> <p>W7 – To promote a responsible attitude to recreation and amenity use of water in relation to water quality and disturbance to species and to prevent pollution and contamination of designated bathing waters <b>at Mounshannon Harbour.</b></p>	
<b>Landscape</b>	<p>L1-Ensure no significant disruption of historic/cultural landscapes and features through the <b>implementation of the Inis Cealtra plan.</b></p> <p>L2-No significant <b>adverse</b> visual impact from development proposals associated with the Inis Cealtra plan</p> <p>L3-Ensure no significant disruption of key characteristics of the Lough Derg Basin Landscape Character Area arising from the Inis Cealtra plan</p>	<p><b>CDP 13.1 Landscape Character Assessment</b></p> <p><b>CDP 13.2 Heritage Landscapes</b></p>
<b>Population and Human health (including Quality of Life)</b>	<p>P1- Protect, enhance and improve people’s quality of life based on high quality residential, community, educational, working and recreational environments and on sustainable travel patterns.</p> <p>P2-To protect human health from hazards or nuisances arising from incompatible land uses/developments.</p> <p>P3- Recognise and protect the spiritual and historic contribution that Inis Cealtra makes to the community.</p>	<p><b>CDP 3.5 Large Villages</b></p> <p><b>CDP 19.3 Compliance with Zonings</b></p> <p><b>CDP 5.24 Burial Grounds/crematoria</b></p> <p><b>CDP 9.7 Sustainable Tourism</b></p>
<b>Material Assets</b>		
	<p>T1 – Maximise sustainable modes of transport and encourage use of walkways/cycle paths as alternative routes to school, work, shops <b>and Plan Area</b></p>	<p><b>CDP 8.24 Water Services</b></p> <p><b>CDP 8.25 Water Supply</b></p> <p><b>CDP 8.27 Wastewater Treatment and Disposal</b></p> <p><b>CDP 18.2 Climate change adaptation</b></p> <p><b>CDP 8.10 Smarter Travel</b></p>
<b>Waste</b>	<p>WA1 – Implement the waste pyramid and encourage reuse/recycling of material wherever possible.</p>	
<b>Water Supply</b>	<p>WS1 - To ensure adequate and clean drinking water supplies.</p> <p>WS2 - Promote water conservation and sustainable water usage for long- term protection of available water resources.</p>	
<b>Waste</b>	<p>WW1 - To ensure that all zoned lands (existing and proposed) are connected to the public sewer network</p>	

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**Water** ensuring treatment of wastewater which meet EU requirements prior to discharge. .

**Climate Change** CC1- Ensure that proposals are adaptive to expected climate change patterns.

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## 6 CONSIDERATION OF ALTERNATIVES

### 6.1 INTRODUCTION

This section presents an evaluation of the range of alternatives under consideration through the plan preparation process. It focuses primarily on the following:

- Approach to the study
- Visitor numbers (low, medium and high)
- Access to and from the island
- Visitor centre and potential locations
- Facilities on the island such as shelters, signage, pathways, toilets.

Table 13 below presents the criteria used in the assessment matrix and the SEOs that the alternatives are assessed against are those presented in the previous Chapter Five SEOs Table12.

Table 13 ASSESSMENT MATRIX

No likely interaction with /insignificant impact with SEOs	o	Potential conflict with SEOs – likely to be mitigated	⇄
Likely to improve status of SEOs	↑	Uncertain interactions with SEOs	?
Probable conflict with SEOs – unlikely to be mitigated	↓		

### 6.2 VISITOR NUMBERS.

Three estimates in relation to potential visitor numbers to Inis Cealtra were prepared by Rethinking Tourism. Estimates were based on low, medium and high numbers with the following assumptions made:

- Currently around **10,000 visitors p.a.** come to Inis Cealtra by paid boat and an unknown number of additional day trippers, local community and anglers,
- **Access to the Inis Cealtra, for the majority of visitors, is via the visitor centre** with free access to the island confined to kayaks and permit holders & permit holders restricted to residents of the Mountshannon-Scariff area, the five boats leased by Lakeside Holiday Park and members of the Lough Derg Anglers,
- Approximately 40% of the visitors only go to the Inis Cealtra Visitor Centre at Mountshannon and do not go to Inis Cealtra itself. This indicative figure is based on data from Brú na Bóinne (with the volume of free school places reduced), from data from other similar attractions such as Skellig Experience; and based on the appropriate visitor volume for the island from the Limits of Acceptable Change study that was undertaken as part of this Plan.
- The number of visitors travelling to Inis Cealtra annually is based the 60% of the total visitor numbers, expected to go to both the Inis Cealtra Visitor Centre and Inis Cealtra itself, plus an

annual figure of 2.500 for local community, kayakers and anglers landing on the island and visiting graves.

The estimates are presented below in terms of low, medium and high.

**Table 14: Indicative Market Potential Spread for Inis Cealtra Visitor Centre and Inis Cealtra (per annum)**

Period	Low	Medium	High
Year 1	15,000	21,000 (23,500)	33,000
Year 2-3	27,000	33,000 (35,500)	45,000
Year 4-5	39,000	45,000 (47,500)	69,000

### **6.3 ASSESSMENT OF ALTERNATIVES.**

The following assessment table shows the key alternatives considered over the course of the plan preparation. These are options that were raised during the plan preparation and are derived from the options shown during the consultation workshop in early 2016.

These options are assessed in terms of potential effects against the SEOS shown in Chapter Five and a commentary is provided on each option as appropriate.

This chapter concludes with the preferred options selected for each of these items and a narrative as to their selection.

Table 15 Assessment of Alternatives

Alternative	0	↑	↓	↕	?	Comment
Approach to study						
Do no harm and; Focus on Inis Cealtra only East Clare generally Ecclesiastical heritage of Shannon / Lough Derg		All SEOs relating to Do No harm principal .				Options 1- 3 will be embedded through interpretation and marketing phases.
Visitor Numbers						
Low : Inis Cealtra attraction would be promoted as a part of the wider Lough Derg proposition only, rather than as an attraction in itself. The budget for promotion would also be at a lower scale. Tour operators would not be targeted and the linkages with other similar attractions and destination strategies would not be a focus. Estimated Numbers: Year 1 :15,000 Year 5:39,000				All SEOs		The lower numbers of visitors would generate few impacts such as those associated potentially with trampling, disturbance, demands on wastewater and water services.  However, the revenue stream from these lower numbers may present difficulties in sustaining the economic viability of the visitor centre and contributing to the conservation works required on the island. The overall economic viability of the plan may not be realised under this scenario.

Alternative	0	↑	↓	↕	?	Comment
<p><b>Medium:</b>  Inis Cealtra attraction would be promoted as part of the wider Lough Derg proposition and as a visitor attraction in its own right; the budget would be at a medium level and some key tour operators would be targeted. Crucially linkages with other important heritage attractions in the region would developed; as would linkages as part of the wider Ireland's Ancient East destination proposition, linking into national marketing campaigns.  Estimated Numbers:  Year 1: 23,000  Year 5: 47,500</p>				All SEOs		<p>This option aligns more closely with national and regional tourism promotion as well as potential World Heritage Sites serial nominations associated with Early Christian Sites.</p> <p>It would promote the wider Lough Derg and early Christian sites thereby dispersing visitors to other sites. Economic viability of the plan is considered more realistic under this scenario.  Impacts for the SEOS are identified as also requiring mitigation under this option.</p>
<p><b>High estimate:</b>  Inis Cealtra attraction would be promoted as part of the wider Lough Derg proposition and as a visitor attraction in its own right; the budget would be at a high level with all opportunities exploited including attendance at trade fairs; attracting a wide</p>			All SEOs			<p>Limits of acceptable change and capacity of the island, and the services at Mountshannon to accommodate these numbers are not sustainable.</p> <p>Inis Cealtra is a smaller site than Clonmacnoise and it is considered such numbers would be difficult to manage without adverse impacts on cultural heritage, landscape, visitor experience and material assets in particular.</p>

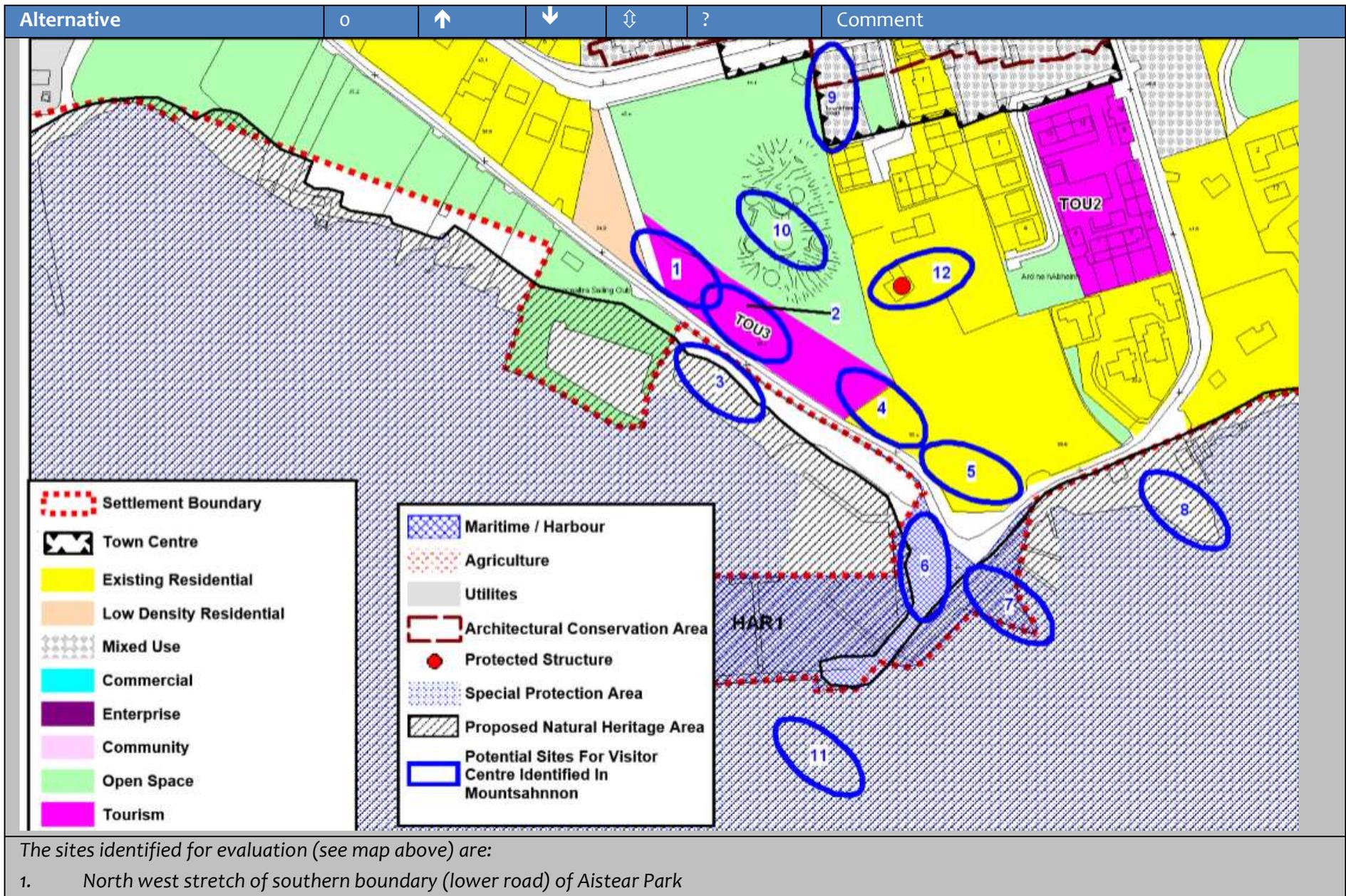
Alternative	0	↑	↓	↕	?	Comment
<p>range of coach tour operators and developing linkages with a range of other attractions and destination propositions. Were all of these elements in place then the estimate of visitors numbers, for the visitor centre, after 5 years could be similar to Clonmacnoise i.e. 130-150,000 visitors each year.</p> <p><b>Estimated Numbers:</b>  Year 1: 33,000  Year 5: 69,000</p>						
Visitor Centre						
<b>The requirement for a visitor centre or not</b>					<b>All SEOs</b>	<p><i>In the absence of a visitor centre a number of the plan objectives as reflected in Section 1.2.2 of the plan - including the sustainable management of the island and provision of tourism facilities would be difficult to realise. In addition, a visitor centre can provide key interpretation, education, visitor facilities in one location, rather than an adhoc and disjointed approach to interpretation and visitor management generally. Therefore, early on in the plan preparation process the need for a visitor centre was confirmed as a key element to provide interpretation, facilities and other uses to achieve key objectives of the VMSTDP.</i></p>
<b>Visitor</b>			<b>Island</b>	<b>Other</b>		<i>The construction and operation of a visitor centre on the</i>

Alternative	0	↑	↓	↕	?	Comment
<b>Centre on island or mainland.</b>			<b>Ch1 B2 S1 W6 L1 P3 WW1</b>	<b>SEOs</b>		<p>island itself would give rise to a number of permanent, adverse effects across a number of SEOS in particular cultural heritage, biodiversity and landscape.</p> <p>Moreover by locating such a facility on the island the level of physical intervention would be disproportionate and detract from visitors experience of the atmosphere and cultural heritage of the island. It would introduce a level of activity and represent a significant intensification of use on the island.</p> <p>Given the density of archaeological resources both above and below ground, the potential for underwater archaeology, the landscape setting of the island in addition to ecological considerations, physical interventions on the island must be very carefully considered and in line with the approach to the study, such interventions must be minimal. This is in line with international best practices and is reflected in the most fundamental key objective of the plan, as stated in Section 1.2.2 Plan Key Objectives.</p> <p>Therefore, consideration of a visitor centre on the island was excluded at an early stage of the plan preparation process, with potential sites on the mainland considered instead.</p>
<i>Potential locations for a visitor centre are assessed in the following section:</i>						
<b>Scarriff</b>			<b>Ch1 2</b>		<b>All other SEOS</b>	<p>Provision of a visitor centre in this location would give rise to longer travel time to Holy island itself and no views to the island from the centre could be accommodated from Scarriff. No specific location is identified but would</p>

Alternative	o	↑	↓	↕	?	Comment
						<i>be assumed to be around the existing harbour of Scarriff in order to facilitate boat trips to the island itself.</i>
<b>Tuamgraney</b>			<b>Ch1</b>		<b>All SEOs</b>	<i>The historical links between Tuamgraney and Holy island through St Cronin’s church in Tuamgraney village are acknowledged; however, provision of a visitor centre in this location would give rise to longer travel time to Holy island itself and no views to the island from the centre could be accommodated in this location. Other impacts are the same as those identified for the Scarriff option.</i>
<b>Knockaphort</b>	<b>Ch2 W7</b>		<b>CH1 L1, 2 S1-S3 W6 P1 T1, WW1,</b>	<b>B1 to B5 L3 S4 W1- W5 P3 WA1 WS1- 2 CC1</b>	<b>CH3 P2,</b>	<p>Given the access and location of Knockaphort, this option presents considerable potential adverse impacts on a number of parameters. <i>Although the closest location to access the island and its use for access by some, the road to Knockaphort is narrow and treelined; accommodating a visitor centre in this location would require considerable works and interventions to the existing narrow lane. In addition, the site at Knockaphort is constrained in terms of size presenting difficulties in accommodating a visitor centre. Furthermore, the site is in area of flood risk and provision of services including wastewater treatment may be difficult at this location. In addition, the opportunities to bring visitors into the existing village of Mountshannon (rather than this rural location) would be lost in this scenario.</i></p> <p>Potential adverse effects are identified for a number of SEOS in this scenario including landscape, biodiversity, and material assets (water, wastewater, transport), and flood risk.</p>

Alternative	0	↑	↓	↕	?	Comment
<b>Mountshannon</b>		<b>B1 to B5</b> <b>W1 to W5</b> <b>L2, L3</b> <b>P1</b> <b>T1,</b>  <b>CC1</b>	<b>L1</b>	<b>B6</b> <b>P1-3</b> <b>W6</b> <b>WS1</b> <b>WS2</b> <b>WW1</b>	<b>CH1-CH3</b> <b>S1 to S3</b>	<p><i>Mountshannon village has a long association with the island, and its' harbour is where most visitors currently access the island, through private boat or by commercial operator. There is an existing large harbour with berthing facilities, toilets and car parking and the harbour has further associations with bird watching in recent years. By locating a visitor centre in Mountshannon, a short ferry travel time can be accommodated and views of the island from the mainland are possible ( depending on exact site location in the village). Views of the island from the visitor centre were a key consideration also to allow those who may not visit the island to experience views of same. Furthermore, this location provides an opportunity to bring visitors into the village itself and therefore supporting the local economy. This is one of the key objectives of the plan, see Section 1.2.2. This option requires fewer physical interventions in terms of roads access and can also utilise existing services in the village. Positive medium term impacts are identified around material assets and water as this option would utilise existing services, in zoned land and allow for easier transport access and options. Positive effects are also identified for population and human health, biodiversity and landscape under this scenario, as it would locate a visitor centre within the existing village and continue the links between the village and the island.</i></p>
<p><i>Following the above assessment of potential locations for a visitor centre, the island itself as a location was excluded early as it would give rise to</i></p>						

Alternative	o	↑	↓	↕	?	Comment
<p><i>significant adverse environmental effects across a range of SEOs, would be against international best practice and not be in line with the key plan objectives. Thereafter, a number of potential sites within the East Clare area were assessed; Mountshannon emerged as the preferred location on environmental grounds (as detailed above) and also to achieve objectives of the plan itself including the key plan objectives in Section 1.2.2. 11 sites were initially considered for the visitor centre in Mountshannon, an additional site –the Rectory (No.12) was raised during the public consultation period. The map below shows all these sites as they relate to existing Landuse Zonings for Mountshannon in the Clare County Development Plan 2017-2023. The assessment of each of these 12 sites is presented below:</i></p>						



Alternative	o	↑	↓	↕	?	Comment
2. Middle of southern boundary (lower road) of Aistear Park						
3. Public open space to lake side of lower road (south east of sailing club)						
4. Boundary between Aistear Park and the Rectory (along lower road)						
5. Southern part of rectory site						
6. Car park for marina/harbour area						
7. Lake edge park /swimming area near car park						
8. North east promontory point to lake shore						
9. Vacant site to main street (with boundary onto Aistear Park)						
10. Current Aistear centre-assuming the potential for extending it upwards						
11. Off-shore, south of harbour wall on/over /floating upon lake						
12. The Rectory (building and adjacent areas) <sup>20</sup>						
<b>1 North west stretch of southern boundary (lower road) of Aistear Park</b>		<b>L1 P1 P3 T1 Ch1</b>		<b>All other SEOs</b>		<p>Site 1 is located at the southern boundary of the existing Aistear Park. It can provide for a view to the island which is a key design consideration for the visitor centre; this option also allows for a direct access to embarkation to the island. This site can accommodate a visitor centre within its footprint.</p> <p>Positive effects on SEOS include population and human health, landscape and a number of material assets most notably transport as it can facilitate access from the main street and onto the embarkation point. This location would allow pedestrian movement from the main street through the park and onto access to this island, which also generates positive effects for population and human health. Its location allows for a circulation of pedestrian and if necessary coaches around the village. There is also</p>

<sup>20</sup> Addition of the Rectory as a potential site is on foot of a public submission.

Alternative	o	↑	↓	⇅	?	Comment
						<p>existing footpath provision along the Aistear Park, main street and down to the harbour so would not require additional footpaths in this scenario.</p> <p>Some removal and/or thinning of trees may be required in this scenario although it would depend on the final detailed design and a key aim should be to minimise removal of mature trees where possible.</p> <p>In this instance, existing mitigation measures developed for the plan as well as objectives of the Clare CDP 2017-2023 would apply. This location is also zoned as TOU' –Tourism under the Clare CDP 2017-2023, and a visitor centre would be consistent with this landuse zoning. This site is located within Flood Zone C and a flood risk assessment undertaken for this site has also found that it is consistent with the flood risk assessment guidelines (2009).</p>
<b>2.Middle of southern boundary (lower road) of Aistear Park</b>		<b>L1 P1 P3 T1 Ch1</b>		<b>All other SEOs</b>		<p>Site 2 is located adjacent to site one, slightly further to the east and closer to the harbour. Impacts are similar to those outlined for Site 1- ie: positive effects on Population and Human Health and Transport SEOS in particular. This option also allows for pedestrian movement, utilisation of existing footpaths, access to the harbour and views to the island.</p> <p>This location is also zoned as TOU' –Tourism under the Clare CDP 2017-2023, and a visitor centre would be consistent with this landuse zoning. This site is located within Flood Zone C and a flood risk assessment undertaken for this site has also found that it is consistent with the flood risk assessment guidelines (2009).</p>
<b>3.Public open space to lake side of lower road (south east of sailing club)</b>			<b>W6</b>	<b>All SEOs</b>		<p>Site no 3 is on the current open space southeast of the sailing club on the lake front. It has the advantage of being on the lakefront but this positive is somewhat offset by</p>

Alternative	o	↑	↓	↕	?	Comment
						<p>any visitor centre here having a slightly inferior view to the island. This site is identified as giving rise to adverse effects on a number of SEOS namely landscape, population and human health, biodiversity, transport and flood risk. It's location reduces connectivity between the village and a visitor centre in this site, it would require more physical interventions in terms of safe pedestrian access and transport movement around the site. The key environmental constraint for this location is that the site is located in Flood Zone A as identified in the Strategic Flood risk assessment and developing a new building on this land is not in compliance with the sequential approach to development as detailed in the Flood Risk Assessment Guidelines (2009)</p> <p>Finally site 3 is situated within the proposed Natural Heritage Area (site code 000011) and has no landuse zoning in the Clare CDP 2017-2023. For all these reasons the option gives rise to a number of potential adverse effects on SEOs and has been excluded from further consideration.</p>
<b>4. Boundary between Aistear Park and the Rectory (along lower road)</b>		<b>L1 P1 P3 Ch1</b>		<b>Other SEOs</b>		<p>Sites no 4 and 5 are both similar to sites 1 and 2 in that they are located in the same area close to the harbour and present similar positive effects for a number of SEOs, namely landscape, material assets (transport) and population and human health.</p> <p>Site 4 is located in both Tourism and Existing Residential landuse zonings so a visitor centre would be partly compatible with this location (under the Tourism zoning).</p>

Alternative	o	↑	↓	⇅	?	Comment
						<p>The site is also outside a Flood zone A or B.</p> <p>The main environmental constraint associated with Site 4 relates to accessibility from the main street and there may also be constraints about accessing this location via the Aistear Park as such access may not be as easily facilitated to this location. In turn, this may result in the requirement for additional physical interventions such as additional footpaths through the Aistear or a new footpath between the Aistear and adjacent lands to the west. This could give rise to adverse effects on biodiversity, landscape, material assets and population and human health SEOs. This option was therefore excluded.</p>
<b>5.Southern part of rectory site</b>		<b>L1</b> <b>Ch1</b>		<b>Other SEOs</b>		<p>Site 5 is fully located within existing residential landuse zoning and is outside Flood Zone A or B. Again as with Site 4 whilst there are some positive effects on SEOs including Landscape (views to the island) and material assets (proximity to embarkation at the harbour); this site also presents some constraints in terms of potential pedestrian access and overall vehicular movement. In this scenario, access is currently not possible via the Aistear, so the concept of facilitating visitors' movement from the main street through the Aistear Park to the visitor centre cannot be realised. This could result in additional requirements for infrastructure to accommodate access to a visitor centre in this location –possibly through a new access lane through the Aistear Park or possibly through existing residential development which is likely to be difficult to achieve. Overall, this site is not likely to facilitate the movement and circulation envisaged for the</p>

Alternative	o	↑	↓	↕	?	Comment
						visitor centre and could give rise to local adverse environmental effects through the provision of increased infrastructure such as new access roads. This could give rise to adverse local effects on biodiversity, landscape, material assets and population and human health SEOs. This option was therefore excluded on these grounds.
<b>6. Car park for marina/harbour area</b>			<b>W6</b>	<b>Other SEOs</b>		Site no 6 envisages replacing the current public parking for the marina/harbour and or building above it. A visitor centre here would enjoy good views to Inis Cealtra but would reduce the parking that is a valuable resource for the boating (and to some extent sea eagle watching) activities. By using this space for a visitor centre, there would be displacement for existing users of the harbour and also considerable inconvenience for those who visit or use the Harbour for purposes other than accessing the visitor centre. This could give rise to significant adverse effects for Population and Human health SEOs in particular. Part of this site is also located within Flood Zone A and as recently as 2015 was subject to extensive flooding. The siting of a visitor centre in this location would not be consistent with the sequential approach of the Flood Risk Guidelines 2009. Therefore, this option could give rise to adverse effects on Population and Human Health SEOs, material assets in particular transport and flood risk and water SEOs, and therefore has been excluded from further consideration.
<b>7.Lake edge park /swimming area near car park</b>			<b>W6 B3</b>	<b>Other SEOs</b>		Site 7 is located on a promontory of land that projects into the lake. It is also located within the proposed Natural

Alternative	o	↑	↓	↕	?	Comment
			L1			<p>Heritage Area (site code 000011). This site would be physically very constrained in terms of accommodating a visitor centre, and would require considerable interventions to meet water supply, wastewater treatment. This could give rise to adverse environmental effects on biodiversity, archaeology and landscape SEOs in particular. This option would also minimise connections to the main street and the opportunity to enhance the local economy could be minimised. Circulation of traffic and pedestrians may also be more problematic in this scenario.</p> <p>Finally, this site is located in Flood Zone A/B and would be subject to site specific Stage 2 and potentially Stage 3 Detailed Flood Risk Assessment. Constructing a visitor centre in this flood zone would not be consistent with the Flood Risk Guidelines (2009). In summary, adverse effects for a number of SEOs are identified for this scenario in particular flood risk, potentially biodiversity, water quality and cultural heritage and transport SEOs. Therefore this site was excluded for further consideration.</p>
8. North east promontory point to lake shore			W6 B3	Other SEOs		<p>Site 8 is located within the proposed Natural Heritage Area and also within Flood Zone A/B. Similarly to Site no.7, this location would give rise to a number of adverse environmental effects in relation to landscape, population and human health, material assets, including transport and flood risk, cultural heritage and biodiversity. Construction of a centre in this location would not be in compliance with flood risk guidelines and</p>

Alternative	o	↑	↓	⇅	?	Comment
						could generate a number of negative effects on landscape by introducing a new visual element that may interfere with views to the island, particularly the round tower; it could give rise to effects on underwater archaeology and may also disturb habitats and species. The level of physical intervention to provide a visitor centre at this location would overall give rise to a number of adverse environmental effects and this option is excluded for these reasons.
<b>9. Vacant site to main street (with boundary onto Aistear Park)</b>		<b>L1 P1 P3 Ch1 Ch2</b>		<b>All other SEOs</b>		<p>Site no 9 would be on a parcel of land that straddles main street and the Aistear park. Its advantage is being on the main street so reinforcing associations with Mountshannon's social and business life, and its direct access to Aistear park which could be used as the route to the lakefront.</p> <p>In terms of constraints this site does not facilitate a good view of the island –a key design consideration and is limited in terms of size. It is currently zoned mixed use under the Clare CDP 2017-2023.</p> <p>It is outside Flood Zones A or B and its location on the main street would potentially give rise to positive effects on Population and Human Health SEOS.</p> <p>However the constrained size of the site may render it inappropriate for a visitor centre and not assist in meeting the objectives for such a centre. Given the proposed visitor numbers envisaged for the centre over time (47,500 by Year 5) accommodating the requirements of a visitor centre to cater to these numbers within this</p>

Alternative	o	↑	↓	⇅	?	Comment
						<p>location is not feasible. The limited or poor view to the island further works against this location.</p> <p>This site is excluded on these grounds.</p>
<p><b>10.Current Aistear centre- assuming the potential for extending it upwards</b></p>		<p><b>L1</b> <b>P1</b> <b>P3</b> <b>Ch1</b></p>		<p><b>Other</b> <b>SEOs</b></p>		<p>Site 10 is the current Aistear centre itself. Preliminary assessments viewed this as being too small a footprint (surrounded as it is by the berms and wall of the Aistear maze) to accommodate the scale of building envisaged for the visitor centre. However if one considers a replacement of the current building, possible re structuring of the Aistear maze in part and a design that rises up from the current structure (perhaps to 3 storey), it is possible that an elegant, even iconic solution could emerge. Clearly this would have (at the higher level) good views as well as enjoying the direct connection to both main street and down to the lake front.</p> <p>This option would require considerable works and alterations –either through demolition of existing buildings and removal /reorganising of the Aistear Maze. Some removal of trees may be required and additional landscaping to reinstate the maze if necessary.</p> <p>This would require considerable works to accommodate the envisaged visitor numbers and proposed contents of the Visitor Centre.</p> <p>Depending on detailed design for a number of SEOs; positive as with many of the other options in terms of landscape, cultural heritage and population and human health with connectivity to existing village. However, to</p>

Alternative	o	↑	↓	⇅	?	Comment
						facilitate this option a considerable works programme is required to include demolition, ground works, new build, services and landscaping. Given the scale of works required to accommodate a new centre here, including demolition of existing buildings, landscaping and construction of a new building, this option is excluded on these grounds.
<b>11.Off-shore, south of harbour wall on/over /floating upon lake</b>				<b>All SEOs</b>		Site no 11 is on the lake itself. however, works in the lake itself could result in disturbance to both underwater archaeology and ecological resources. In addition, flood risk considerations and material assets including wastewater treatment, access to and from the centre at this location would give rise to a number of potentially significant environmental effects across a number of SEOs including Biodiversity, Landscape, Cultural Heritage, and material assets. This option represents a very significant physical intervention in this location. Finally, this site is located within Flood Zone A and the siting of a visitor centre in this location would not be consistent with the sequential approach of the Flood Risk Guidelines 2009. This option would also give rise to adverse effects on the flood risk SEO.  Therefore this site is excluded from further consideration.
<b>12.The Rectory (building and adjacent areas)</b>		<b>Ch3 Ch2 Ch1 P1 P3</b>		<b>Other SEOs</b>		Site no 12 would involve reuse of and likely extension to the existing Rectory building. It would have the advantage of reusing a fine historic building with strong heritage value . However to accommodate a visitor centre in this building would require adaptation and addition of new

Alternative	o	↑	↓	⇅	?	Comment
		<b>W6</b>				<p>accommodation given the visitor numbers proposed in the plan. The larger site area could facilitate this additional accommodation. Therefore positive effects are identified for Cultural Heritage and Soil and Geology SEOs in this scenario.</p> <p>However, the orientation of the Rectory offers a poorer view to the island, and this is one of the key design considerations for the visitor centre.</p> <p>The main environmental constraint associated with Site 12, similarly to Sites 4 and 5 relates to accessibility from the main street and there may also be constraints accessing this location via the Aistear Park as such access may not be as easily facilitated to this location. In turn, this may result in the requirement for additional physical interventions such as additional footpaths through the Aistear or a new footpath between the Aistear and adjacent lands to the west. The issue of promoting circulation from the main street via the Aistear Park is not easily realised at this location. Additional physical interventions to enhance access at this site may result in local adverse effects on population and human health, biodiversity and material assets SEOs. Removal or thinning of trees may also be required under this scenario.</p> <p>In summary, this option gives rise to positive effects in relation to re-use of an existing historical building (and Cultural Heritage and Soil and Geology SEOs), as well as avoidance of development on flood risk as it is outside</p>

Alternative	o	↑	↓	⇅	?	Comment
						<i>Flood Zones A/B. However this is tempered by potential adverse effects in relation to views to the island (a design and landscape consideration) and transport and accessibility around the site.</i>
Content of Visitor Centre						
<b>Café (concession or not) Interpretive Centre + café Event spaces (local use) and above</b>	<b>All SEOs</b>					As this would form part of the visitor centre and not be an additional development, no landuse impacts are identified.
<b>Interpretive material Inis Cealtra Inis Cealtra, MS and Lough Derg (+ sea eagles) East Clare ecclesiastical heritage</b>						As above
Traffic and Transport						
<b>Some car parking , others; park and ride (edge of Mountshannon)</b>	<b>CH1 to CH3</b>	<b>T1 &amp;</b>		<b>All other SEOS</b>		Park and ride allows for movement of people via bus/coach. Impacts likely to be mitigated but would depend on location of park and ride (ie: greenfield lands)
<b>Bus only, drop off and move to P&amp;R</b>	<b>CH1 to Ch3</b>	<b>T1 &amp;</b>		<b>All other SEOs</b>		Impacts as above for park and ride
<b>None (other than disabled) at Visitor Centre</b>	<b>CH 1 to Ch3</b>	<b>T1 &amp;</b>		<b>All other SEOs</b>		This would remove congestion at busy periods but would increase private traffic and parking in and around Mountshannon village.
Access to Island						
<b>Open access to island for all</b>	<b>CH3</b>		<b>CH1 &amp;CH2 B1 to</b>	<b>All other SEOs</b>		Given that the plan aims to increase visitors to Inis Cealtra, open access could create a number of negative environmental effects associated with visitor impacts

Alternative	o	↑	↓	↕	?	Comment
			B4, B5, B6 L1 P3			particularly around Cultural Heritage, Biodiversity and Population (loss of integrity of island) Interventions to manage access around the island and monuments may also give rise to landscape impacts.
Only access via visitor centre/ferry			P1, P3	All other SEOs		Whilst strict access via visitor centre/ferry gives rise to a more controlled approach to the island it excludes members of the local community private access for ritual, spiritual reasons.
Primary visitor access via ferry from visitor centre with permit style approach for small craft/local community		P1, P3		All other SEOs		This option allows for local access, though permit style may require alteration and further consultation.
Crossing to and from the island						
Cable Car	CH3 S1 Ws1, WS2 WW1,		CH1, CH2 L1, L2 B2 P3	L3 B1,B3- B5,B6 S2,S3 W1-7 P1-2 T1,	CC1	Depending on which crossing point was selected, this option is identified as giving rise to a number of environmental effects, whilst several could be mitigated; significant and long term negative impacts are identified for cultural heritage, landscape and population.
Causeway	CH3 S1 Ws1, WS2 WW1,		L1 to L3 CH1 P3 B1 to B6 W1,	All other SEOS		This option represents a substantial physical intervention to provide access and would generate a range of short to long term impacts particularly for water, biodiversity, population, landscape and cultural heritage.

Alternative	0	↑	↓	↕	?	Comment
			W2,W 6,CC1			
<b>Boats</b>	S1,S2, S3  WA1, WS1, WS2 WW1	Ch1, Ch2 P3 L1, L2, L3 T1 P1, P2 CC1		Bio 1 to 6 S4 W1 to W7		This option represents the continued transport means to the island and is consistent with the historical access route to this island; it requires the most minimal physical intervention of the three options.
<b>Departure location</b>						
<b>Knockaphort</b>	Ch2 W7		CH1 L1, 2 S1-S3 W6 P1 T1, WW1,	B1 to B5 L3 S4 W1- W5 P2-3 WA1 WS1- 2, CC1 CH3		Given the access and location of Knockaphort, this option presents considerable potential impacts in order to facilitate departure from Knockaphort.-These include impacts associated with landscape, material assets (water, wastewater, transport), and flood risk
<b>Mountshannon</b>	Ws1 WS2W W1  W3	Ch1 -3 B1 to B6 P1 -3 T1, CC1 S1		All other SEOs		This option represents a continuation of the principal departure point for the island and is also a substantial harbour area that would require minimal or no physical interventions to continue access.

Alternative	0	↑	↓	⇅	?	Comment
<b>Scarriff</b>	<b>W7</b>				<b>All other SEOs</b>	The journey from Scarriff to the island would be longer in duration and direct visitors to Scarriff above Mountshannon which has more traditional associations with the island. Additional works may be required to facilitate Scarriff as a departure point also. Far greater investigation and additional surveys would be required for this option.
<b>Arrival/Landing Locations</b> Note: An assessment has been undertaken on the landing options by Arup Engineers and this has informed the preferred option. Please see Appendix 1, Chapter 6.						
<b>North west pier (existing)- rebuild and strengthen</b>	<b>W3 W7  WA1 WS1, 2 WW1, 2</b>	<b>S1 CH3</b>		<b>Ch1-2 Bio 1-6 S2,3 L3 W1, 2 W6 P1 P3 T1</b>	<b>L1-2 P2</b>	Uncertain for landscape impacts as this option may require significant works in order to meet navigational requirements as well as its location on the cross winds of the lake, may require a substantial wall/wind break structure. This area of the lake is also identified as an important fishing area. Notwithstanding the above, this option represents the most commonly used access so would be using/upgrading an existing physical element. In all options, underwater archaeology is a potential issue.
<b>New North pier, leave North east other for microcraft/kayak</b>	<b>W3,5, WS1, 2 WW1, 2</b>		<b>B1-B4 S1</b>	<b>S2,3 W1,2, 7 L1-3 P1-3 T1,2 WA1</b>	<b>Ch1</b>	This proposal would require a new pier construction on the northern reedbeds of the island and create long term disturbance effects on both qualifying habitats and species associated with the Lough Derg SPA and SAC. Underwater archaeology as above.

Alternative	o	↑	↓	↕	?	Comment
				CC1		
<b>New North east pier, leave others for microcraft/kayak</b>	W3,5, WS1,2 WW1,2		Ch3 S1	Bio 1—6 S2-4 W1,2, 4,6,7 L1,2,3 P1,2 T1,2 WA1 CC1	CH1	<p>This pier would facilitate crossing from mainland (assuming Mountshannon is preferred departure as shown previously) through open water, avoiding fisheries and reedbeds entirely.</p> <p>However, prehistoric logboat recorded c40m northeast of the island, so known underwater archaeology.</p> <p>It is understood that this option allows for sheltering berthing and avoids prevailing cross winds on the lake.</p> <p>This may increase overall passenger and navigational safety and comfort.</p>
<b>Landing Type –pier options</b>						
<b>Floating</b>	W5, W7 , Ws1 WS2 WW1	CH1		All other SEOs		A floating landing type is likely to require the least structural works but would depend on design details. All these options would require more detailed design and site location investigations.
<b>Submersible</b>	W5, W7 , Ws1 WS2 WW1	Ch1		All other SEOs		This would be as above but use a mechanism to submerge and therefore control landing access by boats at certain times.
<b>Fixed</b>	W5, W7 , Ws1 WS2 WW1			All other SEOs	Ch1	Fixed landing is likely to require more structural works to ensure it remains fixed in place.

Alternative	0	↑	↓	↕	?	Comment
Ferry Operator						
<b>Co op of locals *</b> <b>New company, tender, 3 year franchise *</b> <b>Run by Visitor Centre management</b> <b>*(independent from VC)</b>	No landuse impacts are associated with these considerations. Co-operative option may give rise to more positive population and human health impacts in terms of community gain over time.					
Unscheduled Landing						
<b>Commercial cruisers not permitted</b>	W5, W7, Ws1 WS2 WW1			All other SEOs		<p>These options all relate to access to the island; given the proposed increase in visitor numbers generally local boats would reflect local access needs and reflect the most suitable option; unscheduled landings by other boats may give rise to visitor impacts and issues such as overnight camping, risk of anti social behaviour and theft of archaeological resources.</p> <p>Also the risk of biosecurity associated with unscheduled landings may give rise to indirect or direct ecological impacts through introduction of invasive or alien species.</p>
<b>Local boats permitted after hours</b>	W5, W7, Ws1 WS2 WW1	P1, 3		All other SEOs		
<b>Micro craft at any time</b>	W5, W7 Ws1 WS2 WW1			All other SEOs		
Protection of built heritage						
<b>Keep people at distance</b>	BW1- W7 CH3 T1,2,	Ch1		All other SEOs	Ch2CC1 L1,2,3 Bio1-6	This would protect upstanding monuments but may minimise visitors' understanding and experience of the island. Visitors may also make other access and trails around the island under this alternative. Uncertain as to

Alternative	0	↑	↓	↕	?	Comment
	Ws1 WS1,2 WW1					what methods would be used to keep people at a distance (ie: guides or other means) so landscape impacts uncertain Related to above, this option could give rise to unofficial trails around the island and disturbance of more ecologically sensitive areas..
<b>Fences</b>	W1-W7 T1,2, Ws1 WS1,2 WW1		P3	Ch2, 3 L1,2,3 Bio1-6	Ch1	Provision of new fences (as opposed to retaining existing fences) would require ground disturbance – additional mitigation and survey works would be necessary in advance of same. If fences around all monuments negative impacts could arise in relation to locals’ access to key sites for ritual and spiritual purposes.
<b>No fences, no touching</b>	W1-W7 T1,2, Ws1 WS1,2 WW1	Ch1,CH2, L1, L2, L3				As above, but with less potential ground disturbance and visual elements associated with fences.
<b>Allow into enclosed chapels</b>	W1-W7 T1,2, Ws1 WS1,2 WW1			Bio3 All other SEOs		Bats roost in the chapel currently in low numbers so mitigation would be required under this alternative
<b>Protecting Ecology</b>						
<b>No protection</b>	W3-W7 T1,2,		B1 -6 W1,2,		All other SEOS	Habitat, bird and bat surveys have identified areas of greater sensitivity on the island and shoreline and no

Alternative	o	↑	↓	↕	?	Comment
	WS1 WS1,2, WA1 WW1		L1 Ch1			protection could give rise to a range of effects on biodiversity ,flora and fauna including disturbance, trampling, littering and biosecurity issues. Combined with the above, localised impacts could contribute to landscape decline and loss of setting and integrity of the site. Furthermore, wooded areas around the shoreline and elsewhere may protect unknown archaeology and no protection could impact on this parameter also under this alternative.
Some areas off limits	W3-W7 T1,2, WA1,W s1 WS1,2 WW1				All other SEOs	Depending on how this off limits is implemented (ie: fencing, people, planting schemes?), different impacts could arise. Therefore for many parameters, this alternative gives rise to uncertain impacts.
All areas other than monuments off limits	W3-W7 T1,2,W A1, Ws1 WS1,2 WW1				All other SEOS	As above
Managing Meadows						
Mowing	W3-W7 T1,2,W A1, Ws1			CH1		It is presumed this would be done by petrol strimmers. This could give rise to noise disturbance depending on frequency and timing.

Alternative	o	↑	↓	↕	?	Comment
	WS1,2 WW1					As a general comment, a mowing/grazing regime is recommended to manage the grassland meadows.
<b>Cows</b>	W3-W7 T1,2,W A1, Ws1 WS1,2 WW1		CH1	All other SEOS		Evidence exists of ground disturbance and damage to underground archaeology particularly around St Michaels enclosure associated with cattle.
<b>Sheep/Goats</b>	W3-W7 T1,2,W A1, Ws1 WS1,2 WW1 ,			All other SEOS	CH1	Goats are likely to be problematic and require physical barriers to avoid damage to walls, monuments etc. Sheep will also necessitate some management to avoid rubbing up along walls etc.
On Island Facilities						
Paths Accessibility & Materials						
<b>Mown grass and markers</b>	W3-W7 T1,2,W A1, Ws1 WS1,2 WW1 ,Ch3			All other SEOS		Potential impacts associated with paths depend also on proposed routes and movement of visitors around the island. This applies to all path options. This option represents the most minimal intervention and thus the lowest amount of potential environmental impacts overall. However, given the proposed visitors this may not be the most durable or sustainable path option due to increased erosion risk.
<b>Built up consolidated gravels locally sourced</b>	W3-W7 T1,2,W A1, Ws1	Pop 1		All other SEOS		Provision of locally sourced gravel would be in keeping with local landscape character and provide a more durable path material. This in theory also provides

Alternative	o	↑	↓	⇅	?	Comment
	WS1,2 WW1					access for all.
<b>Built up paved</b>	W5-W7 T1,2,W A1, WS1 WS1,2 WW1 ,Ch3		Ch1 L1, L2,B6 W2 S2			This would require excavation for foundations and increase local surface run off. Negative impacts identified for cultural heritage, landscape, population , water and biodiversity.
<b>All areas made accessible</b>	W5-W7 T1,2,W A1, WS1 WS1,2 WW1 ,Ch3		Ch1 S1 S2 L1,L2	Ch2,3 B1-6 W1-4 L3 P1-3		This would require significant path provision at appropriate grades to facilitate access to all areas and would give rise to permanent negative impacts on cultural heritage and landscape. In relation to the Code of Practice on Accessible heritage sites (NDA 2009) This shall not apply if its application would - (i) have a significant adverse effect on the conservation status of a species or habitat or the integrity of a heritage site, or (ii) compromise the characteristics of the site.
<b>Representative /main areas made accessible</b>	W5-W7 T1,2,W A1, WS1 WS1,2 WW1 ,Ch3		Ch1 S1 S2 L1,L2	Ch2,3 B1-6 W1-4 L3 P1-3		This represents a balanced approach in facilitating access for all to the main sites on the island. Impacts are based on assumption that paths would be designed to main sites and use locally sourced gravel.
<b>Paths and routes</b>						
<b>No paths</b>	W5-W7 T1,2,W		Ch1 L1		<b>Other SEOs</b>	Given the aim to increase visitor numbers, absence of paths would mean existing informal trails (e;g; on the

Alternative	o	↑	↓	↕	?	Comment
	A1, Ws1 WS1,2 WW1  Ch3		B1			pilgrim paths) would likely continue and additional informal paths may be created. This could give rise to a number of negative impacts associated with increased footfall including cultural heritage, and ecological impacts.
Main Route (from landing to monuments) only	W5-W7 T1,2,W A1, Ws1 WS1,2 WW1  Ch3				All other SEOS.	This reflects the existing informal path that is used from the current landing point in the northwest to the main monuments. Depending on path construction, materials management and precise route different impacts could arise. However by providing a path, visitors can be directed around the island and such a path could be monitored for condition and impacts.
Main route and secondary loop route around island	W5-W7 T1,2,W A1, Ws1 WS1,2 WW1			All other SEOs		As above, detailed alignment of route and materials used would determine impacts. Again if visitor numbers increase considerably, informal paths away from main route will likely be created and this could result in unanticipated environmental impacts mostly around cultural heritage and ecological considerations (eg; through alluvial woodland close to shore)
Public Furniture						
Public seats	W5-W7 T1,2,W A1, Ws1 WS1,2 WW1			All other SEOs		Numbers proposed, design, construction and location – would all require further investigation. This introduces a new element to the island and generally is not recommended. However, if enhanced accessibility is an important consideration, provision of limited number of benches in appropriate locations would facilitate accessibility to the main sites for those with limited mobility.

Alternative	o	↑	↓	↕	?	Comment
Picnic tables	W5-W7 T1,2, Ws1 WS1,2 WW1			All other SEOs		As above, and may encourage littering.
Rain shelter/s	W5-W7 T1,2, , Ws1 WS1,2 WW1			All other SEOs		As above.
Guide/Emergency Room						
New unobtrusive pod (remove OPW shed)	W5-W7 T1,2, , Ws1 WS1,2 WW1			All other SEOs		Location, proposed design, construction and materials would require further investigation. Note there are archaeological artefacts in and beside the shed and a management approach would be required to remove the shed and consider how to treat these artefacts.
Reuse OPW shed	W5-W7 T1,2, , Ws1 WS1,2 WW1  Ch2 B1-6 Cc1	Ch1,Ch3 S1	L1			Reusing existing OPW shed retains current use but its location in close proximity to the monuments detracts somewhat from their context and setting. There are also a number of carved stones in and adjacent to the shed and this requires a management approach to address these.

Alternative	0	↑	↓	⇅	?	Comment
	<b>Other SEOs</b>					
<b>Toilet Facilities</b>						
<b>No toilets</b>	<b>T1,2 WS2,S1 -4</b>		<b>B4 P1,2,3 W1, W2, WA1 WS1,, CCc1</b>		<b>Other SEOs</b>	<p>No toilet faciities represents the existing situation and in terms of infrastructure and potential landuse impacts, represents the least invasive landuse option. However, it is noted that currently visitors are using the shrubs for toilets and this presents pollution and health risks.</p> <p>Increasing visitor numbers would see this continue and exacerbate this problem.</p> <p>Note: it is understood that island toilet provision would be emergency only with toilets provided at visitor centre and information about same provided to visitors prior to going to the island.</p>
<b>Dry Compost toilets and wet handwash</b>	<b>T1,</b>			<b>All other SEOs</b>		As for Option 3 below, additional information in terms of siting, design, population equivalent, maintenance and construction would be required for more detailed assessment. It is understood the toilets are for emergency use. However for solid waste removal will be required during peak season.
<b>Chemical toilets</b>	<b>T1,</b>			<b>All other SEOS</b>		Servicing chemical toilets would necessitate tractors accessing the island for deposit, removal and maintenance. Depending on siting this could result in ground significant disturbance to archaeological features.
<b>Waste Management</b>						

Alternative	0	↑	↓	⇅	?	Comment
No bins, Pack it in, pack it out / Leave No Trace		L1, P1, P3,CH!		All other SEOs		Leave No Trace is implemented across a number of other tourism and recreational attractions in the county and would be consistent with this approach. This also would discourage picnics, littering and attractiveness for scavengers.
Limited bins	T1,			All other SEOs		Design, siting and maintenance details would be required. Introducing bins would add an additional element to the landscape.
Regular pump out of chemical toilets)	Ch1, Ch2,Ch3 B6 S1-4 T1,2			B1-5 W12,4 ,5,6,7 L1-3 P1-3 WA, WS1-2 WW1-2 CC1		Should chemical toilets be selected, regular pump out would be required. Siting and maintenance details required.
Reedbeds (greywater from WHBs only)		Bio1		All other SEOs		Additional information on siting, location, design, maintenance would be required for this option. Reedbeds would increase habitat associated with certain bird species and this is identified as a positive impact for Biodiversity SEOs.
Displaying small finds						
Move to Centre New glass 'box' Move to National Monument	T1,		S1	Option 2: all other		Options 1 and 3 –no landuse impacts identified.  Relocation of small finds may not be in keeping with current archaeological policy and recommendations.

Alternative	0	↑	↓	↕	?	Comment
				SEOS		Option 2 would be give rise to landuse impacts as it would require new physical interventions. As with the other proposed interventions further information on siting, design, construction and maintenance would be required.
Electricity and Phone						
None	All SEOS					This option maintains the existing situation on the island where there is no power but mobile phone reception is available.
PV Panels and batteries						This would provide small scale energy and batteries for use in emergencies. It is assumed in this option, such panel would be associated with new elements such as the shelter/toilets. As such any impacts would be minimal as they would form part of the new infrastructure, PV panels would likely be oriented south/southwest
Under lake cable				All SEOs		This would represent the most significant intervention and would require additional surveys and ground disturbance both on the island and for underwater archaeology.
Storm Shelter						
None	All SEOS					No landuse impacts associated with this alternative
Enclosed glass room w heaters/water	T1, ,CH2 W1, W7		Ch3 S1 WA1	All other SEOs		Design, siting, construction approach –more information would be required.
Refurbishment of fisherman hut	T1,	Ch2, 3		All		This option would re-use an existing vernacular

Alternative	o	↑	↓	⇅	?	Comment
		S1 WA1		other SEOs		structure on the island.
Interpretation and Guiding						
Signage						
Orientation and Interpretative signage	T1,			All other SEOS		Generally, the style, construction and siting of signage requires careful consideration to avoid cluttering this island landscape and introducing excessive elements to the setting of the monuments. Option 1 would generate the most landuse impacts as it allows for the most signage.
Orientation (at access points) and no interpretative signage						As above but will reduced landuse impacts due to reduced signage proposal
No signage at all	All SEOs					No direct landuse impacts identified with this option
Guiding/Tours						
None (silence requested by all)OPW type experts Locals (trained to a script)						No landuse impacts associated with these.
Community Drop in						
Not allowed at all	For the community options under consideration, impacts relate to broader issue of potential visitor impacts and are addressed in other sections of this assessment table. Clearly facilitating and ensuring continued community access for religious and community reasons is important and would be associated with the cultural heritage and population SEOs in particular.					
Allowed for specific seasons/hours (but not publicised)						
No restrictions to locals (uncommercial)						
Camping / Picnics etc						

Alternative	o	↑	↓	⇅	?	Comment
Not allowed at all		All SEOs				Camping is not recommended on archaeological and ecological grounds.
Allowed for specific seasons/hours (but not publicised)						As above
No restrictions to locals (uncommercial)						Subject to monitoring
Funerals (historic family plots)						
Not allowed	Other SEOs	CH1	Pop 1 CH3			This would generate negative impacts on population and human health and cultural heritage parameters; it would likely benefit overall archaeological protection.
Only outside visitor hours						As above
Allowed anytime, visitors curtailed if during 'open' hours	Other SEOs					This represents the most sensitive approach to communities and funerals.
Graves						
Strict guidelines as to material, detail etc No restrictions on material, size On ground markers only						Option 1 would be preferable on landscape and cultural heritage grounds.
Marketing and Promotion						
Limiting numbers – daily limit on coach numbers? Online booking system?					All SEOs	Limits of Acceptable Change study and the assessment of low, medium and high numbers provide a response to this issue in terms of numbers.
Admission fees						No landuse impacts are identified for this topic.
Times and Seasons						
Daily (hours ?)					All SEOs	
2Weekly (7 days?)					All SEOs	

Alternative	0	↑	↓	⇅	?	Comment
<b>Monthly/ Seasonality (8 ? 12 ? months a year</b>			<b>B1, B2 Ch1</b>	<b>All other SEOs</b>		8-12 months opening could give rise to seasonal disturbance of overwintering birds in particular; in addition, this length of opening could give rise to intensified visitor impacts and ground disturbance, particularly in the wetter months.
<b>Open weekends in winter?</b>			<b>B1, B2</b>	<b>All other SEOs</b>		As above, disturbance to overwintering birds and ground disturbance are potential impacts associated with this option.
Identity, Branding etc						
<b>Identity- Approach Clear (individual) identity Part of Lough Derg offer Clear identity and part of Lough Derg</b>						No landuse impacts identified
<b>Title Inis Cealtra Inis Cealtra (Lough Derg) Inis Cealtra</b>						As above
<b>Branding-Tag Inis Cealtra Visitor Centre Inis Cealtra /Inis Cealtra Visitor Centre The Inis Cealtra Experience Inis Cealtra /Inis Cealtra Experience</b>						As above
<b>Logo No Logo</b>						As above

Alternative	o	↑	↓	⇅	?	Comment
Logo of Round Tower/St Caimans/LoughDerg Other						
Slogan None Inis Cealtra – An island of sanctuary in Lough Derg Inis Cealtra – An island of tranquillity in Laugh Derg An island of sanctuary in Lough Derg Other						As above
Illumination						
No flood lighting	All SEOs					This represents the existing situation
Full (tasteful) flood lighting including overnight	Ch1, Ch3, W2, W3,W4 ,5,6,7 T1,		B1-3	All other SEOs		Flood lighting overnight is not recommended for ecological reasons and could give rise to disturbance to species, particularly bats. Power supply to facilitate flood lighting would also give rise to associated landuse impacts.
Sparkle candle in the window	Ch1, Ch3, W2, W3,W4 ,5,6,7 T1,				All other SEOS	This is lower impact than option 2, but uncertain as to how this would be powered and what levels of illumination would be required to see candle from shoreline.
Implementation						

Alternative	o	↑	↓	⇅	?	Comment
<b>Management - Island MCC / local body OPW Clare Co Co Clare CoCo for visitor facilities and OPW for built heritage</b>						No landuse impacts identified –however overall management and monitoring is strongly recommended.
<b>Management Visitor Centre Clare CoCo maintained &amp; operated Clare CoCo maintained and operated by local community ClareCoCo maintained and operated by local community with café as concession Operated under commercial tender</b>						No landuse impacts identified

## 6.4 SEA PREFERRED ALTERNATIVES.

The following is the preferred alternatives based on the above assessment; note these preferred alternatives relate only to those elements that could give rise to landuse impacts so do not address issues such as marketing etc.

Table 16 SEA Preferred Alternatives.

Plan Proposal	Justification
Visitor Numbers Medium	This option aligns more closely with national and regional tourism promotion as well as potential World Heritage Sites serial nominations associated with Early Christian Sites. It would promote the wider Lough Derg and early Christian sites thereby dispersing visitors to other sites. Economic viability of the plan is considered more realistic under this scenario.
Visitor Centre location	<i>Given the density of archaeological resources both above and below ground, the potential for underwater archaeology, the landscape setting of the island in addition to ecological considerations, physical interventions on the island must be very carefully considered and in line with the approach to the study, such interventions must be minimal. This is in line with international best practices and is reflected in the most fundamental key objective of the plan, as stated in Section 1.2.2 Plan Key Objectives.</i>  <i>Therefore, consideration of a visitor centre on the island was excluded at an early stage of the plan preparation process, with potential sites on the mainland considered. Mountshannon Village, close to harbour is the preferred location, as it uses the existing village and facilitates potential movement through the Aistear Park. It would facilitate access from the main street of Mountshannon and could bring spin off benefits to the village itself. Following more detailed assessment, it is considered that Site 1 or 2 are the preferred locations primarily as they promote pedestrian movement and easier access from the main street, enjoy views to the island and are consistent with tourism landuse zonings in the Clare CDP 2017-2023.</i>
Car Parking: Park and Ride/ Park and Ride with some car parking	Park and ride allows for movement of people via bus/coach. Impacts likely to be mitigated but would depend on location of park and ride (ie: greenfield lands)
Primary visitor access via ferry from visitor centre with permit style approach for small craft/local community	This option allows for local access, though permit style may require alteration and further consultation.
Boats	This option represents the continued transport means to the island and is consistent with the historical access route to this island; it requires the most minimal physical intervention of the three options The recommended mode of access to the island is via a new ferry service that will operate between the proposed visitor centre at Mountshannon and Inis Cealtra.
Departure from Mountshannon	This option represents a continuation of the principal departure point for the island and is also a substantial harbour area that would require minimal or no physical interventions to continue access
Pier –new northeast,	The justification for this is that:

Plan Proposal	Justification
others to remain for private/micro-boat access	<ul style="list-style-type: none"> <li>• This location, sheltered from the prevailing wind, increases the number of days when the pier is accessible for visitors, and the local community.</li> <li>• Moves visitor traffic away from the area between the island and Knockaphort which is a well-used angling zone, particularly in April and May.</li> </ul> <p>An assessment of pier options was undertaken by Arup Engineers: Based on both satellite images from Google Earth and the bathymetric data obtained, which show vegetated sandbanks in the vicinity of the northern tip, the most suitable location for the proposed new pier is at the eastern extent of the proposed zone. As noted elsewhere the reed beds associated with these shallows are significant from an ecological point of view and attempts to avoid them means the proposed new pier should be located at a safe distance from this area. It is reasonable to assume that the river bed is steeper moving southwards considering the prevailing current circulation pattern which is from SW to NE, and the bathymetric map verifies this. Thus, the increased water depths here allow for a pier of optimal dimension.</p> <p>However, the location of underwater archaeology 40m of the island is a known and this will require more detailed assessment and research.</p>
Floating pontoon preferred pier structure.	<p>In terms of the new pier structure, the preferred option is for the installation of floating pontoons connected to the mainland using an extended gangway. The advantage of the floating pontoons is that they can facilitate vessel berthing under the full range of water levels (provided that there is sufficient water depth). The feasibility of using a gangway connection would primarily depend on the combination of the near-shore bathymetry and the range of water levels.</p> <p>Low water levels might restrict the functionality of the pontoons or even damage them. Therefore, bathymetric data is necessary to determine whether it would be feasible to install the pontoons at an appropriate distance from the shore, i.e., in a distance not exceeding 10-12m so that a gangway could be used. Pontoons of 3m x 25m (total length) would be the minimum required in order to accommodate the design vessel and provide safe pedestrian access to the shore</p> <p>However, prehistoric logboat recorded c40m northeast of the island, so known underwater archaeology.</p>
Unscheduled landing – local access	<p>These options all relate to access to the island; given the proposed increase in visitor numbers generally local boats would reflect local access needs; unscheduled landings by other boats may give rise to visitor impacts and issues such as overnight camping. Also the risk of biosecurity associated with unscheduled landings may give rise to indirect or direct ecological impacts through introduction of invasive or alien species</p>
Fences	<p>Fences (retention of existing) or fences and no touching subject to guides etc</p>
Paths –main route to principal sites, secondary loop around island	<p>Detailed alignment of route and materials used would determine impacts. Again if visitor numbers increase considerably, informal paths away from main route will likely be created and this could result in unanticipated environmental impacts mostly around cultural heritage and ecological considerations (eg; through alluvial woodland close to shore).</p> <p>Alignment of paths to avoid sensitive underground archaeology such as the</p>

Plan Proposal	Justification
	<b>Pilgrim Paths and alluvial woodland.</b> Path to main sites accessible for all and composed of locally sourced gravel.
<b>Public furniture</b>	Minimal benches to be placed at well located positions on the island to allow visitors, particularly the elderly, to rest. This contributes to wider accessibility for all. So as to avoid the generation of litter on the island, picnic benches will not be permitted.
<b>Guide/emergency room- new unobtrusive pod</b>	Location, proposed design, construction and materials would require further investigation. Note there are archaeological artefacts in and beside the shed and a management approach would be required to remove the shed and consider how to treat these artefacts.
<b>Toilets (emergency)-</b>	Additional information in terms of siting, design, population equivalent, maintenance and construction would be required for more detailed assessment. It is understood the toilets are for emergency use. However for solid waste removal will be required during peak season. It is to be communicated to visitors that toilet facilities are available at the visitor centre and ferry. Design considerations for appropriate population equivalent will be critical to ensuring that this option works environmentally.
<b>Waste Management: Leave no Trace, no bins Reedbeds for emergency toilet, solid waste removal during peak season.</b>	Additional information on siting, location, design, maintenance would be required for this option. Reedbeds would increase habitat associated with certain bird species and this is identified as a positive impact for Biodiversity SEOs.
<b>Displaying small finds</b>	Either move to National Monument or visitor centre represent the minimal landuse impacts as they require no additional physical intervention. Retaining finds <i>in-situ</i> is best practice where possible.
<b>Power-PV panels with batter</b>	This would provide small scale energy and batteries for use in emergencies. It is assumed in this option, such panel would be associated with new elements such as the shelter/toilets. As such any impacts would be minimal as they would form part of the new infrastructure, PV panels would likely be oriented south/southwest
<b>Storm shelter – refurbishment of fisherman’s hut.</b>	This option would re-use an existing vernacular structure on the island.
<b>Signage – very limited low impact orientation signage</b>	Minimal approach with low visual impact is recommended.
<b>Camping and picnics; No camping, picnics not encouraged</b>	This represents the most environmentally benign option as it reduces potential anti-social behaviour or disturbance associated with overnight camping and littering/food scraps being associated with formal picnics.
<b>Funerals- Allowed anytime, visitors curtailed if during ‘open’ hours</b>	This option reflects the most sensitive and respectful approach to funerals on the island.
<b>Graves-guidelines on</b>	This would give rise to landscape and cultural heritage positive impacts whilst

Plan Proposal	Justification
materials, etc	facilitating the use of family plots on the island.
Opening Times and seasons: mid March to Early October	This reduces overall disturbance to overwintering birds, allows the lands on the island recovery time and avoids visitor numbers during the wetter months of the year.
Lighting-no lighting	This represents the least invasive option.

## 7 ASSESSMENT OF SIGNIFICANT ENVIRONMENTAL EFFECTS

### 7.1 INTRODUCTION

The purpose of this section of the Environmental Report is to predict and evaluate as far as possible the environmental effects of the Inis Cealtra plan. The approach is as follows:

Firstly the quality of impact is addressed using the following terms:

- Potential Positive impact: A change which improves the quality of the environment.
- Potential Negative impact: A change which reduces or lessens the quality of the environment.
- Uncertain impact: The nature of any impact cannot be ascertained at this stage.

This initial stage aims to ascertain the quality, if any, of the potential impact.

Secondly, where a potential impact is noted, either positive or negative, the significance of impact is addressed. Significance is assessed in terms of the type/scale of development envisaged by the plan and the sensitivity/importance of the receiving environment. This is presented using the following terms:

- Profound: An impact which obliterates sensitive characteristics.
- Moderate: An impact that alters the character of the environment in a manner that is consistent with existing and emerging trends.
- Slight: An impact which causes noticeable changes in the character of the environment without affecting its sensitivities.
- Imperceptible: An impact capable of measurement but without noticeable consequences.

Thirdly the potential duration of identifiable impacts is discussed. The following terms are used:

- Short: Impact lasting one to seven years.
- Medium: Impact lasting seven to fifteen years.
- Long term: Impact lasting fifteen to sixty years.
- Permanent: Impact lasting over sixty years.
- Temporary Impact lasting for one year or less.

The plan vision, overarching aim and 28 objectives are all assessed in this chapter. These are assessed against the SEOs prepared in Chapter Five. Where neutral impacts are identified, these are then screened out, with subsequent objectives subject to more detailed assessment and commentary both in this chapter and Chapter Eight Mitigation Measures.

A particular focus is given to the physical interventions associated with the plan such as pathways, shelters and piers as they were identified through SEA Scoping and through the plan preparation process as having the greatest potential to give rise to significant effects.

Where objectives from the Clare County Development Plan 2017-2023 are relevant to the objective or action reference is made to same in subsequent tables.

The second part of this assessment addresses the potential for cumulative or in combination effects. This has been assessed in Section 7.9 by assessing the potential cumulative and in combination effects of other plans and projects relevant to the plan.

In turn, where mitigation is proposed either through additional actions or text – this is presented in Chapter Eight, Mitigation Measures. The following table presents the assessment matrix.

*Table 17 SEA Assessment Matrix*

No likely interaction with /insignificant impact with SEOs	o	Potential conflict with SEOs – likely to be mitigated	⇄
Likely to improve status of SEOs	↑	Uncertain interactions with SEOs	?
Probable conflict with SEOs – unlikely to be mitigated	↓		

## 1.2 INIS CEALTRA PLAN ASSESSMENT MATRICES.

This section focuses on the physical and operational elements of the Plan as they are determined to give rise to potential environmental effects. The following tables present an assessment against the SEOs of the following plan elements:

- Table 18 below provides an assessment of the Vision and overarching aims of the plan.
- Table 19 provides an assessment of the introductory objectives numbers on 1 to 4 of the Plan
- Table 20 provides an assessment of the objectives relating to physical interventions and proposals on Inis Cealtra.
- Table 21 provides an assessment of the remaining plan objectives including visitor management, interpretation, visitor centre at Mountshannon and marketing.
-

## 7.2 CHAPTER ONE: INTRODUCTION: VISION, AIMS AND STRATEGIC OBJECTIVES

Table 18 Vision and Development approach. Assessment of plan Vision, Goal

CHAPTER ONE	o	↑	↓	↕	?	Comment
<b>VISION:</b> Inis Cealtra, protected for future generations through exemplary conservation management and interventions and through a balanced and sustainable management approach to providing access for visitors and the local community. An expansion of the visitor experience, enjoyment and respect for the island's living and built cultural heritage and that of the greater area <i>will be expanded</i> , and an increase in the long-term, socio-economic benefits to both the local community and the wider region						
		All SEOS				This vision promotes the highest standards of conservation, management and interventions whilst seeking to provide local community benefit.
<b>Overarching Aim:</b> <ul style="list-style-type: none"> <li>To ensure a balance is struck between attracting the maximum number of visitors to Inis Cealtra and ensuring that the natural and built heritage of the island, above and below ground, is not negatively impacted by an unsustainable volume of visitors.</li> <li><del>In addition, it is critical that the</del> to ensure that the unique ambience and character of the island is not placed at risk through increased visitor numbers.</li> <li><del>In conjunction with this</del> to maximise the socio-economic benefits from increased visitor numbers to the island and wider Lough Derg area to support a sustainable rural economy.</li> </ul>						
		All SEOs				As above. This aim is further supported by numerous objectives in the Clare CDP 2017-2023 including: CDP Objectives: CDP9.13 Lakelands and Waterways Tourism and CDP 9.17 Sustainable Tourism.
<b>Values:</b> The above approach is to be implemented through a series of key objectives set out throughout the Plan all of which have the following:						

CHAPTER ONE	o	↑	↓	↕	?	Comment
Have an ethos of minimum intervention on Inis Cealtra		All SEOs				The ethos of minimal intervention is in line with international best practice as it relates to built heritage in particular. Positive effects are also identified for this in relation to biodiversity, soil and water SEOs.
Repair and stabilise the built heritage of Inis Cealtra	All other SEOs	Ch1-3 L1 -3 P1,3				This has significant positive long term effects relating to cultural heritage, landscape and population in particular.
Preserve the archaeological heritage, historic areas and cultural heritage of Inis Cealtra	All other SEOs	Ch1-3 L1 -3 P1,3				As above This has significant positive long term effects relating to cultural heritage, landscape and population in particular
Safeguard the tangible and intangible values of the Inis Cealtra and the host community	All other SEOs	Ch1-3 L1 -3 P1,3				As above This has significant positive effects relating to cultural heritage, landscape and population in particular
Ensure maintenance and preservation of the site in the short, medium and long term		All SEOs				As this is understood to apply equally to other environmental parameters such as biodiversity, flora and fauna.
Enhance understanding and heighten public awareness of Inis Cealtra		Ch1-3 L1 -3 P1,3				As above This has significant positive effects relating to cultural heritage, landscape and population in particular
Provide socio-economic benefit to the local community through increased visitor revenue	All other SEOs	P1-3				Ensuring the local community benefits from proposals is identified as giving rise to medium to long term positive benefits for population SEOs in particular.
<i>On the basis of this research two fundamental conclusions emerged which form the key principles on</i>		All SEOS				The ethos of minimal intervention is in line with international best practice as it relates to built heritage in particular. Positive effects are also

CHAPTER ONE	o	↑	↓	↕	?	Comment
<p><i>which this Plan is based which are:</i></p> <p><i>a) that, in accordance with best international practice, there should be little or no physical intervention on the island itself, this being the most fundamental key objective;</i></p>						<p><b>identified for this in relation to biodiversity, soil and water SEOs.</b></p>
<p><i>b) that, in order to attract greater numbers of visitors to Inis Cealtra and the wider area, while also improving access and ensuring a quality and authentic experience at both, it is critical that appropriate new visitor facilities are provided. Failure to provide formal, safe and easy access to the island, coupled with an increase in visitor information, services and facilities, will limit the potential for the sustainable growth in visitor numbers and therefore in realising the full tourism potential to the local economy. Similarly, any potential increase in visitor numbers to the island, without a comprehensive visitor management and development plan in place, addressing visitor access, provision</i></p>		<p><b>All SEOs</b></p>				<p><b>This has significant positive long term effects relating to cultural heritage, landscape and population in particular</b></p>

CHAPTER ONE	o	↑	↓	↕	?	Comment
<i>of appropriate modern visitor facilities, etc. is likely to have a detrimental impact on the built heritage and natural environment of Inis Cealtra.</i>						

### 7.3 OBJECTIVES RELATING TO WORLD HERITAGE SITE INSCRIPTION, ACCESS AND MAINLAND

Table 19 Plan objectives relating to WHO inscription, access and mainland.

OBJECTIVES	o	↑	↓	↕	?	Comment
<b>Objective 1. To commence the nomination of Inis Cealtra, in combination with the other significant early medieval monastic sites, as a serial World Heritage Site in the near term</b>						
	Other SEOS	Ch1, Ch2, Ch3 L1, L2,L3 P1,P3 B1,B2				The 'Early Medieval Monastic Sites' referenced in this objective relate to Clonmacnoise, Durrow, Glendalough, Kells and Monasterboice-these form a tentative World Heritage Site listing. The nomination process for World Heritage Site status would further support the cultural heritage and potential visitor proposals for the plan.
<b>Objective 2: To restrict access to the island to a maximum number at any one time of 100 persons (excluding guides and staff), no more than 400 in any day and a maximum of 45,000 over the course of the year. These numbers should be taken as the maximum number of persons arriving on the island for all subsequent studies, projections, models and projects.</b>						

OBJECTIVES	o	↑	↓	↕	?	Comment
	S1, S3 W3, W5			Ch1,Ch2,CH 3B1-B5 S2,S4 W1,2,7 L1,2,3. P1-3 Ws1,2		<p>This number has been calculated and derived from the limits of acceptable change as outlined in Skection 3.2.2 the plan.</p> <p>The proposed increase in visitor numbers from a relatively low base will give rise to potential profound environmental effects on cultural heritage, landscape and ecology in particular in the absence of mitigation.</p> <p>Key to this is monitoring how increases year on year are affecting the island's resources.</p> <p>Mitigation measures are recommended.</p>
Objective 3. To have primary visitor access to the island via a ferry from a new visitor centre on the mainland with a small access charge and to afford allow the local community be able to continue accessing the island free of charge, with established local tourism businesses using a discounted permit system.						
				All SEOS		<p>Mitigation measures are recommended as informal access to the island, associated with increased visitor numbers may also indirectly give rise to increased access to other islands close by potentially increasing human presence and disturbance to uninhabited islands. Increased visitor numbers may also result in antisocial behaviour, littering etc so monitoring of this is recommended.</p>

OBJECTIVES	o	↑	↓	↕	?	Comment
	All SEOs					No landuse impacts identified for this objective. However by providing a wider interpretation of the heritage beyond the island, visitor interpretation can be deepened and potential positive impacts may arise in relation to tourism and local understanding and appreciation of heritage.
<p><b>Objective 4: To procure a new visitor centre to serve the needs of visitors and tourists seeking to learn more about the island, on the mainland</b></p> <p><b>Objective 5: <del>to locate the new visitor centre for Inis Cealtra at the south end of the community park in Mountshannon with views to the island and access from the main street.</del> To develop the new visitor centre for Inis Cealtra at the south end of the community park in Mountshannon (site 2) with views to the island and access from the main street via the Aistear park. Alternative options assessed for the development of a visitor centre, including the Old Rectory and the Aistear Centre, can be explored further should the new-build option prove unfeasible</b></p>						
				All SEOs		<p>Mountshannon and the area close to the harbour around the Aistear Park is identified as suitable for the Visitor Centre.</p> <p>This siting allows for views of the island and creates synergies between the harbour and the main street of Mountshannon. See below for further information as regards landuse zoning and flood risk assessment.</p> <p>Detailed design to accommodate the listed facilities and in particular to address wastewater and water supply are required.</p> <p>In relation to flood risk, from the spot levels, site photos and from examining the historic flood levels and extents it is possible to verify</p>

OBJECTIVES	o	↑	↓	↕	?	Comment
						<p>that the road and site are most likely to be located in Flood Zone C and this represents an appropriate use (Source: Flood Risk Assessment JBA).</p> <p>Positive impacts are identified in relation to Cultural heritage, population, landscape and material assets as this area would facilitate access from the main street to the visitor centre, facilitate park and ride facilities and limit car parking; this would also allow those who do not wish to visit the island experience the view of the island and enjoy the interpretation at the centre itself.</p> <p>Whilst a visitor centre in Mountshannon can also access the existing water and wastewater infrastructure, increased capacity in both services will be required to accommodate the increased visitor numbers and the likely seasonal variations in the demand of potable water supply and wastewater treatment. Mitigation measures recommended.</p>
<p><b>Objective 6: To engage a professional interpretation design company to design and develop an interpretive experience for the visitor centre taking account of the wealth of academic, social and anecdotal information assembled in this Plan (including Appendix 1).</b></p>						

OBJECTIVES	o	↑	↓	↕	?	Comment
		Ch1, Ch2,P3				No direct landuse impacts or environmental effects are identified for this objective. Indirect positive impacts are associated in relation to Cultural heritage and Population SEOs as this objective will raise awareness and understanding of the rich cultural heritage of the island.
<b>Objective 7: To provide a new visitor centre which may include a range of services and facilities for visitors which may include: audio visual auditorium, exhibition, visitor information and ticketing, café, retail, toilets, meeting rooms, spiritual space, pilgrim traveller facilities, connection to ferry point and drop off points with limited parking facilities</b>						
		Ch1, Ch2		All other SEOs		The facilities will form part of the visitor centre and relevant objectives in the Clare CDP 2017-2023 will apply.
<b>Objective 8: To have access across the lake to Inis Cealtra be from Mountshannon.</b>						
						See Objective 25 below
<p><b>Summary of key impacts:</b></p> <p><b>Cultural Heritage –note, please see Appendix 1 of the plan for further detail on archaeological vulnerabilities and recommendations, a summary is provided below:</b></p> <ul style="list-style-type: none"> <li>• Sustainable tourism is dependent on the continued pristine condition of the island and the survival of the archaeological remains but overcrowding could be detrimental to the conservation of the site.</li> <li>• Greater visitor numbers increases the risk of damage to the monuments on the island.</li> <li>• Sheer footfall on the site will impact the ground causing wear and tear. This type of erosion tends to occur on specific routes e.g. paths or tracks, at</li> </ul>						

OBJECTIVES	o	↑	↓	↕	?	Comment
<p>specific focal points e.g. monuments, and at pinch points where there is a constriction in flow e.g. gates or gaps.</p>						
<ul style="list-style-type: none"> <li>• The Saints' Graveyard is at particular risk; here there are a large number of early medieval recumbent grave-slabs, many incised with crosses and inscriptions that will suffer wear and damage if walked upon.</li> <li>• Other historic graveyards on the island, associated with St Caimín's and St Mary's are also vulnerable in that many of the graves have risen above ground level and should not be walked upon out of respect for the deceased as well as the archaeological material.</li> <li>• The earthworks are vulnerable to damage from footfall.</li> <li>• Increased boat traffic in and around the island could negatively impact upon known and unknown underwater archaeology in the area, such as the shipwrecks and logboats, due to increased propeller wash action from repeat boat trips or an increase in boat engine size.</li> </ul>						
<p><b>Biodiversity, Flora and Fauna-</b></p>						
<ul style="list-style-type: none"> <li>• The potential impacts associated with increasing visitor numbers relate to potential disturbance to species and habitats, particularly during seasons when they are more sensitive to disturbance associated with human activity. Habitats of conservation concern that could be at risk of disturbance from the increased presence of tourist are species-rich marsh habitat fringing the island. This habitat has links to the Annex 1 habitat hydrophilous tall herb vegetation (6430). Potential disturbance arising from the increased presence of humans could also result in disturbance to special conservation interest bird species that use the fringes of island as a roost site and will have the potential to undermine the capacity for fringing wetland habitats to function as a breeding sites for birds, couch sites for otters and a potential habitat for the Annex 2 listed species <i>Vertigo moulinsiana</i>.</li> <li>• Construction activity and the presence of tourists at Inis Cealtra will have the potential to result in disturbance to special conservation interest bird species of the SPA, should they be found to utilise habitats on or surrounding the island. These activities could also diminish the capacity of wetland habitats fringing Inis Cealtra to function as roosting or breeding sites for wetland bird species.</li> <li>• A potential impact relates to the potential introduction of invasive species on the island which could give rise to structural changes in the habitats present.</li> <li>• See the Natura Impact report for further discussion in relation to the Lough Derg Special Protection Area</li> <li>• Inter-related effects:</li> </ul>						
<p>Landscape character, cultural heritage, noise and ecology are all contribute together to create the distinctive experience of Inis Cealtra currently. Increased visitor numbers that may increase noise and human disturbance can detract from other visitors experience and at certain times of the year,</p>						

OBJECTIVES	o	↑	↓	↕	?	Comment
<p>disturb sensitive species.</p> <p>Intangible cultural heritage may be negatively affected if the island is seen to become a 'product' and the commodification of a ritual and sacred historical landscape is perceived to take place with subsequent loss of community ownership and sense of place/attachment to Inis Cealtra.</p> <p>Increased footfall could give rise to effects associated with trampling, new informal paths into more sensitive archaeological and ecological areas, subsequent erosion of soil and increase in rank grass species. Cumulatively this would detract from the visual appearance of the island.</p> <p>Associated with this is the potential increased risk of soil runoff, introduction of alien and invasive species, localised fouling and littering.</p>						

#### 7.4 OBJECTIVES IN THE PLAN RELATING TO PHYSICAL PROPOSALS ON THE ISLAND.

This section is addressed in some detail for the reasons outlined in Section 7.1. The Figure below shows the proposed locations they are all clustered at the northern part of the island further away from the archaeological monuments and where visual screening by existing vegetation or new planting is proposed. Note: mitigation measures are recommended for all these elements:

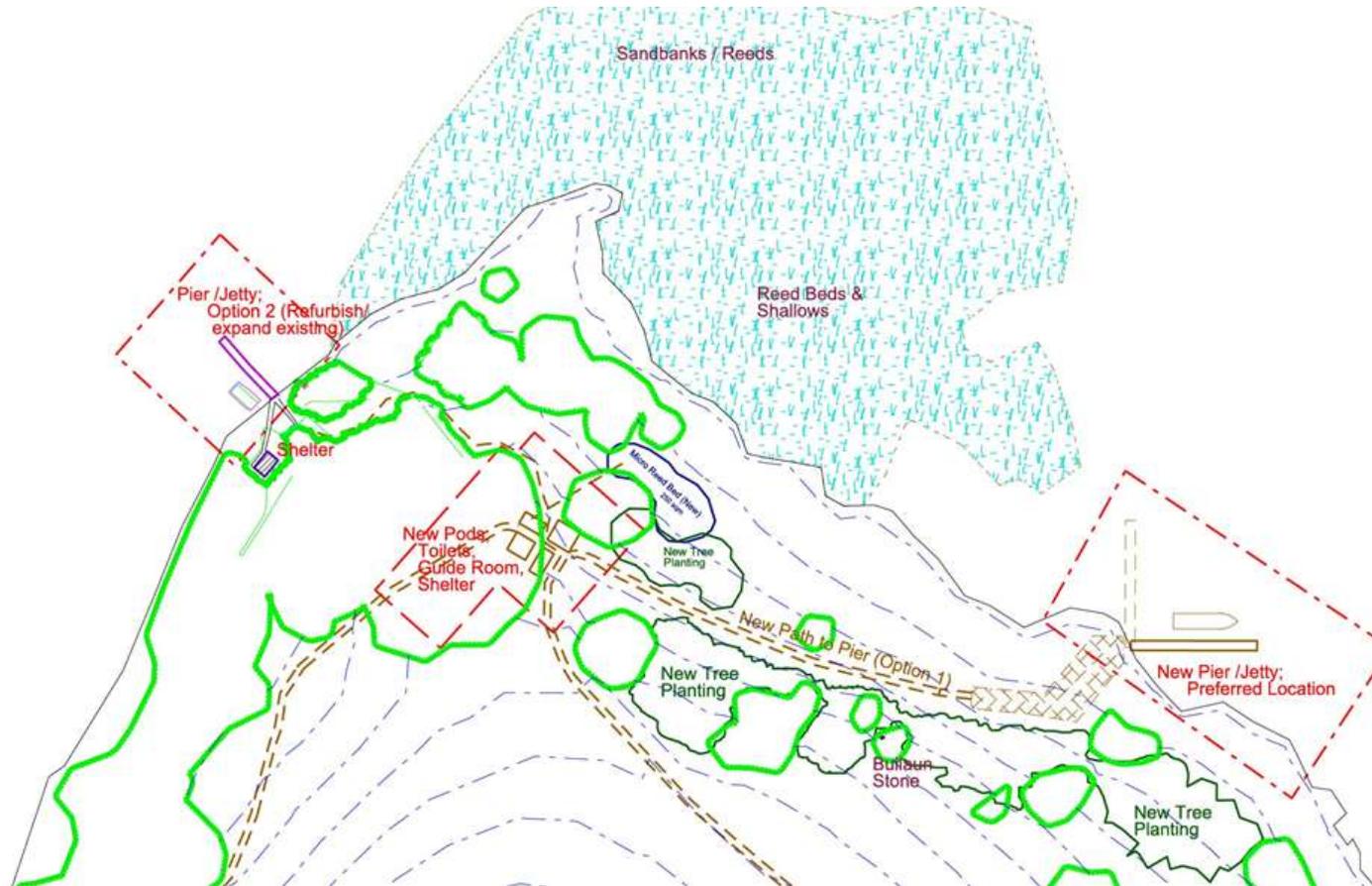


Figure 32 Proposed Landing Point Location Options, Shelters (Pods) and Circulation (north part of island only shown)

Table 20 Objectives in the Plan relating to physical proposals and interventions on Inis Cealtra

OBJECTIVES	o	↑	↓	↕	?	Comment
<b>Objective 9: To construct a new landing facility (jetty/pier) at a location that allows both a safe passage to and safe landing and embarkation on/from the island. This will become the main landing point for visitors to the island</b>						
	S1,W3,T1 WS1,WW 1			All other SEOs		Uncertain impacts for underwater archaeology as other than a logboat 40m northeast, other potential archaeological resources may be present. Mitigation measures are recommended. Note a new pier in the northeast has emerged as the preferred option but this will require additional surveys including underwater archaeology surveys. Avoidance of the reedbed habitat has been included in this consideration.
<b>Objective 10: To introduce new visitor facilities on Inis Cealtra comprising pathways around monuments and the island, suitable orientation signage, new pods to provide for emergency, toileting and staff facilities, wastewater, benches and improved landing points for kayaks.</b>						
				All other SEOs		Section 3.3.2 Principles of Development precedes this objective and presents a list of principles from the Burra Charter and requires adherence to Irish legislation. These specific principles are also guided by best national and international practice.
<b>Given the above represents the key physical interventions on Inis Cealtra, additional assessment and commentary is provided on each of the elements listed above in this Objective</b>						
<b>Pathways: Pathways around the monuments to enable controlled access but also prevent people</b>	WS1, WS2, ,T1	P1, S2		All other SEOs		In line with the development principles listed in Section 3.3.2 of the plan archaeologist expertise and ministerial consent in addition to avoidance of ground disturbance is required. Paths must also be reversible.

OBJECTIVES	o	↑	↓	↕	?	Comment
<p>going into or on sensitive structures</p> <p>Looped pathway around the island to facilitate access and visitor flow, with visitors being requested to keep to the pathways.</p> <p>In a small number of areas which are currently subject to occasional ponding and where visitor gather to hear a guide, improvements of the ground surface (by laying landscape modules above the current ground surface only) should be carried out</p> <p>These must be constructed to National Trails Office Multi Access standard.</p>						<p>Whilst the pathway to monuments avoids excavating into the soil, it may still require removal of existing turf and laying of geotextile. Potential impacts in relation to archaeological disturbance are uncertain although given earthworks proximity to the path, likely to have archaeological resources close by/underneath. This could give rise to medium to long term negative impacts in the absence of mitigation.</p> <p>The looped path around the island has been informed by the SEA and AA to avoid going through areas of greatest ecological sensitivity and to avoid tree/shrub removal with associated ground disturbance. Mitigation measures recommended in relation to pathways including monitoring. This is both to prevent erosion of the surface and to provide for a more comfortable visitor experience. This needs to be designed very sensitively and of course be both safe and reversible.</p>

OBJECTIVES	o	↑	↓	↕	?	Comment
Orientation signage	Other SEOS			Ch1		Sensitive design and application of appropriate archaeological mitigation measures is required. Any other impacts are identified as very minor as approach to signage is minimal and broader mitigation measures proposed will address any.
New pods to provide for emergency, toileting and staff facilities	Other SEOs	P1		Ch1 L1 L2		Subject to sensitive design and location as outlined above, no significant impacts for SEOs, other than archaeology and landscape are identified for this element. Potential impacts for archaeological disturbance may arise, and setting, design of pods may give rise to moderate negative, medium term landscape impacts; therefore mitigation measures are recommended. Application of Venice Charter principles in this context are of particular relevance.
Wastewater	WS2			All other SEOs		Through the SEA and AA process consideration has been given to a variety of toilet systems (See Chapter 6). It is acknowledged that the current situation on the island is not viable in terms of increasing visitor numbers. As a compromise solution that will allow the provision of adequate toilet facilities on the island but in a way that has as low an impact as possible, the following is proposed: Compost toilets for toilet solid water (faeces) with separate urinals for men. Low water regime, comprising rainwater harvesting for pod roofs, or lake water used via a surface covered unobtrusive pipe. Hand cleansing is by sanitary gels that produce no waste. Reed beds for yellow/brown water, treated water disposed of to lake.

OBJECTIVES	o	↑	↓	↕	?	Comment
						<p>Regular sampling and testing to be done by wardens.</p> <p>Programme of removal of treated compost material and application to land by wardens or subcontractors. The final compost is absolutely benign and identifying an acceptable final destination, possible in nearby Coillte woods, will be achievable.</p> <p>This use of reedbeds would increase reed bed habitat and give rise to positive local impacts for bird species using similar reed bed habitats on northern part of island.</p> <p>The viability of the reed bed system requires nutrient inputs to maintain healthy reedbed habitat.</p> <p>Detailed design to ensure optimum gravity flow levels and maintenance of the toilet system is also required to avoid local water quality and risks associated with poorly functioning wastewater treatment; therefore mitigation measures are recommended to avoid potential negative, medium term surface and groundwater impacts associated with this proposal..</p> <p>Potential negative landscape impacts and odour may arise depending on siting and design; mitigation measures also recommended.</p>
Benches	Other SEOs	P1				<p>The provision of benches is to improve accessibility and to facilitate seating options for those with limited mobility, elderly and those with young children. It will be ensured that benches do not impact visually on the monuments and that they are not placed on archaeological features such as the earthworks. Numbers of benches proposed will relate to minimal required for accessibility.</p> <p>Given this approach it is considered that broader mitigation measures will be sufficient for this element.</p>

OBJECTIVES	o	↑	↓	↕	?	Comment
Improved landing points for kayaks	Other SEOs	P1		B1-B5 CH1 S2-S4 L1, L2,L3 W1,2,4, 6,7 CC1		One improved landing point for kayaks is proposed for the existing northwest pier area. This would link with the wider Lough Derg Blueway. Provision is made in the plan as regards code of conduct and biosecurity measures. Mitigation measures are recommended.
<b>Objective 11: To remove, or if necessary relocate, the OPW shed and wooden fencing and let the shed's functions be served by one of the new 'pods' which will provide spaces necessary to meet a minimum level of accommodation required of a public facility with employees.</b>						
	All other SEOs	L1, L2 P3 S4 Ch1, S2		Ch1, Ch2, Ch3		Removal of the OPW shed will give rise to positive landscape impacts and enhance visitors experience given its current proximity so close to upstanding archaeological sites. However mitigation is required in form of a management approach given the numerous stones adjacent to the existing wooden shed. Fencing removal: In general, best practice indicates that fences should not be sited across archaeological sites as they obscure the archaeological landscape The fencing off of monuments can be largely avoided if the site is adequately monitored by guides and a caretaker. Mitigation is recommended.
<b>Objective 12: To develop an Accessibility Plan, that facilitates accessing the monuments; maintaining their protection and maintaining the character and ambience of the setting</b>						

OBJECTIVES	o	↑	↓	↕	?	Comment
		P1, P3		Other SEOs		This gives rise to positive effects associated with Population and indirect Cultural heritage SEOs in particular as it would facilitate access to key areas for people who could not currently travel and enjoy access to the island, including those with limited mobility and the elderly. To avoid ground disturbance and visual impacts mitigation measures are recommended.
<b>Objective 13: To install a sustainable natural toilet system on the island</b>						
		P1		All other SEOs		<p>Through the SEA and AA process consideration has been given to a variety of toilet systems (See Chapter 6). A reedbed system for greywater would increase reedbed habitat and give rise to positive local impacts for bird species using similar reedbed habitats on northern part of island.</p> <p>The viability of the reedbed system requires nutrient inputs to maintain healthy reedbed habitat.</p> <p>Detailed design to ensure optimum gravity flow levels and maintenance of the toilet system is also required to avoid local water quality and risks associated with poorly functioning wastewater treatment; therefore mitigation measures are recommended to avoid potential negative, medium term surface and groundwater impacts associated with this proposal..</p> <p>Potential negative landscape impacts and odour may arise depending on siting and design; mitigation measures also recommended.</p>
<p><b>Summary of Key Impacts:</b></p> <p>The area proposed for clustering the guide shelter, rain shelter and toilets has been selected to avoid visual impacts on the upstanding archaeological features, allow for buffering of visitors at pier, and provide minimal but necessary visitor comforts and also for the proposed guides working on the island. However, potential impacts may still arise, and these are listed below:</p> <p><b>Cultural Heritage:</b></p>						

OBJECTIVES	o	↑	↓	↕	?	Comment
<ul style="list-style-type: none"> <li>• The proposed approach to works will be avoidance of ground disturbance and placement of elements on the ground, rather than placed within the ground; this reduces potential archaeological disturbance.</li> <li>• However, whilst this approach can be applied for most of the elements, some moderate /minor ground disturbance is associated with tree planting for screening; even if hedges or low trees are mounded (ie; topsoil placed on top of existing ground), tree roots over time will penetrate the ground. Therefore mitigation measures are proposed to address this potential issue.</li> <li>• Paths if not planned with due consideration for the layout of the archaeological monuments and potential impact caused by footfall, archaeological material may suffer long term damage while new paths may also impact negatively on the historic and aesthetic integrity of the site. The earthworks are also vulnerable to increased footfall, especially if new paths follow the course of earthworks or if pinch points are created. New paths which run along or over earthworks can cause significant damage to these features.</li> <li>• The preferred location of a new pier in the northeast is due to avoiding an important fishery, facilitating a relatively straight navigational route in open water (avoiding reedbeds), and avoiding cross winds along this part of the lake.</li> <li>• Because Inis Cealtra is a National Monument, legal protection also extends to other structures and features within the curtilage of the National Monument (in this instance it may include any part of the shoreline which is submerged and the piers).</li> <li>• Any construction of new piers or alteration of existing piers may cause damage to underwater archaeological features. A number of logboats and other wrecks have been discovered along the shore of the island, to the northeast, and also features have become submerged due to the rising level of the lake.</li> <li>• While fencing can help prevent damage to monuments by humans and animals, it causes ground disturbance. It is illegal to disturb the ground on a National Monument without ministerial consent. Therefore the proposal to remove fencing subject to trialling this approach and in conjunction with the presence of wardens and guides should enhance the visual and landscape experience for visitors whilst negating the need for fencing. This will require monitoring.</li> <li>• Informal access for community and micro-craft is envisaged for the existing northwest pier; if works are proposed to improve this pier, standard construction measures would apply to avoid potential impacts to archaeology, water quality and biodiversity</li> </ul> <p><b>Biodiversity, Flora and Fauna</b></p> <ul style="list-style-type: none"> <li>• Loss of and disturbance to wetland habitat under the footprint of proposed infrastructure.</li> <li>• Disturbance to special conservation interest bird species of the Lough Derg SPA and other wetland bird species during the construction and operation of tourism infrastructure on Inis Cealtra.</li> </ul>						

OBJECTIVES	o	↑	↓	↕	?	Comment
<ul style="list-style-type: none"> <li>• Accidental spread of invasive or alien species associated with plant or materials coming onto the island.</li> <li>• Bats roosting in the fisherman’s hut may be disturbed in the event of restoration works –this would require a derogation license.</li> <li>• Trampling of ground and increased human activity associated with numbers and clustering of elements in one area.</li> <li>• The island is underlain by limestone bedrock which is quite permeable, this requires consideration in regard to the wastewater proposals.</li> </ul> <p>Landscape</p> <p>The character and setting of the island confer a strong and distinctive character, and proposals for the above elements must reflect and enhance character and reduce visual impact and clutter.</p> <p>Inter-related effects:</p> <p>Potential impacts arise in relation to the provision and construction of a new pier in the northeast primarily around landscape and cultural heritage. Studies at design stage in addition to underwater archaeology assessment would include flood risk assessment and more detailed ecological survey around the shoreline and lake.</p> <p>Mitigation measures are recommended for the above.</p>						

## 7.5 OBJECTIVES IN THE PLAN RELATING TO VISITOR MANAGEMENT, INTERPRETATION, MOUNTSHANNON AND MARKETING

Table 21 Plan objectives relating to visitor management, interpretation, Mountshannon and marketing.

OBJECTIVES	o	↑	↓	↕	?	Comment
<b>Objective 14: To limit impacts on archaeology, ecology and the character of Inis Cealtra, the island will be closed to visitors during winter and at other time the maximum numbers of visitors will not be exceeded.</b>						
	Other SEOs	B2,S4 , Ch1, L2				The island is to be closed to all but local access in that period. This is to avoid disturbance to habitats and land cover during the wetter winter months and to avoid disturbance overwintering birds that use the island during this period. In this closed period the Visitor centre would fulfil the interpretive and hospitality requirements of all visitors. More generally this allows for a recovery period overall for the island and avoidance of visitors during particularly inclement wet weather that could increase effects associated with trampling and give rise to negative effects on archaeology, soil and biodiversity.
<b>Objective 15: To develop an interpretive approach that focuses on the heritage of Inis Cealtra and endeavours to broaden visitor interest to encompass other important heritage sites in the region also. And to have this holistic focus be reflected in all interpretative activities of the Plan</b>						
	No landuse or environmental effects are identified for this objective.					
<b>Objective 16: To develop a comprehensive presentation and communication strategy grounded in the human interaction of guides rather than signage (on the island) and relying on both traditional and modern mean and technologies (at the visitor centre).</b>						
		P1, P3 Ch1, Ch2 L1, L2				The use of guides on the island will provide a more authentic and interactive experience for visitors as well as providing increased supervision of visitor behaviour on the island. The avoidance of interpretive signage also reduces landuse impacts and visual clutter.
<b>Objective 17: To provide a warden during the open season with specific responsibility for caretaking of the island from first to last boat and to provide guides and ushers to fulfil other specific functions necessary for the smooth and safe running of visitor operations on the island.</b>						

OBJECTIVES	o	↑	↓	↕	?	Comment
	Other SEOs	Ch1 L2				<p>The person in this position would have some training in health and safety as well as an understanding of archaeological protection and agriculture. Duties would also include monitoring of monuments, paths etc and occasional monitoring of water quality.</p> <p>As with the professional guides and ushers, interpretation would be enhanced through these proposals.</p> <p>More generally, these proposals would assist in terms of managing and monitoring visitors as well as encouraging responsible visitor behaviour.</p>
<b>Objective 18: To manage entry into the area known as the Saints' Graveyard so it is supervised and controlled, and so that walking on the medieval grave-slabs is deterred in order to prevent further wear and damage to them</b>						
	Other SEOs	Ch1 P3				This measure is identified as giving rise to positive effects on Cultural heritage, landscape and population SEOs in particular.
<b>Objective 19: To seek the assistance of the OPW in the management of Inis Cealtra</b>						
	No direct landuse impacts are identified but a co-ordinated approach is essential for overall management.					
<b>Objective 20: To develop a landscape management plan in consultation with the archaeologist and ecologist, and an agricultural consultant or farmer and to include active management of vegetation by sheep</b>						
	Other SEOs	B1-5 L1-3 P1 Ch1				Positive longer term impacts associated with this proposal as it includes variety of disciplines to develop an appropriate landscape plan that addresses particular archaeological and ecological sensitivities
<b>Objective 21: To create a Community forum representing the interest of the local communities in the development and managing of the island's future including the Local Access provision</b>						

OBJECTIVES	o	↑	↓	↕	?	Comment
<b>Objective 22: To discourage and if persistent prohibit camping, unaccompanied tours, and fishing on the island and to prohibit dogs in any circumstances.</b>						
		All SEOs				These generate positive impacts on cultural heritage, landscape, ecology and material assets as it aims to reduce/avoid anti social behaviour on the island. Camping is not recommended as it can generate negative impacts in relation to littering, fires, impacts on archaeological resources and general disturbance. Dogs can give rise to disturbance and fouling and particularly on the island context create negative effects on birds during sensitive periods.
<b>Objective 23: To commission a Conservation Management Plan focussing on Inis Cealtra's archaeology and monuments prior to any works being advanced-initiated on or for the island</b>						
	Other SEOS	Ch1-3 L1-3 B1-5				The preparation of a Conservation Management Plan will underpin the overall detailed development framework and further support both the plan implementation and progressing the nomination process for World Heritage Site.
<b>Objective 24: To target the market segments previously identified for the lake in the new marketing strategy ie; Culturally Curious, Great Escapers and Nature Lovers</b>						
	No landuse or environmental effects are identified for this objective.					
<b>Objective 25: to provide the ferry service to the island utilising a fleet of two 50-seater ferries .</b>						
	Ch2 WA1 WS1, WS2, WW1, CC1	Pop 1,2,3 S1, S2, S3, S4 B1-6 L1, L2, L3		W2 W4		This option allows for the increased visitor numbers on a ferry whilst continuing the traditional means of accessing the island by boat. Mountshannon harbour has existing facilities and would require little additional infrastructure to provide this service. Standard measures in relation to maintenance of the ferry to avoid pollution by fuel etc would apply. A route for the ferry is proposed in the plan. It is an objective of the

OBJECTIVES	o	↑	↓	↕	?	Comment
		Ch1 T1,				Plan that the proposed ferry crossing be restricted to a single route and that the number of daily and yearly landings is capped, as well as there being a defined maximum size/engine limit, and draught for the ferry. It is noted that repeated washing of underwater archaeology by propellers can arise and mitigation is recommended.
<b>Objective 26: To develop a branding strategy, to include naming, titles, logos, digital and print media initiatives, through a single party services contract with the content (of the appropriate sections of) the Plan forming the brief to tenderers</b>						
	No landuse impacts or environmental effects are identified for this objective.					
<b>Objective 27: To create a dedicated website for Inis Cealtra visitor along with a social media presence so as to provide information about the island and the visitor centre and to promote the use of Inis Cealtra as the island's name.</b>						
	No landuse impacts or environmental effects are identified for this objective.					
<b>Objective 28: To carry out urgent stabilisation, maintenance or conservation work as set out in this Plan to monuments on Inis Cealtra, as soon as possible but and prior to any increase in visitor numbers or other development work being initiated</b>						
		Ch1,2 L1				<p>This objective aims to ensure that urgent works, as described in Section 5.5 of the Plan are implemented.</p> <p>Without the implementation of mitigation measures some of these works will have the potential to result in adverse effects to nature conservation interests on the island.</p> <p><b>Bats are known to roost within the round tower wall and the repointing of the round tower could lead to the loss of bat roost cavities. A detailed plan of repointing works should be prepared and mitigation measures to ensure the round tower continues to provide suitable roosting opportunities for bat species.</b></p>
<b>Summary of key impacts:</b>						
Visitor Centre						

OBJECTIVES	o	↑	↓	↕	?	Comment
<p>The proposed visitor centre has been selected based on generating positive local economic benefits for Mountshannon; by locating it in the park it allows pedestrian access from the main street and also the possibility of park and ride with limited private car parking. Impacts identified for the Visitor Centre relate to new developments on greenfield sites and would be assessed for compliance with the relevant objectives of the Clare CDP 2017-2023.</p> <p>Increased use of resources in relation to wastewater and water supply.</p> <p>Current wastewater capacity is not sufficient for proposed visitor numbers to the centre in Mountshannon. To achieve the target figures by year five, the wastewater treatment capacity requires significant additional work, based on the Year 5 figures, this is estimated to require a p.e of 9375, far exceeding the existing capacity of 750 p.e. Clearly, mitigation and additional investigation into wastewater capacity and the receiving waters will be required.</p> <p>In relation to the proposed visitor numbers and in line with objective 8.25 Water Supply of the Clare CDP 2017-2023, additional capacity for drinking water will be required for Mountshannon.</p> <p>Traffic management: it is considered most sustainable to encourage park and ride with buses dropping off close to the proposed VC and parking elsewhere on the edge of the village for the majority of visitors. Clearly access to the visitor centre for those of limited mobility or with disabilities requires parking provision closer to the Visitor Centre. Existing car park at the harbour is used by a number of different users including recreational swimmers, bird watchers, fishermen etc so retention of car parking for these users is a consideration. In the event of funerals taking place, these normally leave from Knockaphort and this would continue.</p> <p>Loss of greenfield lands depending on selection of site for visitor centre and provision of carparking/park and ride location.</p> <p>Should a new visitor centre be developed on a greenfield site as outlined, there would be minor impacts associated with landscape and soil in particular. However, mitigation through careful design and recycling of water resources and use of local materials would reduce these effects.</p> <p>Identification of potential location for Park and Ride (ie; existing hard standing or greenfield area) within the village will facilitate assessment of impacts.</p> <p>Impacts associated with increased visitor numbers to the island are identified and discussed further in Table 21 of this SEA ER, and I Section 4.8 of the VMSTP.</p> <p><b>Cultural Heritage</b></p> <ul style="list-style-type: none"> <li>• It is important to recognise the continued ritual and religious functions of the island so responding sensitivity to this is identified as positive for both Population and Cultural heritage SEOs</li> <li>• Provision of guidance in relation to existing graves is also important to reflect the historic character of headstones and avoid damaging disturbance to</li> </ul>						

OBJECTIVES	o	↑	↓	↕	?	Comment
<p>archaeological remains.</p> <p><b>Biodiversity</b></p> <ul style="list-style-type: none"> <li>• Potential adverse effects to bat roost sites resulting from urgent works to archaeological monuments</li> <li>• Population</li> <li>• The provision of a community forum and identification of potential community gain is another positive impact but it is also important that it is resourced adequately and meaningful community buy in and ownership is maintained over the longer term.</li> <li>• Inter-related effects</li> <li>• Landscape plan to include archaeological and management measures are identified as generating positive longer term impacts in relation to biodiversity, landscape and archaeology.</li> <li>• Wardens, guides and ushers would all contribute to interpretation and help encourage responsible visitor behaviour. Wardens in particular would assist in more technical monitoring and occasional water quality monitoring. This will underpin the proposed monitoring regime. More positive effects are identified for this measure.</li> <li>• The preparation of a Conservation Management Plan in advance of works for the island will guide the development framework in more detail and allow a policy response to the very particular and unique archaeological resources of Inis Cealtra. Clarification and joint management of the island is essential for the successful implementation of this plan and sustainable management of Inis Cealtra. Positive impacts are identified for these objectives.</li> </ul>						

## 7.6 INIS CEALTRA ACTION PLAN 2017-2022

Section 5. of the plan presents a five year action plan. This chapter includes a 5-year action plan covering the following themes:

- Organisation and Management
- Pre-Development, Survey, Design and Enabling Works on Inis Cealtra
- Product Development
- Product Development – Supporting Measures
- Marketing and Communication

Table 22 SEA Commentary on Chapter Seven Action Plan

ORGANISATION AND MANAGEMENT	SEA Comment
Establish Inis Cealtra Management Team (HIMT) to coordinate development	Noted, this will facilitate a co-ordinated approach to be led by Clare Co Co.
Establish Inis Cealtra Community Forum	Noted, previously assessed in Section 7.6 above
Secure land required for Mountshannon visitor centre and parking	Noted, location of Visitor Centre assessed in Section 7.6 above.
Set up Inis Cealtra development progress website to inform stakeholders and aid promotion	Noted, no landuse impacts identified
Remove cattle from Inis Cealtra and replace with a defined number of sheep (a 'quiet' breed) for grazing during a defined period	To be developed further through landscape management plan see Section 7.6 above for further assessment and comment.
Apply for Ministerial consent from the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs as required under National Monuments legislation (prior to any works taking place on Inis Cealtra)	Noted, in line with recommendations throughout the SEA
Agree Inis Cealtra Marketing and Development Coordinator	Noted, no landuse impact
Enter discussion with current ferry operators	As above
7.2 PRE-DEVELOPMENT, SURVEY, DESIGN AND ENABLING WORKS ON INIS CEALTRA	SEA Comment
Prepare Inis Cealtra Conservation Management Plan to protect the island and its heritage, and to guide and inform development	Assessed under Section 7.6
Commission geophysical survey of Inis Cealtra and analysis by archaeological experts	Noted, good practice and recommended in mitigation measures.
Commission underwater archaeological survey( <i>particularly around site of proposed new pier</i> ).	As above
Commission best-practice conservation of built heritage (incl. masonry, earthworks, etc.) on Inis Cealtra	As above
Commission best-practice conservation of sculptural heritage (incl. cross-slabs, grave-slabs, crosses, etc.) on Inis Cealtra	As above
Commission detailed business plan for operation of Inis Cealtra Visitor Centre	Noted
Commission Landscape Management Strategy for Inis Cealtra	Noted, assessed in Section 7.6

Design of Inis Cealtra basic infrastructure, including surveys, ministerial consents, planning, etc.	Proposals assessed in Sections 7.5 in particular
Design of Inis Cealtra landing point, paths, etc. (including above)	as above
Commission signage and interpretation (design and strategy) for Inis Cealtra visitor centre and Inis Cealtra ( <b>conforming to Lough Derg Signage Strategy &amp; Official Languages Act 200, and see section 4.8 for detail and interpretation brief in Chapter 7 of Appendix 1</b> )	Commented upon I Section 7.5
Design of visitor centre in Mountshannon ( <b>including adjacent parking and embarkation point</b> ), including surveys, planning, etc.	Assessed in Section 7.6
Commission Construction of Inis Cealtra landing facilities, and basic infrastructure	Assessed in Section 7.5
<b>7.3 PRODUCT DEVELOPMENT</b>	<b>SEA comment</b>
Commission interpretation and signage for Inis Cealtra Visitor Centre and Inis Cealtra including multi-media (see section 4.8 for detail and interpretation brief in chapter 6 of Appendix 1)	Assessed in Sections 7.5 and 7.6
Commission construction of Inis Cealtra Visitor Centre (to be informed by required interpretative content) and on-island facilities including piers, trails, toilets and kayak access points (see chapter 4 for detail) to be accompanied by an ecological, archaeological impact assessment and Habitats Directive Assessment with Construction Environmental Management Plan	As above
<del>Commission 3 year contract for</del> <b>Franchise</b> ferry service from Mountshannon to Inis Cealtra	Noted.
<b>7.4 PRODUCT DEVELOPMENT SUPPORTING MEASURES</b>	<b>SEA Comment</b>
Introduce online timed ticketing system for entry to Inis Cealtra	Noted, no landuse impacts identified
Produce Volunteer Management & Training Plan	Noted, no landuse impacts identified
Commission accessibility audit and drive increased accessibility where possible	Action is assessed in Section 7.5
Hire Inis Cealtra wardens/guides (see section 4.8 of chapter 4)	As above

<b>Local Access</b>	<b>SEA Comment</b>
Non-commercial local access to remain in place	Assessed in Section 4.6
Camping, unaccompanied tours, fishing, will be discouraged (and if persistent) later prohibited	
Access to continue to St Mary's and St Caimín's burial grounds and pre-existing plots to remain in use for plot holders. No new plots should be assigned and no new graves opened up. The Saints' Graveyard can no longer be used for burial purposes (for further detail see 4.5.5)	
<b>Supporting Measures</b>	
Introduce online timed ticketing system for entry to Inis Cealtra	Noted, no direct landuse impacts identified for these actions.
Produce Volunteer Management & Training Plan	
Commission accessibility audit and drive increased accessibility where possible	
Hire Inis Cealtra wardens/guides (see Section 34.4), select and appoint ushers.	

<b>COMMUNICATION AND MARKETING</b>	<b>SEA comment</b>
Issue bi-annual progress newsletter to local community online through development website	Noted, no landuse impacts identified for these actions.
Brand Identity	
Commission logo for Inis Cealtra (see chapter 5 for detail)	
Digital Strategy	
Commission a Inis Cealtra digital and print media strategy including implementation to cover: website, social media (Facebook, Instagram, Twitter, Snapchat) and short videos for use at trade fairs and for embedding on websites. Website to include online booking capability (see chapter 5 for detail)	
Include and optimise information for Inis Cealtra on	

<a href="http://www.discoverireland.com">www.discoverireland.com</a>	
Promotional Activities	
Organise familiarisation visits for domestic and overseas tour operators and accommodation providers	Noted, as above.
Regular attendance at trade shows/fairs and presentations in main centres	
Develop bundled offers for transport, accommodation and activities e.g. rail, accommodation, bike hire for both cycling and walking	
Engage with domestic and overseas journalists to get favourable online and print articles	
<b>Education &amp; training</b>	
Develop education programme for schools and position Inis Cealtra as a Discovery Centre for primary schools	Noted, positive impacts on awareness raising and cultural heritage
Develop training programme for interpretative guides	As above
World Heritage Site Nomination	
Re-nominate Inis Cealtra as part of a serial nomination World Heritage Site in combination with the early medieval ecclesiastical sites of Clonmacnoise, Durrow, Glendalough, Kells and Monasterboice	Assessed in Section 7.4
<b>MONITORING, EVALUATION AND IMPACT ASSESSMENT</b>	<b>SEA Comment</b>
Commission and implement visitor monitoring strategy for Inis Cealtra to include numeric data through installation of trail counters, visitor satisfaction and carrying capacity	Noted, this is also a mitigation measure
Monitor visitor numbers with a maximum number of 100 on the island at any one time, a maximum of 400 per day and a maximum annual capacity of 45,000	Assessed in Section 7.4
Maximum visitor capacity monitored against visitor impacts (on archaeology, ecology, landscape, etc.) and adjusted on an iterative basis	Monitoring forms a key mitigation measure see Chapter Eight of this SEA ER.
Maximum number of tour coaches to be capped at 4 arrivals/day	As above

Inis Cealtra to be closed to visitors between November and February	As above
Overnight camping to be prohibited on Inis Cealtra	Assessed in Section 7.6
No commercial access allowed to Inis Cealtra ( <b>once ferry service is operating</b> )	As above
Access by non-locals to the island other than by the Visitor Centre/Ferry or outside of its hours and season of operation is to be restricted	As above
Provide code of good practice for kayakers to all kayak hire companies in the Lough Derg area	Noted and included as a mitigation measure.
Cruiser hire companies asked to inform visitors renting boats that insurance is not valid on Inis Cealtra	Noted.

## 7.7 CUMULATIVE AND IN-COMBINATION EFFECTS

This section of the Environmental Report provides an outline of the potential cumulative effects on the environment as a result of implementation of the plan.

Cumulative effects are referred to in a number of SEA Guidance documents and are defined in the EPA Sea Process Checklist as “effects on the environment that result from incremental changes caused by the strategic action together with other past, present and reasonably foreseeable future actions. These effects can result from individually minor but collectively significant actions taking place over time or space” (EPA SEA Process Checklist (2011)). These effects can be insignificant individually but cumulatively over time and from a number of sources can result in the degradation of sensitive environmental resources. The assessment of cumulative effects is a requirement of the SEA Directive (2001/42/EC).

The 2004 Guidelines produced by the DECLG outlines that the SEA process is in a good position to address cumulative effects for which the Environmental Impact Assessment process is not equipped to deal with. Due to the strategic nature of the SEA process a forum is provided in which cumulative effects can be addressed. The EPA is presently undertaking a study in relation to cumulative effects and it is anticipated that a draft Cumulative Effects – Best Practice Guidance Document will be available soon to SEA practitioners.

The EPA Strive Report 2007-2013 on ‘Integrated Biodiversity Impact Assessment’ describes cumulative effects as incremental effects resulting from a combination of two or more individual effects, or from an interaction between individual effects – which may lead to a synergistic effect (i.e. greater than the sum of the individual effects), or any progressive effect likely to emerge over time.

### 7.7.1 Potential cumulative effects from other plans and projects

Table 23 Potential cumulative and in combination effects

Plan	Comment	Cumulative effects
County Clare Heritage Plan 2011-2017	The Plan includes a number of objectives and actions relating to natural and cultural heritage such as ‘Work to ensure that Clare County Council fulfils its obligation under the European Habitats Directive (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora)’.	No in-combination impacts are predicted as a result of implementation of the Plan
Neighbouring County Development Plans	Lough Derg and the River Shannon support a number of European and National level designations in particular the following: Lower River Shannon SAC Lough Derg North East Shore SAC Lough Derg SPA The following County Development Plans include the Lough Derg within their plan sphere of influence: Limerick City and County 2010-2016 Galway County Development Plan 2015-2021 and North Tipperary County Development	No in-combination impacts were predicted as a result of implementation of the Plans

Plan	Comment	Cumulative effects
	Plan 2010 -2016 . These plans were subject to full SEA and AA and concluded that subject to full adherence and implementation of measures likely significant effects were not identified.	
Shannon River Basin District Management Plan	The Plan underwent SEA and AA. 2nd Cycle River Basin Management Plans: 2015-2021 – are currently being prepared and consultation due December 2016. Shannon now part of a national River Basin District.	No in-combination impacts are predicted as a result of implementation of the Plans
Shannon CFRAMS Study	SEA Scoping Report available. Draft CFRAMS available for Shannon unit. Inis Cealtra has been identified as an Area of Further Assessment (AFA) through this process. Since the CFRAMS studies are at the stage of drafting flood maps, it is too early to identify where there may be conflicts or potential for in-combination impacts arising. The Clare CDP 2017-2023 AA states :Therefore it is recommended that during the subsequent stages of the CFRAMS study that all proposals for works are in full compliance with the Objectives of the CDP 2017- 2023 and are consistent with the zoning proposals in the Settlement Plans	Uncertain impacts as recommendations and final CFRAMS not currently available.
Wild Atlantic Way Operational Programme	This was subject to SEA and AA and included a number of environmental management and monitoring requirements. Loops off the Wild Atlantic Way are proposed but Failte Ireland do not envisage these extending to Lough Derg (Failte Ireland, pers comm)	No in combination impacts are predicted.
Ancient East	No operational programme available at this point. Promotion of itineraries along the River Shannon (from 3 to 7 days) are listed on the ancient east website. Potential increase in visitor numbers associated with attractions and water based activities over time.	Uncertain impacts at this point due to no operational programme to date.
<b>Projects</b>		
Water Extraction from Lough Derg	: Project planning is currently being undertaken by Irish Water into the delivery of water services to the Eastern and Midlands Region. Parteen close to Ardnacrusha is the emerging preferred option for this project.	At this stage uncertain impacts however the emerging preferred option was determined as being the most environmentally robust and would have minimal effects on

Plan	Comment	Cumulative effects
		<p>water levels in the lake. Further information and assessment will be provided through the planning process and in particular the Environmental Impact and Habitats Directive Assessment processes.</p>
<p><b>Lough Derg Canoe Trail.</b></p>	<p>On a smaller scale a canoe trail comprising formal access points and enhancing facilities to support lakeside overnight stays has been granted permission. The proposed trail follows the shores of the lake and provides a stop off point approximately every 10km. The trail is envisaged to follow both the western and eastern shores of the lake to allow paddlers to select the most appropriate route taking into account the prevailing wind. Paddlers may choose to travel south to north or north to south also according to prevailing conditions and may even choose to circumnavigate the lake. .</p>	<p>This project has been subject to ecological impact assessment and Habitats Directive Assessment and includes a number of bio-security mitigation measures. Although potential in-combination effects may be associated with unanticipated increases in visitor numbers to the island associated with this project, it is considered that there are sufficient safeguards and measures to address this should it arise.</p>

## 8 MITIGATION MEASURES

### 8.1 MITIGATION MEASURES

This chapter outlines the mitigation measures that will prevent, reduce, and offset as much as possible any significant adverse effects on the environment of the study area resulting from the implementation of this Plan. Section (g) of Schedule 2B of the SEA Regulations (as amended) requires:

‘The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the Plan’.

Mitigation involves ameliorating significant negative effects. Where the environmental assessment identifies significant adverse effects, consideration is given in the first instance to preventing such impacts or where this is not possible, to lessening or offsetting those effects. Mitigation measures can be generally divided into those that:

- Avoid effects
- Reduce the magnitude or extent, probability and/or severity of effect
- Repair effects after they have occurred, and
- Compensate for effects, by balancing out negative impacts with positive ones.

In order to facilitate the consideration of environmental resources in any future development associated with the Inis Cealtra Plan, mitigation measures have been included here. This Plan replicates key environmental policies in the Clare CDP 2017-2023 which has been subject to SEA, AA and SFRA and will be the framework under which any new proposals associated with the Plan will be assessed. Moreover, the Clare CDP has been subject to extensive consultation with the statutory authorities and the public and reflects their comments on objectives in the Clare CDP 2017-2023.

Where appropriate, key commitments from other relevant plans and projects including the Lough Derg Canoe Trail (Planning Reference 16-165 for Mountshannon) and part of the environmental management commitments from the Wild Atlantic Way, are also included. However, for specific parameters, targeted mitigation and management focuses particularly on the SEA topics of Cultural Heritage and Biodiversity, Flora and Fauna.

This chapter is structured as follows: principal environmental protective policies and objectives from the Clare CDP 2017-2023 are presented, and thereafter, targeted mitigation measures for elements of the Plan.

### 8.2 ENVIRONMENTAL MANAGEMENT PLAN

#### 8.2.1 Clare County Development Plan 2017-2023 objectives

The following protection policies enshrined in the Clare County Development Plan (2017-2023) have informed the current Plan proposals and recommendations.

Tourism Development:

Development Plan Objective: Tourism Developments and Tourism Facilities	
CDP9.4	It is an objective of the development plan: a) To permit tourism-related developments and facilities inside existing settlements where the scale and size of the proposed development is appropriate and in keeping with the character of the settlement,

	<p>subject to normal site suitability considerations;</p> <p>b) To permit tourism-related developments outside of settlements where there is a clear need for the specific location and the benefits to the local community are balanced with the potential environmental impact of the development. The requirements of Objective CDP2.1 will have to be considered in such cases;</p> <p>c) Development proposals must be in compliance with Objective CDP2.1. The proposal should clearly identify the spatial extent of any tourism activities and should address the implications of increased recreational disturbance (both in isolation and in combination with other tourism activities) on any European sites as a result of increased tourism and recreation in the area/County, taking into account any current pressures on these Sites.</p>
<b>Development Plan Objective: Lakeland and Waterway Tourism</b>	
CDP9.13	<p>It is an objective of the development plan:</p> <p>To support the development of tourism activities in lakeland areas and waterways subject to normal planning and environmental criteria. All proposed developments shall be in accordance the Birds and Habitats Directive, Water Framework Directive and all other relevant EC Directives.</p>
<b>Development Plan Objective: Sustainable Tourism</b>	
CDP9.17	<p>It is an objective of Clare County Council:</p> <p>To support sustainable and responsible tourism initiatives across County Clare in order to ensure that on-going growth in the tourism industry is balanced with the long term protection of the natural environment and cultural identity of the county.</p>

#### Cultural and Natural World Heritage Status and Designation

<b>Development Plan Objective: World Heritage Sites Status</b>	
CDP14.23	<p>It is an objective of Clare County Council:</p> <p>a) To collaborate with landowners, local communities and other relevant stakeholders to achieve World Heritage Site status for the sites identified in County Clare;</p> <p>b) To protect the Outstanding Universal Value of the tentative World Heritage Sites in County Clare that are included in the UNESCO Tentative List, Ireland 2010 and engage with other national and international initiatives, which promote the special built, natural and cultural heritage of places in the county.</p>

In the event that any site in Co. Clare is found to have Outstanding Universal Value, the following objective will apply when assessing proposals for development within the World Heritage areas/landscapes:

Development Plan Objective: Development Proposals in Designated World Heritage Sites	
CDP14.24	<p>It is an objective of the development plan:</p> <p>To ensure that proposals for development in designated World Heritage Sites will be assessed having regard to the contribution of the development to the preservation and enhancement of the special qualities of these areas and the potential impact of the Outstanding Universal Value of the designated site.</p>

#### Cultural Heritage, Built Heritage and Archaeology

Development Plan Objective: Architectural Heritage	
CDP15.1	<p>It is an objective of Clare County Council:</p> <p>a) To ensure the protection of the architectural heritage of County Clare through the identification of Protected Structures, the designation of Architectural Conservation Areas, the safeguarding historic gardens, and the recognition of structures and elements that contribute positively to the vernacular and industrial heritage of the county;</p> <p>b) To ensure that the architectural heritage of the county is not damaged either through direct destruction or by unsympathetic developments nearby.</p>
Development Plan Objective: Industrial Heritage	
CDP15.3	<p>It is an objective of the development plan:</p> <p>To protect and preserve buildings and features of industrial heritage such as mills, bridges, lighthouses, harbours, etc. Proposals for refurbishment works to, or redevelopment/conversion of, these sites will be subject to a full architectural and archaeological assessment</p>
Development Plan Objective: Vernacular Heritage	
CDP15.4	<p>It is an objective of the development plan:</p> <p>a) To seek the retention, appreciation and appropriate revitalisation of the vernacular heritage of County Clare, in both towns and rural areas, by deterring the replacement of good quality vernacular buildings with modern structures and by protecting (through the use of ACAs and the RPS and in the normal course of Development Management) vernacular buildings where they contribute to the character of an area or town and/or where they are rare examples of a structure type;</p> <p>b) To support proposals to refurbish vernacular structures that are in a run-down or derelict condition, provided that:</p>

	<ul style="list-style-type: none"> <li>- Appropriate traditional building materials and methods are used to carry out repairs to the historic fabric;</li> <li>- Proposals for extensions to vernacular structures are reflective and proportionate to the existing building and do not erode the setting and design qualities of the original structure which make it attractive;</li> </ul> <p>While direction for the design should be taken from the historic building stock of the area, it can be expressed in contemporary architectural language.</p>
<b>Development Plan Objective: Architectural Conservation Area</b>	
CDP15.5	<p>It is an objective of the development plan:</p> <ul style="list-style-type: none"> <li>a) To ensure that new developments within or adjacent to an ACA respect the context of the area and contribute positively to the ACA in terms of design, scale, setting and material finishes;</li> <li>b) To protect existing buildings, structures, groups of structures, sites, landscapes and features such as street furniture and paving, which are considered to be intrinsic elements of the special character of the ACA, from demolition or removal and non-sympathetic alterations;</li> <li>c) To ensure that all new signage, lighting, advertising and utilities to buildings within an ACA are designed, constructed and located in a manner that is complementary to the character of the ACA;</li> <li>d) To ensure that external colour schemes in ACAs enhance the character and amenities of the area and reflect traditional colour schemes.</li> </ul>
<b>Development Plan Objective: Protected Species and Proposed Works to Buildings</b>	
CDP15.6	<p>It is an objective of the development plan:</p> <p>To protect habitats and species when considering proposed works to buildings which are likely to impact on protected ecological sites and protected species</p>
<b>Development Plan Objective: Sites, Features and Objects of Archaeological Interest</b>	
CDP15.8	<p>It is an objective of Clare County Council:</p> <ul style="list-style-type: none"> <li>a) To safeguard sites, features and objects of archaeological interest generally;</li> <li>b) To secure the preservation (i.e. preservation in situ or in exceptional cases preservation by record) of all archaeological monuments included in the Record of Monuments and Places as established under Section 12 of the National Monuments (Amendment) Act, 1994, and of sites, features and objects of archaeological and historical interest generally (in securing such preservation, the Council will have regard to the advice and recommendations of the Department of the Arts, Heritage, Regional, Rural and Gaeltacht Affairs);</li> <li>c) To permit development only where the planning authority is satisfied that the proposals will not interfere with:</li> </ul>

	<p>items of archaeological or historical importance;</p> <p>the areas in the vicinity of archaeological sites; or</p> <p>the appreciation or the study of such items</p> <p>d) To have regard to the government publication ‘Framework and Principles for the Protection of the Archaeological Heritage 1999’ in relation to protecting sites, features and objects of archaeological interest;</p> <p>e) To advocate for greater financial assistance for the maintenance and improvement of features of archaeological interests in County Clare.</p>
Development Plan Objective: Zones of Archaeological Protection	
CDP15.10	<p>It is an objective of the development plan:</p> <p>To protect the Zones of Archaeological Potential located within both urban and rural areas as identified in the Record of Monuments and Places</p>
Development Plan Objective: Underwater Archaeology	
CDP15.13	<p>It is an objective of the development plan:</p> <p>a) To protect and preserve the archaeological value of underwater archaeological sites in rivers, lakes, intertidal and sub-tidal environments;</p> <p>b) To support the further exploration of the underwater archaeology of County Clare, including the San Marcos project, and any subsequent projects that may arise during the lifetime of this plan.</p>
Development Plan Objective: Cultural Development	
CDP15.14	<p>It is an objective of Clare County Council:</p> <p>To conserve cultural identity and enhance access to both culturally-distinct areas and facilities for cultural experiences.</p>
Development Plan Objective: Museums and Heritage Centres	
CDP15.15	<p>It is an objective of the development plan:</p> <p>a) To facilitate further development of and extensions to museum, heritage centres and archives across the county;</p> <p>b) To ensure that the County Museum’s collections and associated information are accessible to the public;</p> <p>c) To promote a wider appreciation and understanding of the unique natural, cultural and archaeological heritage of the county;</p> <p>d) To recognise and support the role of private and community facilities in making heritage artefacts and information available to the public</p>
Development Plan Objective: Folklore and Oral Cultural Heritage	
	<p>It is an objective of the development plan:</p> <p>To support and facilitate the gathering, recording, preservation and</p>

CDP15.18	promotion of folklore and oral cultural heritage in the county and to work closely with groups such as Cuimhneamh an Chláir to realise their objectives
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Biodiversity, Flora and Fauna

Development Plan Objective: European Sites	
CDP14.2	<p>It is an objective of the development plan:</p> <p>a) To afford the highest level of protection to all designated European sites in accordance with the relevant Directives and legislation on such matters;</p> <p>b) To require all planning applications for development that may have (or cannot rule out) likely significant effects on European sites in view of the site's Conservation Objectives, either in isolation or in combination with other plans or projects, to submit a Natura Impact Statement in accordance with the requirements of the EU Habitats Directive and the Planning and Development Act, 2000 (as amended);</p> <p>c) To recognise and afford appropriate protection to any new or modified SPAs or SACs that are identified during the lifetime of this plan, having regard to the fact that proposals for development outside of a European site may also have an indirect effect.</p>
Development Plan Objective: Requirement for Appropriate Assessment under the Habitats Directive	
CDP14.3	<p>It is an objective of the development plan:</p> <p>a) To implement Article 6(3) and where necessary Article 6(4) of the Habitats Directive and to ensure that Appropriate Assessment is carried out in relation to works, plans and projects likely to impact on European sites (SACs and SPAs), whether directly or indirectly or in combination with any other plan(s) or project(s). All assessments must be in compliance with the European Communities (Birds and Natural Habitats) Regulations 2011;</p> <p>b) To have regard to 'Appropriate Assessment of Plans and Projects in Ireland – Guidelines for Planning Authorities 2009' or any updated version.</p>
Development Plan Objective: Non-Designated Sites	
CDP14.7	<p>It is an objective of Clare County Council:</p> <p>a) To ensure the protection and conservation of areas, sites, species and ecological networks/ corridors of biodiversity value outside of designated sites throughout the county and to require an ecological assessment to accompany development proposals likely to impact on such areas or species;</p> <p>b) To ensure that available habitat mapping is taken into consideration in any ecological assessment undertaken;</p>

	c) To complete the Habitat Mapping of the county (in accordance with A Guide to Habitats in Ireland – The Heritage Council 2000) in order to identify and record the natural habitats of the county at a detailed level and afford appropriate protection to areas of importance, as required.
Development Plan Objective: Natural Heritage and Infrastructure Schemes	
CDP14.8	It is an objective of the development plan:  To ensure the protection of natural heritage when considering proposed services, infrastructure and roadworks (both realignments and new roads) located in close proximity to, or nearby, protected ecological sites or sites of importance in terms of biodiversity.
Development Plan Objective: Habitat Protection	
CDP14.11	It is an objective of the development plan:  a) To protect and promote the sustainable management of the natural heritage, flora and fauna of the county through the promotion of biodiversity, the conservation of natural habitats and the enhancement of new and existing habitats;  b) To promote the conservation of biodiversity through the protection of sites of biodiversity importance and wildlife corridors, both within and between the designated sites and the wider plan area;  c) To ensure that there is no net loss of potential Lesser Horseshoe Bat feeding habitats, treelines and hedgerows within 3km of known roosts.
Development Plan Objective: Habitat Fragmentation	
CDP14.13	It is an objective of the development plan:  To ensure that development proposals support and enhance the connectivity and integrity of habitats in the plan area by incorporating natural features into the design of development proposals.
Development Plan Objective: Inland Waterways and River Corridors	
CDP14.14	It is an objective of the development plan:  a) To work with all relevant stakeholders to protect and manage inland waters, river corridors and their floodplains, turloughs, lakes, fens and other water bodies from degradation and damage, and to recognise and promote them as natural assets and key elements in the green infrastructure network in the county;  b) To protect riparian zones / areas, where appropriate, in the plan area.  c) To ensure that, where development occurs within a riparian zone, it does not have a negative impact on associated habitats and species;  d) To work with all relevant stakeholders to protect and improve appropriate access to waterways and river corridors whilst ensuring their conservation and the protection of the resource and water quality;

	<p>e) To have regard to the ‘Clare County Wetlands Survey 2008’ and other relevant documentation, including the ‘Convention on Wetlands of International Importance’ (Ramsar Convention), 1971 (ratified, 1984) and the ‘EU Communication – Wise Use and Conservation of Wetlands 1995’, in the assessment of developments;</p> <p>f) To encourage developments to :</p> <ul style="list-style-type: none"> <li>• Maintain an appropriate width for the riparian zone to be protected;</li> <li>• Improve appropriate access and compatible leisure activities;</li> <li>• Maintain and enhance the fishing potential for both local interests and tourism by protecting the natural spawning beds of trout and salmon;</li> </ul> <p>g) To protect the county’s valuable inland fishery resource and support its sustainable development through the protection of water quality and facilitation of ancillary infrastructure at appropriate locations.</p>
<p>Development Plan Objective: Woodland Trees and hedgerows</p>	
<p>CDP14.17</p>	<p>It is an objective of the development plan:</p> <p>a) To preserve and conserve individual or groups of trees identified in Volume 2 of this plan as ‘Trees for Preservation’ which will enhance the character and appearance of an area;</p> <p>b) To carry out tree survey work during the lifetime of this plan to identify future trees of importance in the county and facilitate their future protection;</p> <p>c) To protect individual or groups of trees within the plan area which are important for environmental, recreational, historical, biodiversity and/or aesthetic reasons or by reason of contribution to sense of place, including groups of trees which correspond with protected habitats, or which support protected species, under the Habitats Directive;</p> <p>d) To work with landowners, local communities and other relevant groups to promote the retention and conservation of existing trees and hedgerows and encourage development proposals that enhance the landscape through positive management and additional planting/sensitive replanting of native tree species;</p> <p>e) To protect woodlands and hedgerows from damage and/or degradation and to prevent disruption of the connectivity of woodlands and hedgerows of the county;</p> <p>f) To ensure, where required, applications for development include proposals for planting / leave a suitable ecological buffer zone, between the development works and areas/features of ecological importance;</p> <p>g) Where hedgerows are required to be removed in the interests of traffic safety or where breaches to hedgerows occur due to river drainage/maintenance works and flood repair, to require the applicant/developer to replace/reinstate the hedgerows with a suitable</p>

	<p>replacement of native species to the satisfaction of the Council;</p> <p>h) To require each large green space in new residential developments to have at least one native oak tree, or other naturalised tree species of similar stature and lifespan, integrated into the agreed planting/landscaping scheme;</p> <p>i) To require, where possible, that all trees felled as a result of development proposals be replaced at a minimum ratio of 10 new native species per 1 tree felled.</p>
Development Plan Objective: Wetlands	
CDP14.19	<p>It is an objective of the development plan:</p> <p>To manage, enhance and protect the wetlands in County Clare having regard to the ‘County Clare Wetlands Survey (2008)’, the ‘Planning and Development Regulations 2001 (as amended)’ and ‘Drainage and Reclamation of Wetlands – Draft Guidelines for Planning Authorities, 2011’ and any subsequent guidance documents</p>
Development Plan Objective: Alien and Invasive Species	
CDP14.26	<p>It is an objective of the development plan:</p> <p>a) To raise awareness of the threat of alien invasive species and take all necessary steps to prevent the spread of non-native invasive species and noxious weeds in the plan area, including requiring landowners, developers and boat operators to adhere to best practice guidance in relation to their control;</p> <p>b) To require all development proposals to address the presence or absence of invasive alien species on the proposed development site and to require the preparation of an Invasive Species Management Plan where such species are present;</p> <p>c) To implement the requirements of EU Regulations 1143/2014 on the Prevention and Management of the Introduction and Spread of Invasive Alien Species.</p>

#### Water Resources

Development Plan Objective: Water Framework Directive	
CDP 8.21	<p>It is an objective of Clare County Council:</p> <p>a) To facilitate the implementation of the Shannon River Basin Management Plan and the Western River Basin Management Plan (together with any subsequent National River Basin Management Plan) for groundwaters and surface waters in the plan area as part of the implementation of the EU Water Framework Directive;</p> <p>b) To protect groundwater resources in accordance with the statutory requirements and specific measures as set out in the relevant River Basin Management Plan;</p> <p>c) To consider proposals for development where it can be clearly</p>

	demonstrated that the development will meet the requirements of the relevant River Basin Management Plan.
Development Plan Objective: Protection of Water Resources	
CDP8.22	<p>It is an objective of the development plan:</p> <p>a) To protect the water resources of County Clare having regard to the requirements of the relevant EU Directives;</p> <p>b) To ensure that developments that would have an unacceptable impact on water resources, including surface water and groundwater quality and quantity, designated sources protection areas, coastal and transitional waters, river corridors and associated wetlands are not permitted;</p> <p>c) In areas of potable groundwater resources or over vulnerable aquifer areas, development proposals will only be considered if the applicant can clearly demonstrate that the proposed development will not pose a risk to the quality of the underlying groundwater;</p> <p>d) To protect groundwater resources, in accordance with statutory requirements and specific measures as set out in the Shannon and Western River Basin Management Plans;</p> <p>e) To ensure that proposals for development which infringe on a river boundary, or an associated habitat, including their connection by groundwater, will only be considered where it can be clearly demonstrated that:</p> <ul style="list-style-type: none"> <li>• The character of the area will be conserved;</li> <li>• An acceptable physical riparian zone will be maintained with all natural vegetation preserved;</li> <li>• There will be no impact on the ecological, aquatic or fishing potential of the waters or associated waters;</li> <li>• All proposals are in compliance with the requirements of the Habitats Directive, where appropriate.</li> </ul>
Development Plan Objective: Strategic Flood Risk Assessment	
CDP 18.6	<p>It is an objective of Clare County Council:</p> <p>To ensure that proposals for development in areas where there is a risk of flooding, (based on the Flood Risk Maps contained in Volume 2 of the Clare County Development Plan 2017-2023, or any updated version), shall have regard to ‘The Planning System and Flood Risk Management (and Technical Appendices) – Guidelines for Planning Authorities 2009’ and any future OPW flood assessment information. Such proposals must also demonstrate that appropriate mitigation measures can be put in place.</p>
Development Plan Objective: CFRAMS	
CDP 18.7	It is an objective of Clare County Council:

	<p>a) To comply with the EU Floods Directive 2007/60/EC;</p> <p>b) To have regard to the requirements and outcomes of the Catchment Flood Risk Assessment and Management Studies (CFRAMS) prepared for the Areas for Further Assessment in County Clare (once finalised) in the assessment of development proposals</p>
Development Plan Objective: Storm Water Management	
CDP 18.8	<p>It is an objective of the development plan:</p> <p>a) To ensure that adequate storm water infrastructure is in place to accommodate the planned level of growth in the plan area;</p> <p>b) To require all new developments to provide a separate foul and surface water drainage system;</p> <p>c) To ensure the implementation of Sustainable Urban Drainage Systems (SuDS) and in particular, to ensure that all storm water generated in a new development is disposed of on-site or is attenuated and treated prior to discharge to an approved storm water system;</p> <p>d) To request the submission of details regarding Surface Water Attenuation Systems for multi-unit development applications in the plan area. Development will only be permitted in areas where sufficient surface water capacity exists.</p>

## Landscape

Development Plan Objective: Landscape Character Assessment	
CDP 13.1	<p>It is an objective of Clare County Council:</p> <p>To encourage the utilisation of the Landscape Character Assessment of County Clare and other relevant landscape policy and guidelines and to have regard to them in the management, enhancement and promotion of the landscapes of County Clare</p>
Development Plan Objective: Heritage Landscapes	
CDP 13.5	<p>It is an objective of the development plan:</p> <p>To require that all proposed developments in Heritage Landscapes demonstrate that every effort has been made to reduce visual impact. This must be demonstrated for all aspects of the proposal – from site selection through to details of siting and design. All other relevant provisions of the development plan must be complied with.</p> <p>All proposed developments in these areas will be required to demonstrate:-</p> <p>☐ That sites have been selected to avoid visually prominent locations; ☐ That site layouts avail of existing topography and vegetation to minimise visibility from scenic routes, walking trails, public amenities and roads; ☐ That design for buildings and structures minimise height and visual contrast through careful choice of forms, finishes and colour and that any site works seek to reduce the visual impact of the</p>

	development.
Development Plan Objective: Scenic Routes	
CDP 13.7	<p>It is an objective of Clare County Council:</p> <p>a) To protect sensitive areas from inappropriate development while providing for development and change that will benefit the rural community;</p> <p>b) To ensure that proposed developments take into consideration their effects on views from the public road towards scenic features or areas and are designed and located to minimise their impact;</p> <p>c) To ensure that appropriate standards of location, siting, design, finishing and landscaping are achieved.</p>

### Population and Human Health

Development Plan Objective: Large Villages	
CDP 3.5	<p>It is an objective of the Development Plan:</p> <p>To ensure that the large villages throughout the county maintain existing population levels and services and to ensure that future growth is balanced and sustainable and is relative and appropriate to their scale, size and character.</p>
Development Plan Objective: Accessibility	
CDP 5.6	<p>It is an objective of Clare County Council:</p> <p>a) To promote social inclusion by promoting and supporting the principles of universal design to create products, services and environments that meet all people's needs in terms of access, understanding and use, across all sectors, including transport, built and natural environments, heritage and tourism;</p> <p>b) To take all required steps to ensure compliance with the Disability Act (2005)</p>
Development Plan Objective: Large Villages	
CDP 7.8	<p>It is an objective of the development plan:</p> <p>To encourage the retention of existing retail services and facilitate retail development within designated village centres, where it is appropriate to its location and catchment.</p>
Development Plan Objective: Compliance with Zoning	
CDP 19.3	<p>It is an objective of the development plan:</p> <p>To require development proposals to comply with the zoning of the subject site in the settlement plans and local area plans.</p>
Development Plan Objective: Burial Grounds/Crematoria	
CDP5.24	<p>It is an objective of Clare County Council:</p>

	<p>a) To provide and facilitate the provision of burial grounds or extensions to existing burial grounds, in cooperation with local communities, at appropriate locations throughout the county;</p> <p>b) To ensure that burial grounds throughout the county are managed and maintained in a manner which respects their associated culture and heritage, having regard to the relevant bylaws;</p> <p>c) To support the development of crematoria in County Clare, subject to normal planning considerations;</p> <p>d) To support the future provision of new funeral homes which are designed to sensitively meet the needs of the service</p>
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#### Material Assets

Development Plan Objective: Water Services	
CDP8.24	<p>It is an objective of the development plan:</p> <p>a) To work closely with Irish Water to identify and facilitate the timely delivery of the water services required to realise the development objectives of this plan;</p> <p>b) To facilitate the provision of integrated and sustainable water services through effective consultation with Irish Water on the layout and design of water services in relation to the selection and planning of development areas and the preparation of master plans;</p> <p>c) To ensure that adequate water services will be available to service development prior to the granting of planning permission and to require developers to consult Irish Water regarding available capacity prior to applying for planning permission;</p> <p>d) To ensure that development proposals comply with the standards and requirements of Irish Water in relation to water and waste water infrastructure to facilitate the proposed development.</p>
Development Plan Objective: Water Supply	
CDP8.25	<p>It is an objective of Clare County Council:</p> <p>a) To advocate the provision, by Irish Water, of adequate water supply to accommodate the target population and employment potential of the county in accordance with the statutory obligations set out in EU and national policy and in line with the Core Strategy and Settlement Hierarchy set out in this plan;</p> <p>b) To advocate for the on-going upgrade of water supply Public Main infrastructure in the county;</p> <p>c) To maximise the use of existing capacity in water service in the planning of new development;</p> <p>d) To protect existing wayleaves and protection areas around public water services infrastructure through appropriate zoning and to</p>

	<p>facilitate the provision of appropriate sites for required water services infrastructure as required;</p> <p>e) To work with all stakeholders to promote water conservation and sustainable water usage;</p> <p>f) To promote and support the use of rainwater harvesting (in new buildings and as a retrofit) where viable;</p> <p>g) To prohibit the use of bored wells for water supply in areas where public supply is available.</p>
Development Plan Objective: Wastewater Treatment and disposal	
CDP8.27	<p>It is an objective of Clare County Council:</p> <p>a) To advocate the provision, by Irish Water, of adequate waste water services and capacity to accommodate the target population and employment potential of County Clare in accordance with the statutory obligations set out in EU and</p> <p>b) To support Irish Water in the promotion of effective management of trade discharges to sewers in order to maximise the capacity of the existing sewer networks and minimise detrimental impacts on sewage treatment works;</p> <p>c) To permit the development of single dwelling houses only where it is demonstrated to the satisfaction of the Planning Authority that the proposed wastewater treatment system is in accordance with the Code of Practice Wastewater Treatment and Disposal Systems Serving Single Houses EPA (2009);</p> <p>d) To permit the development of treatment systems for small businesses/community facilities in unserved areas where they are in single ownership and where it is demonstrated to the satisfaction of the Planning Authority that the proposed wastewater treatment system is in accordance with Code of Practice Wastewater Treatment and Disposal Systems Serving Single Houses EPA (2009) and Wastewater Treatment Manuals Treatment Systems for Small Communities, Business, Leisure Centres and Hotels, EPA (1999);</p> <p>e) To encourage and support a changeover from septic tanks/private waste water treatment plants to public collection networks wherever feasible, subject to connection agreements with Irish Water and to ensure that any future development connects to the public wastewater infrastructure where it is available.</p>
Development Plan Objective: Smarter Travel	
CDP 8.10	<p>It is an objective of Clare County Council:</p> <p>To support sustainable travel in County Clare and to implement the key goals, targets and actions as contained in ‘SmarterTravel – A Sustainable Transport Future – A New Transport Policy for Ireland 2009-2020’</p>
Development Plan Objective: Litter Management	

CDP 8.30	It is an objective of Clare County Council: To implement the provisions of the Clare County Litter Management Plan 2015-2018 and any updated version of the plan
<b>Development Plan Objective: Construction and Demolition Waste</b>	
CDP8.31	It is an objective of Clare County Council: a) To require a C&D Waste Management Plan to be prepared by the developer having regard to the DoEHLG's publication Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects for new construction or demolition projects and to require that the maximum amount of waste material generated on site is reused and recycled; b) To promote the production and reuse of aggregates from C&D waste and their use in construction projects in the region; c) To encourage the development of C&D waste recycling facilities at suitable sites, including quarries, subject to normal planning and environmental considerations.
<b>Development Plan Objective: Light Pollution</b>	
CDP8.35	It is an objective of the development plan: a) To require proposals for development that include the provision of external lighting, to clearly demonstrate that the lighting scheme is the minimum needed for security and working purposes; b) To ensure that external lighting and lighting schemes are designed so that the incidence of light spillage is minimised ensuring that the amenities of adjoining properties, wildlife and the surrounding environment are protected.
<b>Development Plan Objective: Climate Change Adaptation</b>	
CDP18.2	It is an objective of Clare County Council: a) To endeavour to implement elements of Sectoral Adaptation Plans, prepared in accordance with the Climate Action and Low Carbon Development Act 2015, as they relate to the work of Clare County Council; b) To liaise with all relevant stakeholders to prepare a Climate Change Adaptation Strategy for County Clare during the lifetime of this development plan; c) To raise general awareness of issues associated with climate change and climate change adaptation during the lifetime of this plan

General Environmental Objectives:

<b>Development Plan Objective: Appropriate Assessment, Strategic Environmental Assessment and Strategic Flood Risk Assessment</b>	
CDP2.1	It is an objective of the development plan:

	<p>a) To require the preparation and assessment of all planning applications in the plan area to have regard to the information, data and requirements of the Natura Impact Report, SEA Environmental Report and Strategic Flood Risk Assessment Report contained in Volume 10 of this development plan;</p> <p>b) To require projects to be fully informed by ecological and environmental constraints at the earliest stage of project planning and any necessary assessment to be undertaken, including assessments of disturbance to species, where required;</p> <p>c) To require compliance with the objectives and requirements of the Habitats Directive, the Bird Directive, Water Framework Directive, all other relevant EU Directives and all relevant transposing legislation.</p>
<b>Development Plan Objective: Environmental Impact Assessment</b>	
CDP14.9	<p>It is an objective of Clare County Council:</p> <p>a) To implement the EIA Directive, ensuring that all elements/stages or components of the project are included in one overall assessment and all reasonable alternatives are taken into consideration in choosing the option with the least environmental impact.</p> <p>b) To have regard to ‘Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessments (2013)’ when considering proposals for which an EIA is required;</p> <p>c) To ensure full compliance with the requirements of the EU Habitats Directive, SEA Directive and associated legislation/regulations, including the associated European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011), European Communities (Environmental Assessment of Certain Plans and Programmes) regulations 2004-2011, and the European Communities (Environmental Impact Assessment) Regulations 1989–2011 (or any updated/superseding legislation).</p>

### 8.3 MITIGATION MEASURES RELATING TO PLAN PROPOSALS

#### 8.3.1 Overall Principles for Archaeology (C) the Burra Charter

C.1: The Burra Charter (International Committee for Monuments and Sites) has guided the approach to this plan and as such key relevant principles are presented here:

The island is of exceptional significance as an archaeological landscape as a whole. According to the principles of the Burra Charter, it can be deemed to be not only significant for one particular element, such as the individual buildings or the carved stones, but in its entirety.

Cultural significance, according to the Charter,

‘is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places, and related objects’.

Accordingly, any works to the island must be carried out with extreme caution and consideration for all aspects of the island’s cultural significance. Not only its archaeological

and historical value but its environmental and present-day cultural meaning for the local inhabitants must be considered, as all these factors interlink to create its cultural uniqueness. Its wider lake setting must also be treated as an archaeological and culturally significant landscape. Therefore any proposed changes to the island potentially threaten the overall cultural significance of Inis Cealtra as an exceptionally well-preserved, diverse and intrinsically culturally valuable place, and must be viewed in this light.

In accordance with the Burra Charter, which advocates a cautious approach to change, a phased approach to the Plan should be adopted and changes made on an incremental basis in order to accommodate increased numbers of tourists in such a manner that their impact on the archaeology can be assessed gradually. There is a need to balance the provision of facilities for visitors and guides (e.g. structures, signage, and toilets) with their impact on the setting and archaeology of the island.

**C.2:** If any works are to be carried out, measured surveys and photographic surveys should be undertaken by archaeologists before any works commence.

**C.3:** A geophysical archaeological survey should be carried out particularly in the vicinity of the earthworks in order to reveal their true extent and complexity, as well as in the vicinity of the shore; the results of this survey will inform any decisions regarding the provision of facilities for increased visitor numbers.

**C.4:** All proposed development and strategies should be in compliance with the National Monuments Acts, 1930–2004, and with the national policy on the protection of archaeological heritage: *‘Framework and Principles for the Protection of the Archaeological Heritage’* (1999) by the Department of Arts, Heritage, Gaeltacht and the Islands. All proposed changes to the island will be subject to approval by the Planning and Heritage Section of the Department of the Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

**C.4:** The whole island is a National Monument (no. 5) and is therefore under legal protection. Any works to any part of the island require ministerial consent.

**C.7:** All archaeological material is of importance, whatever its age. All aspects of the island’s archaeology are deemed deserving of preservation, whether prehistoric, medieval, or post-medieval. Post-medieval and vernacular features in particular are vulnerable to being neglected and caution should be exercised not to damage or destroy such features.

**C.8:** Any works carried out with the aim of preserving the site should be supervised by experienced archaeologists with a grounding in the relevant policies and legislation described in the Plan as well as the appropriate knowledge and experience.

**C.9:** In accordance with the Burra Charter (9.1) relocation of material or objects from the island is not advised unless deemed absolutely necessary to their preservation by archaeologists.

**C.10:** In accordance with Irish legislation, any changes that involve removing, demolishing, or changing any aspect of the site require ministerial consent and should not be carried out without archaeological consultation.

**C.11:** Ground disturbance of Inis Cealtra should be avoided as this will destroy archaeological material. Any works that involve ground disturbance require ministerial consent in accordance with Irish legislation and moreover should not be carried out without archaeological consultation.

### 8.3.2 Management Structure (MS):

**MS1:** The management of the archaeological heritage on the island is in the remit of the Office of Public Works (OPW). Archaeological input regarding the conservation and recording of the site is also provided by the National Monuments Service (NMS). When required, experts from the private sector should be commissioned to undertake specialist work.

**MS2:** The responsibilities of both Clare County Council and the OPW to the archaeology should be clarified in writing to ensure a cohesive strategy for the protection of the whole island, including the less visible archaeology such as the areas containing the earthworks which are utilised by the Council for grazing purposes (see below); each body should be aware not only of their own responsibilities to the island but also those of the other body.

**MS3:** It is recommended that a site management team be appointed to efficiently co-ordinate the day-to-day management of Inis Cealtra and to liaise with interest groups.

**MS4:** It is recommended that a management plan be drawn up with input from Clare County Council, OPW, NMS, and Dept. of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. The management plan should ensure the long-term conservation and preservation, to international best practice, of Inis Cealtra with the appropriate guidance from the World Heritage Committee, the World Heritage Centre, and advisory bodies such as ICOMOS. The management plan should detail:

- regular monitoring of the archaeological, cultural and environmental heritage of the site
- periodic reporting of the condition of the archaeological remains
- improving public awareness and appreciation of Inis Cealtra
- liaising with community and local interest groups
- establishing a research framework strategy, and
- regular reviewing of the management plan.

**MS5:** The management plan should not be a finite plan but a living document that will evolve over time and will require regular reviews, with the support of the relevant bodies and experts.

**MS6: Monitoring Visitor Impacts:** It is important to recognise and support cultural tourism insofar as it is compatible with the primary obligation of the conservation, maintenance, protection, and perpetuity of Inis Cealtra. The maximum number of visitors to the island must be actively managed and continually reviewed so that it is compatible with site protection. A monitoring regime is proposed for evidence of visitor impacts and corrective action to address same. This would comprise the following elements:

1. Monuments must be monitored on a continual basis for larger visitor numbers to be sustainable. Efforts should also be made to protect the ground, at least in particularly sensitive areas. The OPW and Clare County Council must continually monitor the archaeology on the island not only to protect it but to ensure sustainable tourism into the future; in order to do so a management plan needs to be drawn up by the two authorities working together.
2. The role of monitoring ground damage could be combined with that of a tour-guide: impacts on the ground can be lessened by preventing congregation at sensitive points such as the Saints' Graveyard, the round tower, and the churches.
3. There should also be a steward/caretaker on the island, at least seasonally, and in daylight hours with responsibility for wider supervision of the entire island as a whole and in order to minimise the risk of vandalism and theft.

4. Although some monuments are at risk of theft, in line with the Burra Charter (article 9.1), these should not be moved from their original in-situ locations.
5. Overnight camping on the island should be discouraged.
6. The Saints' Graveyard should be supervised during times of higher visitor numbers at least (e.g. April–September) to prevent visitors walking on the monuments while looking at them.
7. Other historic graveyards on the island should also be monitored by tour guides or stewards to prevent the graves suffering damage. However, locals should not be made to feel unwelcome when visiting the graveyards.
8. The amount of visitors to the island will be capped at 400 maximum daily by Year 5. Visitor access should be restricted to certain areas to ensure protection of the archaeological remains. In accordance with article 27.1 of the Burra Charter the proposed incremental increase in tourists to the site should be continually assessed with reference to the Statement of Significance, as well as the recommendations made here; if the increase in tourists to the site appears to be impacting the site in a negative way, *'it may be necessary to modify proposed changes to better retain cultural significance'*.
9. Visitor statistics should be collected for each season and detailed assessments of visitor impacts and trends should be carried out on a regular basis.
10. Paths should be monitored for ground erosion on a regular basis, especially during periods of very wet or dry weather as well as peak visitor periods.
11. Regular monitoring of the effects of weather conditions on the archaeology is also necessary (see CC1-CC3 below).
12. Pre-, mid-, and end of season monitoring of the archaeological remains should be undertaken and the results compared and contrasted. If it was found that the tourist season had a negative impact on the archaeology, the management plan should be amended to prevent this reoccurring.
13. Monitoring should also be undertaken to assess potential visitor impacts on ecological resources such as new trails off existing paths, trails into woodland etc. This should be undertaken by an appropriately qualified and experienced ecological.
14. Monitoring of breeding bird populations should be undertaken for the first three years of the plan to investigate any potential disturbance to breeding birds on or surrounding the island.

### 8.3.3 Increasing Visitor Numbers: Visitor Management Mitigation Measures (M)

Sustainable tourism is dependent on the continued pristine condition of the island and the survival of the archaeological remains, but overcrowding could be detrimental to the conservation of the site. In addition to the Management and Monitoring Mitigation Measures outlined above, the following measures are also recommended:

**M1: Seasonality:** It is recommended that the commercial access to the island be limited to March to October to avoid disturbance to overwintering birds and to avoid trampling associated with wetter autumn/winter conditions.

**M2:** Overnight camping on the island should be discouraged.

**M3:** Visitor numbers are to be capped at a maximum of 100 at any one time, 400 per day and 45,000 per year. These figures are to be reached on a phased basis.

**M4:** Coaches are to be restricted to a maximum of 4 arrivals per day at Mountshannon.

**M5:** The volume cap in M3 comprises both paid visitors and local community. Clare County Council will work with Inis Cealtra Community Forum to enable equitable access for the local community while ensuring the proposed caps are not exceeded.

#### **8.3.4 Awareness Raising and Education (AR)**

**AR1:** A primary objective for managing heritage is to communicate its significance and the need for its conservation to the local community and to visitors; awareness raising and education measures therefore will support sustainable tourism on Inis Cealtra and generate greater understanding and appreciation of the islands cultural and natural heritage.

**AR2:** Those undertaking care and maintenance of the island should be fully informed of best practice and should also avoid ground disturbance or movement of stone.

**A3:** The visitor centre and boat trip are opportunities to highlight ecological and archaeological sensitivities and inform visitor behaviour. Leave No Trace Principles should be communicated and displayed at visitor centre and on boat.

**A4:** The code of good practice for canoeists has been prepared as part of the Lough Derg Canoe Trail and will be replicated in the Visitor Centre also. It is recommended that this code be communicated to businesses that rent kayaks around the Lough Derg area, particularly around Mountshannon.

**A5:** Information should be provided in the associated interpretive centre on the mainland and by tour guides on the island, advising visitors not to climb or clamber on masonry nor rub or touch carved stones while on the island.

**A6:** Inis Cealtra and the associated visitor centre should be positioned as a Discovery Centre for Primary Schools to raise awareness amongst children of the island's important and heritage.

#### **8.3.5 Interpretation (I)**

**I1:** Displays, information boards, and signage should be designed with archaeological consultation and informed by up-to-date archaeological and historical scholarship, including the various archaeological and historical sections included in this report. There should be continuous reassessment of displays to ensure that all information provided is accurate and up-to-date while variety and use of fresh approaches will also ensure the public continue to find displays interesting.

**I2:** The staff in the interpretive centre should include at least one qualified archaeologist who can accurately interpret the ongoing research concerning Inis Cealtra and disseminate it appropriately in the centre.

**I3:** Archaeological consultation should be sought so that if any artefacts or sculptures are displayed in the interpretive centre they are treated appropriately when being handled and located in the appropriate environment for their preservation.

**I4:** If replicas are being created of any objects associated with Inis Cealtra, this should be done with archaeological consultation and the objects should be clearly displayed as 'replica' in the interpretive centre.

**I5:** If replicas of any carved stones on or associated with the island are to be created for display purposes, only 3-D laser scanning should be used to record an image of the stones. While latex rubber skins have been used to create replicas in the past, they can damage the surface of stones, particularly sandstone, and provide less accurate detail.

**I6:** Any conjectural copies, rather than exact replicas, of objects, monuments, or structures should be carried out with archaeological consultation and subsequently clearly displayed as conjectural copies so as not to mislead visitors.

#### **8.3.6 Establishment of Research Framework (R)**

**R1:** A research framework should be established for Inis Cealtra, which will identify and prioritise research themes for the future. Previous research, in particular the excavations of the 1970s, but also more recent academic and local publications will inform the proposed research framework. This will ultimately enhance visitors' experience through increasing knowledge of the island by encouraging research and ensuring research results are disseminated.

**R2:** Lectures relating to the history, archaeology, and folklore, as well as other considerations such as ecology, could be provided in the proposed interpretive centre on the mainland or elsewhere locally, while a conference could also be organised.

#### **8.3.7 Guide Service (GS)**

General Recommendations

**GS1:** It is recommended that a regular, quality guide service operates on the island.

**GS2:** The main function of the guide service should be to protect the site, interpret and provide information on the history, archaeology, ecology and significance of the site, assist visitors, and monitor visitor numbers, the number of boats landing, and weather conditions. The guides' principal duty should relate to monitoring the condition of archaeological and nature conservation features on the island..

**GS3:** In order to enhance the visitor experience, relevant training programmes should be put in place for the guides. Training should cover best practice in the care of archaeological sites as well as current legislation, e.g. National Monuments Act. Guides should have a good grounding in archaeology and history that is up-to-date; it is recommended that guides are employed with qualifications and experience on a par with OPW guides.

**GS4:** The guides should provide the visitors with good pre-visit information in the interpretive centre or when they arrive on the island; they should outline which areas/monuments have limited access or no access, and the level of accessibility to expect in various parts of the island. Visitors should be advised to stay to paths, not to touch any of the carved stones, and not to climb on buildings/monuments.

These measures cross reference with AR and MS Mitigation measures.

#### **8.3.8 Access and Transport (AT).**

**AT1:** Increased boat traffic in and around the island could negatively impact upon known and unknown underwater archaeology in the area, such as the shipwrecks and prehistoric log-boats, due to increased propeller wash action from repeat boat trips or an increase in boat engine size. It is therefore recommended that the proposed ferry path be restricted to a single route and that the number of daily crossings is also capped, as well as defining a maximum size/engine limit for the ferry. Any proposals that involve the shoreline of the island or the lake itself should account for the fact that these are zones of archaeological potential. An underwater archaeological assessment, by suitably qualified underwater archaeologists, should be carried out to ensure that no wrecks are located along the ferry route.

**AT2:** The proposed ferry path to the island will be restricted to a defined path so as to avoid disturbance to wetland bird species. The ferry path will be buffered from emergent reed and tall sedge habitat to minimise disturbance to breeding wetland birds.

**AT3:** It is policy to provide the greatest possible level of visitor access to all built heritage sites in the care of the OPW. An Accessibility Plan shall be developed as a live document to be continuously updated, covering the following: achieving accessible primary routes to visit the monuments; maintaining the physical protection of archaeology and monuments; and maintaining the character and ambience of the setting. See Mitigation Measure M1 above.

**AT4:** On Skellig Michael, access to the island is controlled by a permit system and its visitor season is dependent on weather conditions and the availability of the guide service. In the interest of its continued protection, to prevent damage to the monuments and for reasons of health and safety, access to Skellig Michael outside of the defined period is not permitted and access by private craft is also discouraged. In addition, an agreement was put in place with local boatmen to limit the daily number of visitors.

A new ferry service should operate between Mountshannon and Inis Cealtra on a tender basis for a rolling 3-year period. Primary access for visitors is to be via a ferry from the visitor centre/Mountshannon with a small access charge. Members of the local community, members of Lough Derg Anglers, and 5 boats from Lakeside Holiday Park at Mountshannon will be able to land for free with a permit-style approach. This option: enables control of access, therefore minimising impact on archaeology and built heritage; enables local community to continue to be able to access the island; doesn't impact on Lakeside Holiday Park's existing business; enables revenue generation to maintain the island; encourages access to the island by kayakers – fulfilling the brief to link the island to Lough Derg Canoe Trail; and doesn't require staff to collect a fee on the island.

### **8.3.9 Mitigation Measures for Physical Proposals**

#### **8.3.10 Physical Proposals (PP)**

**PP1:** All physical changes to facilitate and increase of tourists visiting the island should, as directed by the Burra Charter (article 8), retain *'the visual and sensory setting, as well as the retention of spiritual and other cultural relationships that contribute to the cultural significance of the place'*. Inis Cealtra is a complex site that is significant for a variety of reasons, as outlined above in the Statement of Significance. The unique, culturally significant 'unspoiled' character of the island should be preserved as much as possible. This will in turn enhance visitor experience.

**PP2:** Any physical changes to the island to facilitate an increase of visitors should be carried out in accordance with section 14 of the National Monuments (Amendment) Act (2004) and should only be undertaken with archaeological consultation. Ministerial consent must be sought for any works that involve altering a National Monument, disturbing the ground, or restoring any part of a National Monument. This includes archaeological material of all periods, from prehistoric to post-medieval.

**PP3:** Modern interventions relating to increased visitor numbers (e.g. toilets, piers, etc.) should be located close to each other and should avoid the main group of upstanding monuments; such new additions should not be visible from the monuments.

**PP4:** Areas identified for physical interventions should be subject to archaeological geophysical surveys initially and be informed by the 2015-16 ecological surveys. The findings of same will inform the precise site location.

**PP5:** All aspects of Inis Cealtra's archaeological heritage should be protected, including immovable (in-situ) cultural heritage and upstanding remains e.g., monuments and earthworks; ex-situ cultural heritage e.g., loose carved stones; underwater cultural heritage e.g., shipwrecks and submerged piers. The various aspects will be discussed individually in more detail below.

**PP6:** Specialist archaeologists should be consulted throughout the process of developing the island as a tourist attraction from design through to implementation.

**PP7:** Detailed archaeological surveys should be carried out throughout the process; these must be of a high standard in order to allow informed decisions to be taken.

**PP8:** All impacts that may impinge on the archaeological heritage should be appropriately assessed by a suitably qualified archaeologist, including ground disturbance, impacts on the setting of the monuments and visual impacts; these should consider direct, indirect, temporary and cumulative impacts.

**PP9:** Mitigation of impacts should be attempted at the earliest possible stage. Various approaches should be considered, such as avoidance, design modification, and relocation where appropriate.

**PP10:** Where there are apparently no archaeological monuments present, it is recommended that an archaeological assessment should be undertaken as part of an EIA (see section 3.6.6 in 'Framework and Principles for the Protection of the Archaeological Heritage', 1999).

**PP11:** It is recommended that all proposed works within proximity to any of the archaeological monuments, both on the island and in the surrounding waters, should be subject to appropriate consultation, at the earliest possible stage, with the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs, the OPW and NMS and Clare County Council.

**PP12:** The use of construction machinery should be avoided on the island where possible, and should minimise crossing/landing on Annex 1 tall herb fringe habitat 6430 and avoid crossing/landing on archaeologically sensitive zones as identified in the inventory (Appendix 1) and in proposed geophysical surveys.

**PP13:** Previously unidentified archaeological monuments may be exposed during the course of operations on the site. The OPW and NMS should be notified immediately, and the monument/site should be left undisturbed. A minimum exclusion zone of 20m must be created until the site has been investigated by an archaeological expert employed by the relevant authorities. Any archaeological object/artefact found during operations must be reported immediately to the National Museum of Ireland. It must also be left undisturbed, as it is important that objects can be related to their surroundings (i.e. archaeological context). A minimum exclusion zone of 20m must be created until the site of the find has been investigated by an archaeological expert employed by the relevant authorities.

**PP14:** Any proposed works to built structures on the island should be preceded by ecological assessments to determine the potential effect of such works to roosting bat species or nesting bird species.

**PP15:** The Plan will not include any proposals for night time lighting on the island.

**PP16:** The extent of physical infrastructure to be sited on fringing wetland habitat will be restricted to the path leading from the proposed new pier location. No other physical infrastructure will be placed on fringing wetland habitat.

**Pp17:** An ecological impact assessment of all physical proposals arising from the Plan will be required.

**PP18:** A Habitats Directive Assessment will be required for all physical proposals arising out of the Plan.

### **8.3.11 Shoreline and Pier Proposals (SP)**

**SP1:** The shoreline should be regarded as an archaeologically sensitive area as not only the monuments noted in the inventory (Chapter 2 of Appendix 1) but other monuments and features now unknown may be located underwater due to the rising of the shoreline in the 20<sup>th</sup> century in particular.

**SP2:** The shoreline should be regarded as an ecologically sensitive area. Tall herb swamp habitat occurs along the majority of the islands shoreline. Sections of this habitat are currently representative of the Annex 1 habitat hydrophilous tall herb fringe community (6430).

**SP3:** The selection of the northeast area of the island as a possible location for a new pier has been identified based on ecological, navigational, and safety considerations; the exact siting of the new pier will be subject to required archaeological, ecological, and landscape assessments as outlined in Mitigation Measures C1 to C11, PP1 to 19, SP1 –SP2 and relevant objectives in the Clare CDP 2017-2023.

**SP4:** Any plans regarding new landing facilities in the northeast quadrant of the island may be impeded or prevented by logboat discoveries about 40m off the northeast shore and by the potential for further discoveries of historic vessels or submerged features along the shoreline.

**SP5:** If new access is being provided for from the northeast shore of the island or from any other new landing place on the island, it should be ensured that any new paths leading from this new pier avoid crossing earthworks and other archaeological features and that any removal of vegetation, which should be kept to a minimum, is carried out with archaeological consultation.

**SP6:** If new access is being provided for from the northeast shore of the island or from any other new landing place on the island, it should be ensured that any new paths leading from this new pier avoid crossing areas of tall herb swamp that are currently representative of Annex 1 habitat hydrophilous tall herb fringe community (6430) in favourable conservation condition. In addition any removal of vegetation, should be kept to a minimum.

**SP7:** Proposed construction works associated with the pier should be completed at an appropriate time of year to minimise disturbance to breeding and overwintering bird species. Construction activity for a proposed new pier should commence in the second half of August and be completed in as short a time frame as possible so as to avoid the overwintering season. It would be preferred if all construction works associated with the proposed pier could be completed over a 3 month period between the latter half of August and the first half of October.

**SP8:** A Mollusc survey of the islands fringing habitat should be undertaken with particular focus given to the suitability of the fringing marsh habitat to support *Vertigo moulinsiana*;

**SP9:** In general any proposed works that involve the shoreline of the island or the lake itself should account for the fact that these are zones of archaeological potential. Archaeologists, including underwater archaeologists, should be consulted accordingly in any proposed works

involving not only the island, but the lake itself. For works associated with the shoreline or lake, an underwater archaeological assessment should be carried out by archaeologists experienced in both terrestrial and underwater archaeology.

**SP10:** The piers to the northwest and east (see Chapters 2-3, Appendix 1) are examples of post-medieval vernacular archaeology. Therefore, any works aimed at upgrading the infrastructure of the island in terms of landing boats must treat these features with respect.

**SP11:** The existing east pier is in an especially rich archaeological zone and works here should be avoided. Removal of the northwest and east piers should by no means be considered.

**SP12:** A **proposed new pier on northeast** has been located east of the existing reed-beds to protect birdlife. This will necessitate underwater archaeological survey, as much of the underwater archaeology is relatively ‘unknown’ in terms of what is there and its exact location.

**SP13:** If the northwest and east piers are to be altered in any way then planning permission, ministerial consent, and archaeological advice must be sought. Ministerial consent must also be sought for any modifications to the north pier or any construction of a new pier, due to the National Monument status of Inis Cealtra.

**SP14:** Section 22 of the Burra Charter advocates that any new work ‘should be readily identifiable as such’, and should respect and have minimal impact on the cultural significance of the site.

### 8.3.12 Burial Practices (B)

Vulnerabilities:

- Unsupervised digging of graves can lead to the damage of archaeological material.
- Inappropriate styles of grave monument can visually impact the historic integrity of the site.
- Headstones are of historic value but are vulnerable to damage by people.
- There is a risk of destabilising a ruin by digging graves too close to the walls.
- As noted above, many of the graves in the cemeteries associated with St. Caimín’s and St. Mary’s have risen above ground level.

**B1:** The graveyards on Inis Cealtra are in active use, and any future policies need to consider their living religious and spiritual significance; on this basis, a distinction needs to be made between tourists and locals. The community should not be made to feel unwelcome when visiting their own cemeteries.

**B2:** No new burials should be dug in the Saints’ Graveyard.

**B3:** St. Caimín’s Cemetery (in the care of the OPW) and St. Mary’s Cemetery (in the care of Clare County Council) are still in use. However, no new graves should be dug without being monitored by an archaeologist. There should be strict controls of new areas of plots.

**B4:** Graves should not be dug near known archaeological features or against upstanding remains.

**B5:** New headstones should be sensitive to the historic character of the graveyard so as not to impair the visual integrity of the site. Guidelines in terms of size and style of monuments on the island should be developed and controls should be put in place.

**B6:** Headstones must not be moved or interfered with in any way.

**B7:** Headstones should not be cleaned, nor chalk/paint applied.

**B8:** The graves which have risen above ground level should not be walked upon out of respect for archaeological material as well as the deceased. Tourists should be advised in this regard by the tour guides.

### **8.3.13 Grazing and Woodland Management (GR)**

#### General Recommendations

**GR1:** Active management and monitoring of trees and scrub is necessary. The growth and spread of trees and scrub can disturb and damage buried archaeological deposits and undermine aboveground remains.

**GR2:** Where necessary, trees should be cut off at ground level and the stumps treated to prevent re-growth; the stumps should be left to rot rather than dug out.

**GR3:** Windblown trees can uproot soil, disturbing and destroying archaeological contexts; if possible, their trunks should be cut and the root-plate eased back into place.

**GR4:** Mature trees on the island have potential to function as bat roosts and nesting bird sites. Where trees are to be felled to avoid wind-throw and disturbance to archaeology, then it should be completed at an appropriate time of year between the months of September and November (i.e. outside the bat maternity season and bird nesting season). Any trees to be felled should be inspected and surveyed for roosting bats by and prior to felling.

**GR5:** Any tree felling should be undertaken in line with Transport Infrastructure Ireland's Guidelines for the Treatment of Bats during the Construction of National Road Schemes.

**GR6:** In some areas (e.g. St. Michael's) saplings and woody plants should be removed by cutting off the stems close to the ground and treating them, while scrub and bracken should also be controlled.

**GR7:** Some archaeological monuments, for example the bullauns in the north-eastern sector of the island, are hidden in overgrowth; any works to manage tree and scrub growth on the island should be cognisant of the possibility of archaeological monuments being located and hidden in the overgrowth.

**GR8:** Loose branches should be removed from the site as they can encourage rabbit colonisation.

**GR7:** In a few places, overgrowth could be addressed for the sake of public access, such as in the area of St. Michael's Church and in the vicinity of the post-medieval 'cottage'. However, attempts should not be made to remove growth without consulting an archaeologist. Potential impacts on sensitive species and habitats must also be considered in relation to overgrowth and scrub removal.

**GR8:** Even small trees and shrubs can be firmly bound by their roots to material of archaeological interest. Grubbing out roots can cause serious damage, and should only be considered in special circumstances and carried out with archaeological monitoring.

**GR9:** Particular care should be taken to avoid loss of soil cover in the meadows on the island. Grazing and human footfall will impact this while weather conditions will also be a factor.

**GR10:** Existing grass cover should be maintained to protect the archaeology from erosion damage, especially the earthworks.

**GR11:** Where erosion has taken place and the protective cover of soil has been broken, re-seeding may be necessary. Any necessary re-seeding of native grasses and other grassland improvement should not include soil disturbance of any kind.

**GR12:** No landscaping should be undertaken: uneven/undulating ground should not be smoothed out.

**GR13:** An archaeologically informed programme for such activities as grass-cutting should be put in place. Burning should not be undertaken and burrowing activities of animals should be monitored.

**GR14:** If new trees are being planted, ministerial consent must be sought and if granted, ground disturbance must be archaeologically monitored. In general, planting of trees should be avoided; natural regeneration is preferable and Clare Development Plan states that sites should avail of existing topography and vegetation. A new small scheme of native hedging is proposed to provide screening around the proposed pods. This will be subject to a geophysical survey in advance of any tree planting.

**GR15:** A more sustainable grazing scheme is needed in order to protect the archaeology and enhance the biodiversity value of the island. The Plan provides details on a proposed grazing regime for the island and the number of livestock units on the island (no matter what the breed) should be capped to ensure minimum damage in terms of erosion of archaeological features and grazing pressure to grassland and woodland habitats.

**GR16:** Research undertaken as part of the plan preparation has recommended that sheep are the most suitable stocking regime for archaeological sites, rarely causing problems unless overstocked. Therefore sheep are recommended as the most appropriate grazing regime for Inis Cealtra.

**GR17:** If sheep are introduced to the island, caution must be exercised that they do not enter particularly archaeologically vulnerable locations that cattle cannot normally access, such as the Saints' Graveyard, where there are a large number of early medieval recumbent grave-slabs with carvings.

**GR18:** Livestock (sheep) should be removed or have grazing by them restricted (to be at a distance from earthworks and monuments) during a defined period during the winter months when conditions are wetter. This is to avoid potential for ground disturbance or disturbance to grassland and woodland habitats.

**GR19:** Supplementary feeding and badly located water troughs can cause ground damage and should be avoided.

**GR20:** The impact of the grazing animals on the visible archaeology, particularly the earthworks, should be monitored on a continual basis.

#### **8.3.14 Pathways (P)**

**Note,** as part of the plan preparation process, proposed pathways have been modified to avoid going through areas of greater ecological sensitivity including the alluvial woodlands and close to the existing reed beds on the northern parts of the site. In addition, pathways have been re-routed to avoid the existing 'pilgrims' paths' in order to avoid damage to paths, which are in fact medieval earthworks, and so as to avoid disturbance to the linear earthworks south of St. Michaels' Church. However, it should be noted that some of the earthworks in this archaeologically sensitive zone around St. Michael's will be affected by the new routes and sheer footfall could have serious implications for the archaeology in terms of

erosion. The design of new and existing paths have also been informed by the desire to ensure that visitors to the island enjoy and experience the cultural heritage whilst being directed away from the most vulnerable and sensitive sites, thus reducing potential inappropriate behaviour (e.g. climbing church walls).

It is hoped that the provision of new paths will keep tourists away from the most vulnerable and sensitive archaeological and ecological zones and control their movement in an effort to minimise inappropriate behaviour (e.g. climbing church walls) while providing a good view of all the monuments.

**P1:** While consideration of the intended users of the new paths is crucial, the site-type and landscape through which the paths will pass must also be taken into account when deciding what type of pathways should be developed; there must be a balance between the needs and expectations of users and the archaeological environment in which the paths will be located. According to the National Trails Office (2008, section 1.1), a sustainable recreational trail must not impact ‘negatively on the ability to use this resource [in this case the archaeological site] in the future’, and must not impact negatively on the heritage or environment of the site (2012, section 1.7).

**P2:** Ministerial consent must be sought before any new pathways are created (it is acceptable that records may not be available for older routes established in the past); depending on the level of disturbance involved in their provision a detailed Archaeological Impact Assessment may need to be commissioned.

**P3:** A geophysical archaeological survey should be carried out prior to laying down new paths; this is particularly important in the vicinity of the earthworks as the survey will reveal their true extent and complexity. The results of this survey should inform any decisions regarding the precise layout and positioning of new paths which should follow the route which will cause the least amount of impact.

**P4:** New pathways should be minimised in fringing tall herb swamp habitat. Only one section pathway should be placed in this habitat to provide access to the proposed new landing pier.

**P5:** Any new pathways in woodland habitat should minimise disturbance to woodland. Pathways in woodland habitat should follow existing livestock paths within woodland habitat. No mature trees should be removed in woodland habitat to cater for new pathways. These pathways should be designed around existing trees to minimise tree clearance.

**P6:** Older tourist paths already established should be reinstated if deemed suitable, e.g. the path which was laid down c.2001 leading from the northwest pier the initial saturated section needs to be addressed; any new pathway in this area should ideally follow the existing track and avoid the earthwork nearby in order to prevent it from being eroded on the slope. This ‘road’ is a right of way and so should be maintained for legal, social, and historical reasons in accordance with the Burra Charter

**P7:** New paths must respect the aesthetic quality and cultural significance of the island; this can be achieved by limiting the number and size of the paths, through the use of appropriate materials, and especially by avoiding archaeologically sensitive areas.

**P8:** In particular, the new paths should not follow, or be laid down close to any existing pilgrims' paths or earthworks; in addition, they should not enter the historic cemeteries, especially the Saints' Graveyard. Ideally, the earthworks should be avoided completely but in circumstances where the paths cannot avoid the earthworks, they should cross them at an angle (i.e. perpendicular to the line of the earthwork) and ideally at a single point but under

no circumstances should they follow the line of the earthworks. Any proposed path through the centre of the island from east to west is problematic due to the complexity of the earthworks in this area, especially in the vicinity of St. Michael's; the pilgrims' path in this area is an archaeological monument of some complexity and the space between the banks of the pilgrims' path is quite narrow and constricted in reality, and should not be used to accommodate the movement of tourists as this will erode its surface and the associated banks. The existing path leading into St. Michael's burial ground/'kissing stone' should not be upgraded or altered as this will involve damage to the probable ruins of the church that have inadvertently been incorporated in the track.

**P9:** Any proposed pathways should be designed with material overlaying the ground so that ground disturbance can be avoided where possible. As indicated by the Burra Charter, section 15.2, 'Changes [in this case the provision of paths] which reduce cultural significance should be reversible'; paved paths should be avoided.

**P10:** The earthworks (incl. banks, ditches, paths, mounds, etc.) are archaeological monuments which are protected RMPs (RMP: CL029-009002-), and should be preserved and treated with the same respect as the more visually impressive stone monuments on the island. This is also true of the penitential stations (see Chapter 3, Appendix 1). New paths should avoid earthworks and penitential stations.

**P11:** Walking on pilgrims' paths and earthworks should be discouraged by tour guides or visitor centre information.

**P12:** If new paths cross earthworks, they should be monitored regularly, particularly during busy periods or periods of drier or wetter weather.

**P13:** The paths should avoid, where possible, areas of overgrowth. In circumstances where it is not possible to avoid such areas, removal of roots needs archaeological supervision, as the roots are likely to have penetrated into archaeological material. Where practical, this work should take place when the soil is dry.

**P14:** Section 22 of the Burra Charter identifies that any new work 'should be readily identifiable as such', and so the paths should be visually distinctive from the medieval and post-medieval pilgrims' paths and other earthworks on the island, and should not attempt to mimic them.

### 8.3.15 Signage (SI)

Vulnerabilities:

- Modern signage negatively impacts the visual character of the site and therefore visitor experience.
- Current signage provides out-of-date information that misleads visitors.

**SI 1:** Overall, new signage should be avoided as its insertion may necessitate ground disturbance. It also imposes visually on the experience of the site. If new signs are to be erected they should sit on the ground, and should not cause ground disturbance.

**SI2:** Consideration may be given to removing existing signage, which provides out-of-date information.

**SI3:** Information should be provided in the proposed interpretive centre on the mainland, by trained tour guides, and/or via a downloadable app.

### 8.3.16 Fences (F)

Vulnerabilities:

- While fencing can help prevent damage to monuments by humans and animals, it causes ground disturbance. It is illegal to disturb the ground on a National Monument without ministerial consent.
- The physical structure of a fence can also have a significant landscape impact on both the setting and appearance of an individual monument and on the wider landscape, and therefore negatively impacts the historical integrity of a site.
- Cattle and other grazing animals tend to follow the line of a fence, which can lead to considerable erosion in its vicinity.
- The ground following the line of a fence tends to suffer from greater footfall and therefore greater ground impact.
- The fencing off of monuments can cause adverse reactions from the community who wish to access the monuments.

**F1:** Erection of new fencing should be avoided unless absolutely necessary.

**F2:** In c.2001 a number of wooden fences were erected in the vicinity of St. Caimín's Church; they serve the purpose of keeping the cattle away from that grouping of monuments (including the round tower, base and shaft of high cross, Confessional, etc.). Some of the wood is now beginning to rot and needs to be removed and replaced. Removal of the fencing would require archaeological monitoring as it would involve ground disturbance.

**F3:** Before replacing any of the existing fences, the area surrounding them should be examined for erosion caused by cattle or human footfall. If erosion has taken place, it may be necessary to reposition the new fencing. No new fences can be erected without ministerial consent. If permission is granted, it must be archaeologically monitored and may require excavation. A generous margin should be given to position a fence beyond the known edge of a monument, as buried archaeology generally extends well beyond the visible remains.

**F4:** Many of the sites and monuments on Inis Cealtra are not fenced off (including St. Michaels, the earthworks, the holy well, the 'bargaining stone', bullaun stones, penitential stations, etc.) and are susceptible to damage by grazing animals.. In general, best practice indicates that fences should not be sited across archaeological sites as they obscure the archaeological landscape.

**F5:** The fencing off of monuments can be largely avoided if the site is adequately monitored by guides and a caretaker.

**F6:** It is recommended that where existing fences are to be removed, this is to be done on a phased basis. This would be done as a series of progressive iterative monitored trials as follows: first, leaving the fences as they are and examining how the change in species (from cattle to sheep) will inform the need for, or effectiveness of, these fences. Next, it is recommended that a selected area of fencing be removed, and i) the condition of the monuments and ground before and after, and ii) the behaviour of the animals, be monitored. Finally, should the said trial indicate that no unpreventable (by other non-physical means), ongoing damage is being caused by sheep or people, all wooden fences should be removed. Ministerial etc. consent may be required. In any case, it is recommended that no further monuments or sites be fenced off as this is unlikely to enhance the overall condition of the site.

**F7:** Any fenced-off areas or areas where grazing by animals (sheep) is unsuitable or places where the archaeology is at risk – particularly near the monuments and earthworks – will require subsequent vegetation management, i.e. mowing and strimming. A protocol for how and when this is done informed by best archaeological practice, should be developed.

### **8.3.17 Toilet Facilities (TF)**

The development and provision of toilet facilities on Inis Cealtra has the potential to cause damage to the archaeological and cultural significance of the island. It should be noted that other important archaeological sites that function as tourist destinations do not require toilet facilities to operate successfully (e.g. the World Heritage Site of the island of Skellig Michael, Co. Kerry, although this has been raised as a concern in the most recent management plan). Furthermore, the introduction of toilet facilities increases the physical elements and proposals on the island and potential hydrological links between the island and Lough Derg. Notwithstanding the above, the current situation of people using bushes for toilets is not feasible and in light of proposed increase of visitor numbers would give rise to nuisance and potentially nutrient run off to Lough Derg. The following approach is recommended:

**TF1:** Toilets will be provided at the visitor centre and on commercial boats. The provision of toilets on the island are essentially ‘emergency’ toilets and this should be part of the communication to visitors prior to the island and should aim to reduce overall visitor use of these facilities.

**TF2:** Hand sanitisers will be provided to avoid the need for running water for handwashing.

Given the decision, on environmental and archaeological grounds, not to bring power to the island (See Chapter 4), toilet facilities require low impact wastewater treatment; the reed-bed toilet system is the preferred option in this regard. Chapter 3 shows the proposed location of toilets and reed-beds, as well as a schematic diagram and elevations. Further mitigation measures are listed below:

#### Reed-bed Toilet Systems

**TF3:** Any plans involving the provision of reed-bed toilet systems on Inis Cealtra needs to be cognisant of the sensitive landscape setting. The toilet site should be carefully selected so as to minimise visual impact on the sensitive surroundings; this includes consideration of lines of sight from the monuments that could be affected and negatively impact the historical integrity of the site and visitor experience.

**TF4:** The provision of a reed-bed toilet system on Inis Cealtra may necessitate the removal of overgrowth in the vicinity and potentially the planting of reeds; this would require ministerial consent and archaeological monitoring as it would involve ground disturbance.

**TF5:** It is recommended that the toilets be as far from the archaeological core of the site as possible (i.e. not in the eastern sector of the island nor in the vicinity of St. Michael’s). The area in the vicinity of the proposed northeast pier or the existing northwest pier is probably most suitable from an archaeological perspective; it is also an area already densely occupied by natural reed-beds.

**TF6:** The toilets and reed-bed habitats should be situated outside areas of high nature conservation value. The reed-bed system should include a species list that is made up of hydrophilous vegetation occurring at the island. Hydrophilous vegetation species not associated with the island should be avoided. This is to ensure that the seed stock of surrounding tall herb swamp vegetation is not altered by the introduction of new vegetation.

### 8.3.18 Shelters (SH)

**Proposal to Upgrade Fisherman’s Hut:** the hut has been vandalised and its door has been detached. Cattle regularly enter the currently open doorway of the hut, which causes damage. Also, one of the hut’s rafters has become detached so the roof is at risk of collapse. The structure is in urgent need of repair.

**SH1:** Any proposed works involving the fisherman’s hut should ensure its preservation as an interesting vernacular structure connected with the post-medieval use of the island for fishing and farming.

**SH2:** Any proposed works to the fisherman’s hut should be preceded by a bat inspection and where deemed necessary a bat survey. This hut is infrequently used as a night roost by bats. Where upgrades to the fisherman’s hut are proposed, measures to enhance its potential to support roosting bats should be incorporated into the upgrade design.

**SH3:** Following conservation, the hut could be re-used as a convenient shelter.

Proposal to Provide Rain Shelters, Unobtrusive Pod, or Storm Shelter

**SH4:** Any proposed shelters constructed on the island should avoid visual imposition and preserve lines of sight from the monuments in order to ensure the historical integrity of the site and visitor experience. The area in the vicinity of the proposed northeast pier or the existing northwest pier is probably most suitable from an archaeological perspective; it is preferable that all modern structures are grouped together.

**SH5:** Ground disturbance should be avoided.

**SH6:** The use of construction machinery should be avoided on the island where possible, and should always avoid crossing/landing on archaeologically sensitive zones as identified in the inventory (Chapter 3, Appendix 1) and in proposed geophysical surveys.

## 8.4 LIGHTING

Any external light installations (associated with Visitor Centre in Mountshannon - none are proposed for the island), will follow best practice guidance as recommended by Bat Conservation Trust (2009) and Bat Conservation Ireland (2010).

## 8.5 CLIMATE CONCERNS (CC)

Vulnerabilities:

- Inis Cealtra’s lake location makes it particularly vulnerable to the damaging effects of storms and strong winds.
- Climate change, temperature changes, and increased wind and rainfall can compromise archaeological monuments.
- Adverse weather conditions also impact on the numbers of tourists visiting the island and on the landing experience of the visitors on the island’s piers.

**CC1:** With regard for ICOMOS, a framework for monitoring climatic conditions that may affect the island should be developed.

**CC2:** The effects of storms and rising water levels on the archaeology must be continually monitored.

**CC3:** The site and monuments should be monitored after periods of heavy rainfall and wind for potential damage caused by flooding and ground damage. Similarly, after periods of drought the ground should also be monitored for erosion.

## 8.6 CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMPS)

A CEMPS shall be prepared in advance of the physical elements proposed as part of this Plan and will be implemented throughout. Such plans shall incorporate relevant mitigation measures indicated below.

- Clare County Council (CCC) will be informed in advance of construction activities in sensitive environmental areas.
- CCC will be informed of all construction or maintenance works located within the vicinity of European Sites, NHAs or pNHAs or in the vicinity of watercourses linked to these designated conservation areas. Monitoring of works in these locations will be undertaken and the results of monitoring will be provided to CCC.
- Where works are undertaken in/adjacent to sensitive environmental receptors all construction/maintenance staff will be inducted by means of a “Tool-box Talk” which will inform them of environmental sensitivities and the best practice to be implemented to avoid disturbance to these receptors
- All construction and maintenance works will be undertaken in accordance with the following guidance documents:
  - Inland Fisheries Ireland’s Requirements for the Protection of Fisheries Habitat during Construction and Development Works.
  - CIRIA (Construction Industry Research and Information Association) Guidance Documents
  - Control of water pollution from construction sites (C532)
  - Control of water pollution from linear construction projects: Technical Guidance (C648)
  - Control of water pollution from linear construction projects: Site Guide (C649)
  - Environmental Good Practice on Site (C692)
  - NRA Guidance Documents
  - Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes
  - Guidelines for the Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads
  - Guidelines for the Protection and Preservation of Trees, Hedgerows and Scrub Prior to, during and Post Construction of National Road Schemes
- Any excavations and/or vegetation removal will be minimised during construction and/or maintenance works.
- Excavated material will not be stored immediately adjacent to watercourses.
- Disturbance to natural drainage features should be avoided during the construction and/or maintenance of routes.
- Construction machinery should be restricted to public and or site roads. As a general rule machinery should not be allowed to access, park or travel over areas outside the footprint of proposed walking/cycling routes.
- During route maintenance no construction activities should be undertaken at watercourse crossing in wet weather conditions.
- Suitable prevention measures should be put in place at all times to prevent the release of sediment to drainage waters associated with construction areas and migration to adjacent watercourses To reduce erosion and silt-laden runoff, create, where possible, natural vegetation buffers and divert runoff from exposed areas, control the volume and velocity of runoff, and convey that runoff away from.

- Where necessary drainage waters from construction areas should be managed through a series of treatment stages that may include swales, check dams and detention ponds along with other pollution control measures such as silt fences and silt mats
- Where vegetation removal associated with treelines, hedgerows, individual mature trees, scrub or woodland is required, this shall only be undertaken outside the breeding bird season, between March and August inclusive.
- Where extensive areas of ground are to be exposed during route construction or maintenance dust suppression should be undertaken during periods of dry weather.
- All chemical substances required during construction and/or maintenance works will be stored in sealed containers.
- Any refuelling or lubrication of machinery will not be undertaken within 50m of a watercourse
- Spill kits will be required on site during construction and/or maintenance works.
- Ensure non-native, invasive species do not occur at construction/maintenance areas, or if occurring, are not spread as a results of works. The NRA Guidance on invasive species, outlined above will be adhered to.
- Disseminate information on sensitive ecological receptors, such as sensitive habitats, breeding upland birds etc. occurring adjacent to or in the wider area surrounding routes. This information will aim to educate recreational users on the conservation status and sensitivities of such receptors to encourage responsible usage of routes.
- Provide route facilities, such as trail-heads in areas away from sensitive habitats and species.

CEMPs typically provide details of intended construction practice for the proposed development, including:

- a) location of the sites and materials compound(s) including area(s) identified for the storage of construction refuse
- b) location of areas for construction site offices and staff facilities
- c) details of site security fencing and hoardings
- d) details of on-site car parking facilities for site workers during the course of construction
- e) details of the timing and routing of construction traffic to and from the construction site and associated directional signage
- f) measures to obviate queuing of construction traffic on the adjoining road network
- g) measures to prevent the spillage or deposit of clay, rubble or other debris
- h) alternative arrangements to be put in place for pedestrians and vehicles in the case of the closure of any public right of way during the course of site development works
- i) details of appropriate mitigation measures for noise, dust and vibration, and monitoring of such levels
- j) containment of all construction-related fuel and oil within specially constructed bunds to ensure that fuel spillages are fully contained; such bunds shall be roofed to exclude rainwater
- k) disposal of construction/demolition waste and details of how it is proposed to manage excavated soil
- l) a water and sediment management plan, providing for means to ensure that surface water runoff is controlled such that no silt or other pollutants enter local water courses or drains
- m) details of a water quality monitoring and sampling plan

- n) if peat is encountered - a peat storage, handling and reinstatement management plan
- o) measures adopted during construction to prevent the spread of invasive species (such as Japanese Knotweed)
- p) appointment of an ecological clerk of works at site investigation, preparation and construction phases

## **8.7 BIOSECURITY MEASURES**

The following measures to reduce risk of spread of alien and invasive species are recommended:

- Any soil or topsoil required within the plan area will be sourced from a stock that has been screened for the presence of any invasive species and where it is confirmed none are present.
- All machinery will be thoroughly cleaned and disinfected prior to arrival and departure from the site to prevent colonisation or introduction of invasive species. This process will be detailed in the contractor's method statement.
- Inland Fisheries Ireland and Canoeing Ireland have produced guidelines for the disinfection of paddle sport equipment to prevent the spread of invasive species. These should inform awareness raising for recreational users associated with the island.

## **8.8 PROTECTION OF UPSTANDING REMAINS.**

A number of the upstanding archaeological remains have been deemed in need of conservation and their vulnerabilities, and mitigation of same is discussed in Chapter 4 of Appendix 1.

## **8.9 FLOOD RISK ASSESSMENT**

The FRA report on the proposed visitor centre concluded that the road and site are most likely to be located in flood Zone C. This makes the site suitable for highly or less vulnerable development types. A Visitor Centre, which will not facilitate overnight accommodation, would qualify as less vulnerable development. The impacts from Climate Change are also anticipated to be low. Detailed site topography would be required to fully confirm the above statement.

### **8.9.1 Flood Risk Mitigation Measures**

FR1: The on-site visitor centre should be constructed with an Finished Floor level greater than the 1% AEP + Climate Change + Freeboard. It is recommended that the future 0.1% AEP level is used to account for climate change and that a freeboard of 480mm is applied to account for uncertainty (as derived from the 0.1% AEP, 95 percentile offset noted in Table 3-1 of the Flood Risk Assessment Report. The recommended minimum FFL is therefore 32.53m OD Malin.

FR2: Foul and surface water connections should be directly into the public system. On-site foul treatment/percolation system to groundwater is unlikely to be suitable at this location. This is to avoid any potential negative impacts to Lough Derg.

FR3: The stormwater design should be agreed with Clare County Council engineers with attenuation and maintenance of greenfield runoff rates recommended, with no direct discharge to Lough Derg without adequate on-site treatment.

See JBA Consulting Report-Addendum B to this document (below).

Finally, Table 24 below presents a summary of the SEOs, the key environmental effects and the key mitigation measures prepared for the VMSTDP.

Table 24 Summary Table of SEOs, Key Effects and Mitigation Measures

Strategic Environmental Objectives	Potential Significant Effects from plan implementation	Mitigation Measures developed through SEA and AA.
<b>Cultural Heritage</b>		
<p><b>CH1 – Protect and conserve the cultural heritage including the built environment and settings; archaeological (recorded and unrecorded monuments), architectural (Protected Structures, Architectural Conservation Areas, vernacular buildings, materials and urban fabric) and manmade landscape features (e.g. field walls, footpaths, gate piers etc.).</b></p>	<p>Greater visitor numbers increases the risk of damage to the monuments on the island.</p> <p>Certain areas are more vulnerable to damage from increased numbers and general footfall eg: The Saint’s Graveyard and earthworks.</p>	<p>The Burra Charter –overall principles for archaeology. Measures C1 to C10.</p> <p>Management Structure in particular MS1, MS4 and MS6.</p> <p>Awareness Raising and Education AR 1 to 6</p> <p>Interpretation I1 to I6</p> <p>Guide Service:GS1 to GS4</p> <p>Access and Transport AT1</p> <p>Physical Proposals in particular PP1 to PP14</p> <p>Shoreline and Pier Proposals SP1.</p> <p>Grazing and Woodland Management in particular GW1, GW2, GW6 , GW7.GW 18, 19 and 20.</p> <p>Pathways P1 to P4</p> <p>Signage S1 to S3</p> <p>Fencing F1 to F7</p> <p>Toilet Facilities TF4 and 5</p> <p>Shelters SH1</p> <p>CDP15.18Development Plan Objective: Sites, Features and Objects of Archaeological Interest</p>
<p><b>CH2 – To protect, conserve and enhance local folklore, traditions and placenames within the Plan area.</b></p>	<p>Increased boat traffic in and around the island could negatively impact upon known and unknown underwater archaeology.</p>	
<p><b>CH3 – To ensure the restoration and re-use of existing uninhabited and derelict structures where possible opposed to demolition and new build (to promote sustainability and reduce landfill)</b></p>	<p>Intangible cultural heritage may be negatively affected if the island is seen to become a ‘product’ with subsequent loss of community ownership and sense of place/attachment to Inis Cealtra.</p>	

Strategic Environmental Objectives	Potential Significant Effects from plan implementation	Mitigation Measures developed through SEA and AA.
<p><b>B1 – Protect, conserve, enhance where possible and avoid loss of diversity and integrity of the broad range of habitats,</b></p> <p><b>B2 – To achieve the conservation objectives of European Sites (SACs and SPAs) and other sites of nature conservation. species and wildlife corridors.</b></p> <p><b>B3 - Conserve and protect other sites of nature conservation including NHAs, pNHAs, National Parks, Nature Reserves, Wildfowl Sanctuaries as well as protected species outside these areas as covered by the Wildlife Act.</b></p> <p><b>B4 - Meet the requirements of the Water Framework Directive and the Shannon River Basin Management Plan/National River Basin Management Plan</b></p> <p><b>B5 – To minimise and, where possible, eliminate threats to biodiversity including invasive species.</b></p> <p><b>B6 - Promote green infrastructure networks, including riparian zones and wildlife corridors</b></p>	<p style="text-align: center;"><b>Biodiversity, Flora and Fauna</b></p> <p>The potential impacts associated with increasing visitor numbers relate to potential disturbance to species and habitats, particularly during seasons when they are more sensitive to disturbance associated with human activity</p> <p>Construction activities and potential pollution incidents.</p> <p>Accidental introduction of alien and invasive species</p> <p>Increased footfall could give rise to effects associated with trampling, new informal paths into more sensitive archaeological and ecological areas, subsequent erosion of soil and increase in rank grass species.</p> <p>Disturbance to bat species</p> <p>Loss of habitats or declining quality of habitats.</p>	<p>CDP15.10Development Plan Objective: Zones of Archaeological Protection</p> <p>CDP15.13 Development Plan Objective: Underwater Archaeology</p> <p>CDP 15.14Development Plan Objective: Cultural Development</p> <p>Visitor Management Mitigation Measures in particular</p> <p>MM1 Seasonality</p> <p>Access and Transport AT2</p> <p>Physical Proposals in particular PP14 to PP18</p> <p>Shoreline and Pier Proposals SP2, SP6 and SP7</p> <p>Grazing and Woodland Management, in particular GW4, GW5 and GW 17</p> <p>Pathways in particular P5 and P6</p> <p>Toilet Facilities TF6</p> <p>CDP 14.2Development Plan Objective: European Sites</p> <p>CDP 14.3 Development Plan Objective: Requirement for Appropriate Assessment under the Habitats Directive</p> <p>CDP 14.11 Development Plan Objective: Habitat Protection</p> <p>CDP 14.13Development Plan Objective: Habitat</p>

Strategic Environmental Objectives	Potential Significant Effects from plan implementation	Mitigation Measures developed through SEA and AA.
<p>S1 – To maximise the sustainable re-use of the existing built environment, derelict, disused and infill sites (brownfield sites), rather than greenfield sites</p> <p>S2 – Minimise the excavation and movement of soils within site works</p> <p>S3 – Minimise the consumption of non-renewable deposits on site.</p> <p>S4 - Conserve, protect and avoid loss of diversity and integrity of designated habitats, geological features, species or their sustaining resources in designated ecological sites.</p>	<p style="text-align: center;"><b>Soil and Geology</b></p> <p>Increased footfall and trampling of soil</p> <p>Increased surface run off and soil loss</p> <p>Reuse of existing buildings.</p> <p style="text-align: center;"><b>Water Resources</b></p>	<p>Fragmentation</p> <p>CDP 14.14 Development Plan Objective: Inland Waterways and River Corridors</p> <p>CDP 14.17 Development Plan Objective: Non-Designated Sites</p> <p>CDP 14.18 Development Plan Objective: Natural Heritage and Infrastructure Schemes</p> <p>Grazing and Woodland Management, in particular GW12 and GW13 and GW21</p> <p>Shelters SH1</p> <p>Physical Proposals in particular PP9</p> <p>Construction Environmental Management plan.</p>

Strategic Environmental Objectives	Potential Significant Effects from plan implementation	Mitigation Measures developed through SEA and AA.
<p><b>W1 – Protect and enhance the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystem (quality, level, flow).</b></p> <p><b>W2 – Maintain or improve the quality of surface water and groundwater to status objectives as set out in the Water Framework Directive (WFD), the Shannon River Basin Management Plan and POMS.</b></p> <p><b>W3 – Implement appropriate sustainable drainage systems (SuDS) in the County.</b></p> <p><b>W4 – Reduce the impact of polluting substances to all waters and prevent pollution and contamination of ground water by adhering to aquifer protection plans and to maintain and improve the quality of drinking water supplies.</b></p> <p><b>W5 - Promote sustainable water use and water conservation in the plan area and to maintain and improve the quality of drinking water supplies.</b></p> <p><b>W6 –Protect flood plains and areas of flood risk from development through avoidance, mitigation and adaptation measures.</b></p> <p><b>W7 – To promote a responsible attitude to recreation and amenity use of water in relation to water quality and disturbance to species and to prevent pollution and contamination of designated bathing waters at <i>Mountshannon Harbour</i>.</b></p>	<p>The island is underlain by limestone bedrock which is quite permeable; this requires consideration in regard to the wastewater proposals.</p> <p>Increased surface run off</p> <p>Introduction or spread of alien invasive species.</p> <p>Existing wastewater and water supply capacity and potential demands arising from visitor centre and increased visitor numbers generally.</p> <p>Potential flood risk</p>	<p>Construction Environmental Management plan.</p> <p>Toilet Facilities TF6</p> <p>Physical Proposals in particular PP9</p> <p>CDP 8.21 Development Plan Objective: Water Framework Directive</p> <p>CDP8.22 Development Plan Objective: Protection of Water Resources</p> <p>CDP 18.6 Development Plan Objective: Strategic Flood Risk Assessment</p> <p>CDP 18.7 Development Plan Objective: CFRAMS</p>

Strategic Environmental Objectives	Potential Significant Effects from plan implementation	Mitigation Measures developed through SEA and AA.
<p><b>L1-Ensure no significant disruption of historic/cultural landscapes and features through the <i>implementation of the Inis Cealtra plan</i>.</b></p> <p><b>L2-No significant <i>adverse</i> visual impact from development proposals associated with the Inis Cealtra plan</b></p> <p><b>L3-Ensure no significant disruption of key characteristics of the Lough Derg Basin Landscape Character Area arising from the Inis Cealtra plan</b></p>	<p style="text-align: center;"><b>Landscape</b></p> <p>Landscape character, cultural heritage, noise and ecology are all contribute together to create the distinctive experience of Inis Cealtra currently. Increased visitor numbers that may increase noise and human disturbance can detract from other visitors' experience.</p> <p>The character and setting of the island confer a strong and distinctive character, and proposals for the above elements must reflect and enhance character and reduce visual impact and clutter</p>	<p>Pathways P8 and P10</p> <p>Toilet Facilities in particular TF3</p> <p>Construction Environmental Management plan.</p> <p>Physical Proposals in particular PP9</p> <p>CDP 13.1 Development Plan Objective: Landscape Character Assessment</p> <p>CDP 13.5 Development Plan Objective: Heritage Landscapes</p> <p>CDP 13.7 Development Plan Objective: Scenic Routes</p>
<p><b>P1- Protect, enhance and improve people's quality of life based on high quality residential, community, educational, working and recreational environments and on sustainable travel patterns.</b></p> <p><b>P2-To protect human health from hazards or nuisances arising from incompatible land uses/developments.</b></p> <p><b>P3- Recognise and protect the spiritual and historic contribution that Inis Cealtra makes to the community.</b></p>	<p style="text-align: center;"><b>Population and Human Health</b></p> <p>The proposed visitor centre has been selected based on generating positive local economic benefits for Mountshannon; by locating it in the park it allows pedestrian access from the main street and also the possibility of park and ride with limited private car parking. Impacts identified for the Visitor Centre relate to new developments on greenfield sites and would be assessed for compliance with the relevant objectives of the Clare CDP 2017-2023.</p> <p>In relation to the proposed visitor numbers and in line with objective 8.25 Water Supply of the Clare CDP 2017-2023, additional capacity for drinking water will be required for Mountshannon.</p> <p>Traffic management: consideration of effects of</p>	<p>Awareness Raising and Education AR 1 to 6</p> <p>Guide Service GS1 to GS4</p> <p>Access and Transport AT3</p> <p>Burial Practices B1</p> <p>Pathways in particular P1</p> <p>Signage S1 to s3</p> <p>Toilet Facilities TF1</p> <p>CDP 3.5 Development Plan Objective: Large Villages</p> <p>CDP 5.6 Development Plan Objective: Accessibility</p> <p>CDP 7.8 Development Plan Objective: Large Villages</p>

Strategic Environmental Objectives	Potential Significant Effects from plan implementation	Mitigation Measures developed through SEA and AA.
<p><b>T1 – Maximise sustainable modes of transport and encourage use of walkways/cycle paths as alternative routes to school, work, shops and Plan Area</b></p> <p><b>WA1 – Implement the waste pyramid and encourage reuse/recycling of material wherever possible.</b></p> <p><b>WS1 - To ensure adequate and clean drinking water supplies.</b></p> <p><b>WS2 - Promote water conservation and sustainable water usage for long- term protection of available water resources.</b></p> <p><b>WW1 - To ensure that all zoned lands (existing and proposed) are connected to the public sewer network ensuring treatment of wastewater which meet EU requirements prior to discharge. .</b></p>	<p>increased visitors and means of transport.</p> <p>Ensuring accessibility to visitor centre and to the island itself.</p> <p style="text-align: center;"><b>Material Assets</b></p> <p>Traffic management: consideration of effects of increased visitors and means of transport.</p> <p>Increased use of resources in relation to wastewater and water supply.</p> <p>Current wastewater capacity is not sufficient for proposed visitor numbers to the centre in Mountshannon. To achieve the target figures by year five, the wastewater treatment capacity requires significant additional investigation into wastewater capacity and receiving waters will be required.</p> <p>Wastewater capacity and supply of potable waters supplies.</p>	<p>CDP 19.3 Development Plan Objective: Compliance with Zoning</p> <p>CDP5.24 Development Plan Objective: Burial Grounds/Crematoria</p> <p>Volume 3 Flood Risk Assessment</p> <p>Construction Environmental Management Plan</p> <p>CDP8.24 Development Plan Objective: Water Services</p> <p>CDP8.25 Development Plan Objective: Water Supply</p> <p>CDP8.27 Development Plan Objective: Wastewater Treatment and disposal</p>
<p><b>CC1- ensure that proposals are adaptive to expected climate change patterns.</b></p>	<p style="text-align: center;"><b>Climate Change</b></p> <p>Potential effects in relation to increased water levels in Lough Derg and shoreline and underwater archaeological resources.</p> <p>New physical infrastructure in areas of flood risk</p>	<p>Climate Concerns CC1 to CC3</p> <p>Volume 3 Flood Risk Assessment</p> <p>CDP18.2 Development Plan Objective: Climate Change Adaptation</p>

## **9 MONITORING**

### **9.1 INTRODUCTION**

It is proposed, in accordance with Article 10 of the SEA Directive, to base monitoring on a series of indicators which measure changes in the environment, especially changes which are critical in terms of environmental quality, for example water pollution levels. Monitoring will focus on the aspects of the environment that are likely to be significantly impacted upon by the implementation of the Inis Cealtra plan.

The targets and indicators are derived from the Strategic Environmental Objectives (SEOs) discussed in Chapter Five. The target underpins the objective whilst the indicators are used to track the progress of the objective and targets in terms of monitoring of impacts.

The monitoring programme will consist of an assessment of the relevant indicators and targets against the data relating to each environmental component. Similarly, monitoring will be carried out frequently to ensure that any changes to the environment can be identified. This monitoring programme will guide one of the key mitigation measures contained within the Environmental Management Plan presented in Chapter Eight.

### **9.2 FREQUENCY OF MONITORING AND REPORTING**

Given the proposed increase in visitor numbers envisaged through the Inis Cealtra plan the potential impacts of this increase is identified as a key potential environmental issue, particularly in relation to cultural heritage. Therefore as part of the EMP, annual monitoring is proposed pre and post peak visitor season for Years 1 to 5. Further detail is provided in Chapter Eight.

Should new data or the following occur, additional monitoring will be required:

- Significant visitor impacts at archaeological features, upstanding or earthworks
- Trampling/disturbance to priority habitats

In turn the list below is subject to review at each reporting stage to reflect new data. Should the monitoring regime identify significant impacts (such as impacts on designated sites) early on in the plan implementation, this should trigger a review of the plan and monitoring regime. In addition, the identification of positive impacts from monitoring should also be reported as this will assist in determining successful environmental actions.

Finally, it is recommended that the monitoring report be made available to the public upon its completion. It is recommended that this data be shared with neighbouring local authorities to assist in monitoring cross county effects and ensure consistency of monitoring. Table 25 below presents the SEA Monitoring Table. This table sets out the strategic environmental objectives, targets and indicators to applied in monitoring the significant environmental effects of the implementation of the plan, in accordance with Section 13J(2) of the Planning and Development (SEA) Regulations 2004, as amended. It is proposed that the SEA monitoring reporting should go parallel with the reviewing of the Clare CDP.

Table 25 Monitoring Programme Inis Cealtra plan

Topic	Strategic Environmental Objectives	Target	Indicator	Source/ Responsibility /Frequency. <sup>21</sup>
Cultural Heritage	CH1 – Protect and conserve the cultural heritage including the built environment and settings; archaeological (recorded and unrecorded monuments), architectural (Protected Structures, Architectural Conservation Areas, vernacular buildings, materials and urban fabric) and manmade landscape features (e.g. field walls, footpaths, gate piers etc.).	No permitted development associated with plan which involves loss of cultural heritage, including protected structures, archaeological sites, Architectural Conservations Areas and landscape features.	No. of developments permitted during the lifetime of the plan which will result in the loss or partial loss of protected structures or sites of archaeological status.  Development of cultural heritage areas for amenity resources	CCC
	CH2 – To protect, conserve and enhance local folklore, traditions and placenames within the Plan area.	Interpretation associated with Inis Cealtra that highlights intangible cultural heritage	Provision of same in Visitor Centre and part of interpretation on site	CCC, NMS, DAHG
	CH3 – To ensure the restoration and re-use of existing uninhabited and derelict structures where possible opposed to demolition and new build (to promote sustainability and	To increase the number of uninhabited and derelict structures that are restored opposed to demolition, particularly in relation to Fishermans Hut, Inis Cealtra	No. planning applications for restoration/re-use of vacant and derelict structures.  No. planning applications for demolition and redevelopment of vacant and derelict sites.	CCC

<sup>21</sup> Column text altered to show more explicitly the assignment of targets and responsibilities for same-this is in response to a submission by the EPA

reduce landfill)				
<b>Biodiversity , Flora and Fauna</b>	B1 – Protect, conserve, enhance where possible and avoid loss of diversity and integrity of the broad range of habitats, species and wildlife corridors.	<p>No reduce in length or loss of hedgerows associated with plan.</p> <p>Operators who conduct mechanical hedge cutting should have achieved the Teagasc proficiency standard MT 1302- Mechanical Hedge Trimming.</p> <p>No ecological networks or parts thereof which provide significant connectivity between areas of local biodiversity to be lost without remediation as a result of implementation of the plan.</p>	<p>Percentage of unique habitats and species lost in non-designated sites within the plan area of the plan over the lifetime of the Plan through trending of annual/bi-annual surveys.</p> <p>EIA and AA project level habitat survey and assessment associated with planning applications.</p>	<p>CCC OPW Coillte NPWS Shannon RBD/National RBD NPWS CCC OPW National Biodiversity Data Centre</p>
	B2 – To achieve the conservation objectives of European Sites (SACs and SPAs) and other sites of nature conservation.	<p>No loss of protected habitats and species associated proposals arising from the plan.</p> <p>No compromise in the favourable conservation condition of European sites in particular the Lough Derg SPA and wetland habitats associated with Inis Cealtra</p>	<p>Percentage of unique habitats and species lost in designated sites through plan planning applications.</p> <p>No./percentage of developments in/near Natura 2000 network.</p>	CCC
	B3 - Conserve and protect other sites of nature conservation including NHAs, pNHAs, National Parks, Nature Reserves, Wildfowl Sanctuaries as well as	<p>No loss of protected habitats &amp; species during the lifetime of the plan.</p> <p>Submission of HDA for proposed developments with planning applications</p>	<p>Percentage of unique habitats and species lost in designated sites through trending of annual surveys.</p> <p>Provision/No. of HDAs with developments proposed for sites</p>	CCC

protected species outside these areas as covered by the Wildlife Act.	in/and/or near Natura 2000 sites	in/and/or near Natura 2000 sites	
B4 - Meet the requirements of the Water Framework Directive and the Shannon River Basin Management Plan/National River Basin Management Plan	All waters within the plan area to achieve the requirements of the WFD and the relevant River Basin Management Plan by 2027.  Ensure provision of riparian zones at project/site level	No of surface and groundwater bodies achieving “Good Status”.  No of waterbodies indicating deterioration in status.  No of planning applications associated with plan (or EIA) with sufficient inclusion of buffer zones where necessary and applicable.	
B5 – To minimise and, where possible, eliminate threats to bio-diversity including invasive species.	Prevent the introduction of new invasive or alien species to Inis Cealtra in particular.  Control/manage new invasive species in line with Clare CDP 2017-2023	Prevent the introduction of new invasive or alien species on Inis Cealtra.  Control/manage new invasive species associated with proposals for plan	CCC
B6 - Promote green infrastructure networks, including riparian zones and wildlife corridors	Ensure new development is set back at from rivers.  The recommended width for larger river channels (>10m) is 35m to 60m and for smaller channels (<10m) is 20m or greater. The determined width should be tailored to site specific, river reach or lakeshore characteristics and their associated habitats. It is important that the buffer zone is large enough to protect the ecological	No. planning permissions close to water.	CCC

		integrity of the river (including emergent vegetation), the riparian zone (bank side vegetation including trees) and takes into account the human history of the area.		
<b>Geology and Soil</b>	S1 – To maximise the sustainable re-use of the existing built environment, derelict, disused and infill sites (brownfield sites), rather than greenfield sites	<p>Preference for development on brownfield site over green field.</p> <p>Limited and controlled development of greenfield sites.</p> <p>Re-use of soil from redeveloped sites where possible.</p> <p>No incidences of soil contamination.</p>	No/% of new developments on brownfield sites and. % of total greenfield land developed associated with plan.	CCC
	S2 – Minimise the excavation and movement of soils within site works	-	Volume of construction and demolition waste recycled	CCC
	S3 – Minimise the consumption of non-renewable deposits on site.	Promotion of construction and demolition waste management at plan level.	Management for or Construction and Demolition Waste as part of plan proposals.	CCC
	S4 - Conserve, protect and avoid loss of diversity and integrity of designated habitats, geological features, species or their sustaining resources in designated ecological sites.	No loss of diversity and integrity of designated habitats, geological features, species or their sustaining resources in designated ecological sites.	Percentage of habitats, geological features, species etc. lost over the lifetime of the plan through monitoring provisions of plan.	CCC
<b>Water</b>	W1 – Protect and enhance the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems	To achieve a Q rating of 4 ‘good’ quality status by 2021 for Lough Derg Water Management Unit	Biotic quality rating of river waters at EPA monitoring locations	EPA

and wetlands directly depending on the aquatic ecosystem (quality, level, flow).

W2 – Maintain or improve the quality of surface water and groundwater to status objectives as set out in the Water Framework Directive (WFD), the Shannon River Basin Management Plan and POMS.	Improvement or at least no deterioration in surface water quality by 2021	Changes in receiving water quality as identified during water quality monitoring for WFD, SRBMD conducted by CCC and EPA	CCC EPA
W3 – Implement appropriate sustainable drainage systems (SuDS) in the County.	New drainage systems to be compliant with SUDs associated with plan visitor centre if considered necessary by CCC.	No. of developments associated with plan granted planning permission that incorporate SUDs	CCC
W4 – Reduce the impact of polluting substances to all waters and prevent pollution and contamination of ground water by adhering to aquifer protection plans and to maintain and improve the quality of drinking water supplies.	Improvement or at least no deterioration in surface and groundwaters by 2021	Changes in receiving waters and groundwater quality as identified by water quality monitoring programmes conducted by CCC and EPA	CCC EPA
W5 - Promote sustainable water use and water conservation in the plan area and to maintain and improve the quality of drinking water supplies.	Pressure on water and waste water treatment plants particularly in Mountshannon.	Decrease in no. of water shortage notices issued during drought periods,  Water conservation measures designed into plan visitor centre.	CCC
W6 –Protect flood plains and areas of flood risk from development through avoidance, mitigation	In accordance with OPW/DOEHLG, all planning applications within designated Flood Risk zones A	Flood risk assessment as part of plan planning applications- Visitor Centre potential site is outside flood zone A/B.	CCC

	and adaptation measures.	and B as identified in the Strategic Flood Risk Assessment for the plan are required to undertake Flood Risk assessment		
	W7 – To promote a responsible attitude to recreation and amenity use of water in relation to water quality and disturbance to species and to prevent pollution and contamination of designated bathing waters <b>at Mountshannon Harbour.</b>	Leave No Trace at Visitor Centre  Invasive Species awareness raising as part of interpretation	-	CC
<b>Landscape</b>	L1-Ensure no significant disruption of historic/cultural landscapes and features through the <b>implementation of the Inis Cealtra plan.</b>	Ensure no significant disruption of historic/cultural landscapes and features through objectives of the County Development Plan and plan	No. of developments permitted and their impacts on cultural/historic landscapes.  No. of developments located within Scenic Route or no degradation of areas designated as Heritage Landscapes (Locations in text and on maps)  No. of developments located within a designated scenic view or route or high landscape area in County Clare that disrupt views (based on the LCA)	CCC
	L2-No significant <b>adverse</b> visual impact from development proposals associated with the Inis Cealtra plan	No significant visual impact from development associated with plan  Ensure no significant disruption of high landscape values	No. of developments located within a high landscape area that disrupt views (based on LCA):  Loss of vistas/views  Loss of trees  Loss of amenity	CCC

			woodland. No of large scale developments permitted	
	L3-Ensure no significant disruption of key characteristics of the Lough Derg Basin Landscape Character Area arising from the Inis Cealtra plan	No significant loss of landscape characteristics associated with plan. Enhancement of landscape character through proposals associated with plan	Visual and landscape character assessment prepared as part of plan proposals by suitably qualified landscape specialist.	CCC
<b>Population and Human health (including Quality of Life)</b>	P1- Protect, enhance and improve people's quality of life based on high quality residential, community, educational, working and recreational environments and on sustainable travel patterns.	Improved trends in perceived quality of life related to these matters. Local economic benefit from plan to plan area. No significant deterioration in human health as a result of environmental factors.	Improved trends in perceived quality of life related to these matters as gathered through surveys Increase in local bed nights and part/full time employment associated with plan by year 5. Occurrence of any decline in human health around the plan area.	CSO
	P2-To protect human health from hazards or nuisances arising from incompatible land uses/developments.	No spatial concentrations of health problems arising from environmental factors	Any occurrence of spatially concentrated deterioration in human health.	CSO CCC
	P3- Recognise and protect the spiritual and historic contribution that Inis Cealtra makes to the community.	Continued use of Inis Cealtra for ritual and spiritual events by the wider community.	No of community events associated with Inis Cealtra	CCC
<b>Material Assets</b>				
<b>Transport</b>	T1 – Maximise sustainable modes of transport and encourage use of walkways/cycle paths as alternative routes	Park and ride facilities provided	Number of car parking spaces Number of bus/coach trips to plan area and Visitor Centre annually.	CCC

to school, work, shops and Plan Area

<b>Waste</b>	WA1 – Implement the waste pyramid and encourage reuse/recycling of material wherever possible.	Reduction in the quantities of waste sent to landfill.  Compliance with the Southern Region Waste Management Plan	Quantity of Visitor Centre waste recycled.	CCC
<b>Water Supply</b>	WS1 - To ensure adequate and clean drinking water supplies.	Upgrade existing water treatment plant within the plan area in advance of plan proposals around visitor centre	Upgrade undertaken within the plan area.	CCC Irish Water
	WS2 - Promote water conservation and sustainable water usage for long- term protection of available water resources.	Reduce the amount of water usage.  Increase usage of water collected through water harvesting and designed into Visitor Centre.	Water meter readings.  Fitting of rainwater harvesting units at Visitor Centre.	CCC Irish Water
<b>Waste Water</b>	WW1 - To ensure that all zoned lands (existing and proposed) are connected to the public sewer network ensuring treatment of wastewater which meet EU requirements prior to discharge. .	Upgrade existing wastewater treatment plant infrastructure identified within the plan as being insufficient, based on existing and forecasted population equivalent associated with increased Visitor Numbers to meet EU requirements	Upgraded Waste Water Treatment Plants within the plan are	CCC Irish Water
<b>Climate Change</b>	CC1- ensure that proposals are adaptive to expected climate change patterns.	A framework for monitoring climatic conditions that may affect the island should be developed.	Framework prepared by Year 1.	CCC with ICOMOS/DAH G

### 9.3 CONCLUSION

This SEA Environmental Report demonstrates how environmental parameters have been addressed in the plan preparation process. Consultation has been undertaken for the Screening and Scoping of this Environmental Report and further opportunity to comment on the Draft plan will be possible over the forthcoming weeks.

The preparation of a specific Environmental Management Plan to accompany the Inis Cealtra plan is the key output of the SEA and AA process and has been developed and refined through the SEA and HDA process to date.

The SEA and HDA has been undertaken in line with the Planning and Development (Strategic Environmental Assessment) Regulations 2004 to 2011 (as amended) and the European Communities (Natural Habitats) Regulations 2011.

Subject to the full and proper implementation of the mitigation measures outlined in this SEA Environmental Report, Natura Impact Report and included in Chapter Five of the plan including appropriate site level investigations; it is considered that significant adverse impacts on the environment will be avoided.

## 10 ADDENDUM A- LEGISLATION, CONVENTIONS AND STANDARDS

Title	Summary
<b>Sustainable Development</b>	
EU Environmental Action Programme to 2020	The 7 <sup>th</sup> EU Environmental Action Programme is more strategic in nature and identifies three main areas to guide EU environmental policy and research. The three thematic priority objectives are intended to: Protect nature and strengthen ecological resilience Boost sustainable resource-efficient low-carbon growth, and Effectively address environment-related threats to health.
<b>Environmental Assessment</b>	
SEA Directive - Assessment of the effects of certain plans and programmes on the Environment, (2001/42/EC) 2001	This Directive requires plan-makers to carry out an assessment of the likely significant environmental effects of implementing a plan or programme before the plan or programme is adopted.
Environmental Impact Assessment Directive (85/337/EEC) (97/11/EC), 1985	The EIA Directive (85/337/EEC) came into force in 1985 and applies to a wide range of defined public and private projects, which are defined in Annexes I and II of the Directive.
<b>Biodiversity, Flora and Fauna</b>	
UN Convention of Biological Diversity, 1992	The Convention on Biological Diversity (CBD) entered into force in December 1993. It has 3 main objectives: 1. The conservation of biological diversity. 2. The sustainable use of the components of biological diversity. 3. The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources.
The Convention on Wetlands of International Importance (The Ramsar Convention) 1971 and subsequent amendments	Protection and conservation of wetlands and habitats of importance to waterfowl
EU Biodiversity Strategy to 2020	In 2011 the European Commission adopted a new strategy to halt the loss of biodiversity and ecosystem services in the EU by 2020. There are six main targets, and 20 actions to help Europe reach its goal. The six targets cover: • Full implementation of EU nature legislation to protect biodiversity. • Better protection for ecosystems, and more use of green infrastructure. • More sustainable agriculture and forestry. • Better management of fish stocks. • Tighter controls on invasive alien species. • A bigger EU contribution to averting global biodiversity loss.
EU Directive on the Conservation of Wild Birds, (2009/147/EC) 1979. Known as the Birds Directive	This Directive ensures far-reaching protection for all of Europe's wild birds, identifying 194 species and sub-species among them as particularly threatened and in need of special conservation measures. Member States are required to designate Special Protection Areas (SPAs) for 194 particularly threatened species and all migratory bird species. SPAs are scientifically identified areas

	critical for the survival of the targeted species, such as wetlands. They are part of the Natura 2000 ecological network established under the Habitats Directive 92/43/EEC.
EU Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna, (92/43/EEC), 1992 known as the Habitats Directive	The main goal of the Directive is to promote the maintenance of biodiversity by requiring Member States to take measures to maintain, protect or restore natural habitats, animal and plant species to a favourable conservation status, introducing robust protection for those habitats and species of European importance. For Ireland, these habitats include raised bogs, active blanket bogs, turloughs, sand dunes, machair (flat sandy plains on the north and west coasts), heaths, lakes, rivers, woodlands, estuaries and sea inlets. The Directive provides for a network of protected sites known as The Natura 2000 network, which limits the extent and nature of development which may have a detrimental effect on the flora or fauna identified therein.
European Communities (Birds and Natural Habitats) Regulations 2011	These regulations consolidate the European Communities (Natural Habitats) Regulations 1997 to 2005 and the European Communities (Birds and Natural Habitats)(Control of Recreational Activities) Regulations 2010, as well as addressing transposition failures identified in the CJEU judgements. Articles 6(1) and (2) of the Regulations require Member States to take appropriate conservation measures to maintain and restore habitats and species, for which a site has been designated, to a favourable conservation status. Furthermore the Regulations require Member States to avoid damaging activities that could significantly disturb these species or deteriorate the habitats of the protected species or habitat types. Under these regulations any plan or project likely to have a significant effect on a Natura 2000 site, either individually or in combination with other plans or projects, shall undergo an Appropriate Assessment to determine its implications for the site. The competent authorities can only agree to the plan or project after having ascertained that it will not adversely affect the integrity of the site concerned. In exceptional circumstances, a plan or project may still be allowed to go ahead, in spite of a negative assessment, provided there are no alternative solutions and the plan or project is considered to be of overriding public interest.
Green Infrastructure Strategy	The European Commission in May 2013 adopted a Green Infrastructure Strategy, ' <i>to promote the deployment of green infrastructure in the EU in urban and rural areas</i> '. This is a key step in implementing the EU 2020 Biodiversity Strategy and specifically Target 2 that requires that ' <i>by 2020, ecosystems and their services are maintained and enhanced by establishing green infrastructure and restoring at least 15% of degraded ecosystems</i> '. Green Infrastructure (GI) is contributing to all other targets of the EU Biodiversity strategy – in particular the full implementation of the Birds and Habitats Directive (target 1) – and to maintain and enhance biodiversity in the wider countryside and the marine environment (targets 3 and 4).
<b>Population and Human Health</b>	
The Stockholm Convention	The Stockholm Convention on Persistent Organic Pollutants is a global treaty to protect human health and the environment from chemicals that remain intact in the environment for long periods, become widely distributed

geographically, accumulate in the fatty tissue of humans and wildlife, and have adverse effects to human health or to the environment.

Several environmental parameters interact and impact on human health including water quality, infrastructure, air quality, soil, cultural heritage and landscape; the plans, policies and programmes associated with these are presented under thematic headings as appropriate.

#### Geology and Soil

**EU Soil Thematic Strategy** In September 2006, the European Commission published the final Thematic Strategy for Soil Protection (COM(2006)231 final) and a proposal for a Directive establishing a framework for the protection of soil across the EU (COM(2006)232). The objective of the strategy is to protect and ensure the sustainable use of soil, based on the guiding principles of preserving soil functions, preventing further degradation and restoring degraded soils to a level of functionality consistent with current and intended use. Once adopted the European Soil Thematic Strategy will guide and frame Ireland's approach to developing its own soil protection strategy.

#### Water Resources

**Water Framework Directive (2000/60/EC) as amended** The Water Framework Directive (WFD) was adopted in 2000 in an effort to establish a framework for the protection of waterbodies within the EU including:  
inland surface waters; groundwater; transitional waters; and coastal waters.  
The key aims of the WFD are:  
expanding the scope of water protection to all waters, surface waters and groundwater;  
achieving "good status" for all waters by a set deadline  
water management based on river basins;  
"combined approach" of emission limit values and quality standards.  
getting the prices right;  
getting the citizen involved more closely, and  
streamlining legislation.  
Its ultimate objective is to achieve "good ecological and chemical status" for all Community waters by 2015.

**Floods Directive (2007/60/EC)** The Directive aims to establish a common framework for assessing and reducing the risk that floods within the European Union pose to human health, the environment, property and economic activity.

**The Drinking Water Directive (DWD), (98/83/EC) 1998** This Directive is intended to protect human health by laying down healthiness and purity requirements which must be met by drinking water within the Community.

**Groundwater Directive, (2006/118/EC) 2006** This directive establishes a regime which sets underground water quality standards and introduces measures to prevent or limit inputs of pollutants into groundwater.

**EC Bathing Water Quality Directive, (2006/7/EC) 2006** This Directive strengthens the rules guaranteeing bathing water quality It supplements Directive 2000/60/EC on water protection and management. Each year, the Member States are required to identify the bathing waters in their territory and define the length of the bathing season. They shall establish monitoring at the location most used by bathers or where the risk of

	pollution is greatest.
<b>Climate and Air Quality</b>	
Kyoto Protocol	The Protocol was initially adopted on 11 December 1997 in Kyoto, Japan, and entered into force on 16 February 2005. To date 191 states have signed and ratified the protocol. Following the Conference of Parties to the Climate Change Convention (COP) meeting in Copenhagen 2009, the EU revised its commitment to reducing greenhouse gases by increasing the target to 20% reduction on 1990 levels by 2020.
The Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive	The EU objective in relation to air quality is ‘to achieve levels of air quality that do not result in unacceptable impacts on, and risks to, human health and the environment’.
<b>Material Assets</b>	
EU Directive on Waste, (2006/12/EC), 2006	This Directive requires EU States to publish waste management plans. It requires a system of permits and registrations to be put in place to authorise all waste management infrastructure, as well as setting down the basic requirements that need to be satisfied for these statutory authorisations to be issued.
EU Directive on Waste (2008/98/EC), 2008	This Directive establishes a legal framework for the treatment of waste within the Community. It aims at protecting the environment and human health through the prevention of the harmful effects of waste generation and waste management. The Directive requires Member States to take measures for the treatment of their waste in line with the following hierarchy which is listed in order of priority:• prevention;• preparing for reuse;• recycling;• other recovery, notably energy recovery;• disposal.
EU Urban Waste Water Treatment Directive (91/271/EEC), 1991	The aim of the Urban Waste Water Directive is to protect inland surface waters from the adverse effects of discharges of urban wastewater and discharge of certain biodegradable industrial waste water (particularly from the agro-food industry).
Directive 2009/28/EC on the promotion of the use of energy from renewable sources	Directive 2009/28/EC on the promotion of the use of energy from renewable sources establishes the basis for the achievement of the EU’s 20% renewable energy target by 2020. Under the terms of the Directive, each Member State is set an individually binding renewable energy target, which will contribute to the achievement of the overall EU goal. Each Member State is required to adopt a national renewable energy action plan.
<b>Cultural Heritage Archaeology and Built Heritage</b>	
The World Heritage Convention	The World Heritage Convention was adopted by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) in November 1972. The World Heritage Convention aims to promote cooperation among nations to protect heritage around the world that is of such outstanding universal value that its conservation is important for current and future generations.. The following sites are on the tentative list for World Heritage Site Designation in the county: Inis Cealtra and the Burren.
European Convention on the Protection of the Archaeological Heritage,	This Convention was ratified by Ireland in 1997 and as such the Planning Authority is legally bound by it. The aim of the Convention is to ‘protect the archaeological heritage as a source of the European collective memory and as

1992 (The Valletta Convention)	an instrument for historical and scientific study'. It requires that appropriate consideration be given to archaeological issues at all stages of the planning and development process.
Convention for the Protection of the Architectural Heritage of Europe, 1985 (Granada Convention)	Ratified by Ireland in 1997, the 1985 Convention for the Protection of the Architectural Heritage of Europe is intended to reinforce and promote policies for the conservation and enhancement of Europe's heritage. The Convention is dual purpose, involving the promotion of architectural heritage policies while fostering European-wide co-operation measures. Covering monuments, groups of buildings and sites of importance, the Convention requires a national inventory of architectural heritage to be developed. Legal protection measures must be established, with a system of formal authorisation required for works affecting protected sites and structures. Architectural heritage conservation considerations are required to feature in the Convention signatories' town and Regional planning processes.
<b>Landscape</b>	
The European Landscape Convention 2000	The 2000 European Landscape Convention, adopted in Florence (and was ratified by Ireland in 2002), requires a commitment to introduce policies on landscape protection and management. It promotes the protection, management and planning of EU landscapes as a response to European-wide concerns that the quality and diversity of landscapes were deteriorating. The underlying purpose of the Convention is to encourage public authorities to adopt policies and measures at local, Regional, National and International level to protect and manage landscapes throughout Europe.
<b>Other relevant conventions, plans, policies and programmes</b>	
The Aarhus Convention	The Aarhus Convention establishes a number of rights of the public (individuals and their associations) with regard to the environment. The Parties to the Convention are required to make the necessary provisions so that public authorities (at national, regional or local level) will contribute to these rights to become effective.
Environmental Liability Directive 2004/35/EC	The overall objective of the Directive and the Regulations is to prevent and remedy environmental damage by holding operators whose activities have caused environmental damage financially liable for remedying the damage. The Environmental Liability Regulations 2008 define environmental damage under three categories: Damage to natural habitats and protected species - any damage that has significant adverse effects on reaching or maintaining the favourable conservation status of European designated habitats or species (i.e. those covered by the Habitats Directive (92/43/EEC) and Birds Directive (79/409/EEC)). Water damage - damage which significantly adversely affects the ecological, chemical and/or quantitative status and/or ecological potential of waters covered in the Water Framework Directive (2000/60/EC). Land damage - any contamination that creates a significant risk of human health being adversely affected as a result of the direct or indirect introduction in or under the land of substances, preparations, organisms or micro-organisms.

Title	Summary
<b>Sustainable Development</b>	
Our Sustainable Future A framework for sustainable development in Ireland	Our Sustainable Future timeframe is to 2020 to tie in with other national and international frameworks, but a longer-term horizon to 2050 is also taken where appropriate, to provide a framework for guiding and reporting on long-term broad development trends such as on climate change.
National Planning Framework (in preparation)	The NPF will replace the National Spatial Strategy (see below) and is currently in preparation. An issues paper and the SEA Scoping report were prepared in February 2017 and cover a range of key spatial issues and environmental considerations for a twenty year period.
The National Spatial Strategy 2002 -2020	The National Spatial Strategy (NSS) 2002-2020 is the national strategic planning framework to achieve a better balance of social, economic and physical development across Ireland, supported by more effective planning. It recognises that regions of the country have different roles and seeks to organise and coordinate these roles in a complementary way making all regions more competitive according to their strengths. It seeks also to promote a high quality urban environment, as well as vibrant rural areas.
<b>Biodiversity, Flora and Fauna</b>	
Actions for Biodiversity 2011 – 2016, Ireland’s 2nd National Biodiversity Plan	The National Biodiversity Plan is intended to play a central part in Ireland’s efforts to halt biodiversity loss and was developed as in line with the EU and International Biodiversity strategies and policies. It sets out the strategic objectives of the government in relation to biodiversity
Wildlife (Amendment) Act 2000	The Wildlife Act is Ireland’s primary national legislation for the protection of wildlife. It covers a broad range of issues, from the designation of nature reserves, the protection of species, regulation of hunting and controls in wildlife trading. It is implemented by a series of regulations. The Act provides strict protection for nearly all birds, 22 other animal species, and 86 plant species. These species are protected from injury, or from disturbance / damage to their breeding or resting place wherever these occur. The 2000 Act was amended in 2010.
National Heritage Plan (2002)	The Department of Arts Heritage Gaeltacht and the Islands published the National Heritage Plan in April 2002. The plan sets out a vision for the management of the heritage of Ireland. A key element of the process of formulating the National Heritage Plan is the requirement to prepare Local Heritage Plans at County and City level.
<b>Population and Human Health</b>	
Guidelines for Planning Authorities on Sustainable Residential Development in Urban Areas (Cities, Towns & Villages) (2009)	The aim of these guidelines is to set out the key planning principles which should be reflected in development plans and local area plans, and which should guide the preparation and assessment of planning applications for residential development in urban areas.
<b>Geology and Soil</b>	
Geological Heritage Sites Designation (under the Wildlife Amendment Act 2000)	The Wildlife (Amendment) Act 2000 provides for designation of Natural Heritage Areas (NHAs) which will include geological sites. Until actually designated, there is no real protection for any important sites identified by GSI and recommended for NHA status. However, a number of geological features

	are protected because they are the underlying reason for a biological or ecological site protected as a National Nature Reserve, National Park or as a Special Area of Conservation (SAC). In addition many local authorities have scheduled County Geological Sites within their County Development Plans.
<b>Water Resources</b>	
Shannon River Basin District Management Plan	The key objectives of the Water Framework Directive for the Shannon River Basin District (IRBD) are aimed at: maintaining "high status" of waters where it exists; preventing any deterioration in the existing status of waters and; achieving at least "good status" in relation to all waters by 2015. The Management Plan presents a series of measures to achieve these.
Water Services Act (2007)	The Act sets down a comprehensive modern legislative code governing functions, standards, obligations and practice in relation to the planning, management, and delivery of water supply and waste water collection and treatment services. The Act focuses on management of water "in the pipe", as distinct from broader water resources issues such as river water quality, etc.
Water Services (Amendment) Act (2012)	The 2012 Act amends the 2007 Water Services Act in order to comply with a European Court of Justice ruling against Ireland in October 2009. The Court found that Ireland had failed to fulfil its obligations under the Waste Directive (75/442/EEC) regarding domestic waste waters disposed of through septic tanks and other individual waste water treatment systems. The new Part 4A requires each water services authority to establish and maintain a register of domestic waste water treatment systems situated within their functional area.
Irish Water Services Strategic Plan SEA and AA	The 25 year plan for strategic delivery of water services is currently being prepared and the SEA Scoping report was issued for consultation with a deadline in September 2014.
The Planning System and Flood Risk Management Guidelines (and Technical Appendices) for Planning Authorities (DoEHLG, OPW), 2009	In relation to planning at the County level the guidelines require planning authorities to: <ul style="list-style-type: none"> <li>• introduce flood risk assessment as an integral and leading element of their development planning functions at the earliest practicable opportunity.</li> <li>• Align strategic flood risk assessment (SFRA) with the SEA process.</li> <li>• Establish flood risk assessment requirements as part of the preparation of the County Development Plan.</li> <li>• Assess planning applications against the guidance set out in the Guidelines.</li> <li>• Ensure development is not permitted in areas of flood risk except where there are no suitable alternative sites.</li> </ul>
Waterways Ireland Heritage Plan 2016-2020	Statutory function is to manage, maintain, develop and restore specified inland navigable waterways, principally for recreational purposes.- the Shannon navigation is one of the waterways under their remit. The Heritage Plan includes a number of actions
<b>Climate and Air Quality</b>	
National Climate Change Strategy (2007-2012)	The National Climate Change Strategy 2007 - 2012 sets out a range of measures, building on those already in place under the first National Climate Change Strategy (2000) to ensure Ireland reaches its target under the Kyoto Protocol. The Strategy provides a framework for action to reduce Ireland's greenhouse

	gas emissions
Review of Ireland's climate change policy and Climate Action and Low Carbon Bill 2013	The National Economic and Social Council submitted a review of Ireland's climate change policy to the Minister of Environment in late 2012. The review includes the development of potential policies and measures to reduce greenhouse gas emissions in agriculture, transport, heat in buildings and renewable energy supply and a basis for a national transition to a low-carbon future by 2050.
<b>Material Assets</b>	
Smarter Travel, A Sustainable Transport Future, A New Transport Policy for Ireland 2009-2020	Smarter Travel is the transport policy for Ireland that sets out how the vision of a sustainable travel and transport system can be achieved.
<b>Cultural Heritage Archaeology and Built Heritage</b>	
National Monuments Act 1930 with subsequent amendments	This is the primary legal protection to archaeology in Ireland and has been amended a number of times, most recently 2004.
Architectural Heritage Protection - Guidelines for Planning Authorities (2011)	The 2004 guidelines were reissued in 2011 following the transfer of architectural heritage protection functions to the Department of Arts, Heritage and the Gaeltacht. Part IV of the Planning and Development Acts 2000 – 2011 sets out the legislative provisions for the protection and conservation of our architectural heritage
National Inventory of Architectural Heritage (NIAH)	The National Inventory of Architectural Heritage (NIAH) is a state initiative under the administration of the Department of Arts, Heritage and the Gaeltacht. The purpose of the NIAH is to identify, record, and evaluate the post-1700 architectural heritage of Ireland, uniformly and consistently as an aid in the protection and conservation of the built heritage. NIAH surveys provide the basis for the recommendations of the Minister to the planning authorities for the inclusion of particular structures in their Record of Protected Structures (RPS).
<b>Landscape</b>	
A National Landscape Strategy for Ireland –2015	The Department of Arts, Heritage and the Gaeltacht has issued A National Landscape Strategy for Ireland which sets out objectives and principles in the context of a proposed National Landscape Strategy for Ireland.
Draft Landscape and Landscape Assessment Guidelines, (2000)	These Guidelines attempt to approach landscape appraisal in a systematic manner and recommend Landscape Character Assessment (LCA) as the method for assessment. LCA involves the characterisation of landscape based primarily on landcover (trees, vegetation, water etc.) and secondly on the value (i.e. historical, cultural, etc.). LCA is intended to aid the development management process as it gives indicators of development types which would be suited to certain locations using certain design criteria and consequently the character of the landscape remains intact
Planning and Development Act 2000 (as amended). This Act consolidated all planning legislation from 1963 to 1999 and remains the basis for the Irish planning code, setting out the detail of regional planning guidelines, development plans and local area plans as well as	

the basic framework of the development management and consent system. Among other things, it provides the statutory basis for protecting our natural and architectural heritage, the carrying out of Environmental Impact Statements and the provision of social and affordable housing.

There have been a number of changes to the legislation since 2000, the most significant of which are set out in The Planning and Development (Amendment) Act 2002 and the Housing (Miscellaneous Provisions) Act 2004, which made substantial changes to Part V of the Act.

In addition, a suite of new planning policies are being prepared most notably the National Planning Framework due to be finalised first quarter of 2017 which will replace the National Spatial Strategy. Prior to this a non-statutory Planning Policy Statement was issued in 2015 establishing then key principles including the following:

- No. 8. Planning will conserve and enhance the rich qualities of natural and cultural heritage of Ireland
- 
- No. 9. Planning will support the protection and enhancement of environmental quality .

Title	Summary
Regional Planning Guidelines 2010-2020- to be replaced by Regional Economic and Spatial Strategies	<p>The aim of the Regional Planning Guidelines (RPGs) is to provide a framework for long term strategic development of the Mid West Region for the period 2010 – 2022 which is consistent with the National Spatial Strategy (NSS) 2002 – 2020 and which ensures the successful implementation of the NSS at regional, county and local level.</p> <p>A key aspect of the RPGs is integrating sustainable economic development with the protection and enhancement of the environment. The RPGs are influenced by a wide range of international, national and regional level plans, programmes and legislation and also establish a framework for other lower level plans and programmes.</p>
Wild Atlantic Way Operational Programme 2015-2020	<p>The Wild Atlantic Way (WAW) is a new tourism brand for the west of Ireland. The most tangible expression of the brand comprises the coordination and linking of a number of existing touring routes stretching approximately 2,500km along the Atlantic coast from Donegal to West Cork. The Operational Programme for the Wild Atlantic Way sets out a strategy and a framework and programme – including goals and objectives – for sustainable implementation over the period 2015-2019.</p>
Clare County Development Plan 2017-2023	<p>Adopted late December 2016, this plan and its accompanying SEA and AA provide the primary landuse framework for development in the County for the next six years.</p> <p>Relevant environmental protective objectives and tourism objectives as they relate to the Inis Cealtra Plan are produced in Section 8 Mitigation Measures of this SEA ER.</p>
County Clare Local Economic and Community Plan 2016	<p>The socio-economic framework centres around 6 key themes and goals which underpin the LECP. These themes and goals contribute to realising the overall vision. They include</p> <ul style="list-style-type: none"> <li>Economic Development, employment and enterprise</li> <li>Quality of Life, Health and Well Being</li> <li>Education and Training</li> <li>Research and Development</li> <li>Climate change and energy</li> </ul>

**Clare Local Biodiversity Action Plan 2014 – 2017**      The Clare Biodiversity Action Plan 2014-2017 is the second such Plan for County Clare; The Plan aims to conserve the biodiversity of County Clare, through raising awareness of County Clare’s biodiversity, co-ordinating a targeted biodiversity education programme for all ages and abilities, recording the biodiversity of County Clare, the production of best practice guidance for biodiversity management and conservation, and supporting individuals and organisations working towards biodiversity conservation in County Clare.

**Lough Derg Marketing Plan 2014**      Failte Ireland 4 year marketing plan to enhance visitors experiences around Lough Derg; key actions include:  
A waterpark at University of Limerick Activities Centre  
Lough Derg Canoe/Kayak Trail  
Eco-Park in Portumna  
Discovery point and trailhead at the Portroe lookout

## Addendum B: SEA and AA Screening of Proposed additions to the Plan

### B.1 Introduction

This addendum assesses the proposed new additions to the VMSTDP against the SEA and AA processes. New text proposed is presented in **blue font**. Table 1 presents the proposed text, accompanied by a response from the SEA and AA. Table 2 provides a SEA Screening under Schedule 2a of the SEA regulations (2004) as amended. Table 3 provides a screening against Habitat Directive Assessment criteria. The report provides a concluding statement also.

**Table 1 Proposed additional text to VMSTDP and response from SEA and AA.**

	<b>New text</b>	SEA COMMENT	AA COMMENT
<b>1</b>	<p><b>Location of the visitor centre Changes</b></p> <ol style="list-style-type: none"> <li>1. old rectory (now for sale)</li> <li>2. the Aistear Centre – ; assuming upward extension/replacement . now included on list and appraised in matrix and paragraph below</li> </ol>	<p>Table 15 of the SEA ER has included these in the assessment of alternatives and against the SEOS. The following commentary is taken from Table 15 of the SEA ER:</p> <p>Site 12: the Old Rectory: Site no 12 would involve reuse of and likely extension to the existing Rectory building. It would have the advantage of reusing a fine historic building with strong heritage value . However to accommodate a visitor centre in this building would require adaptation and addition of new accommodation given the visitor numbers proposed in the plan. The larger site area could facilitate this additional accommodation. Therefore positive effects are identified for Cultural Heritage and Soil and Geology SEOs in this scenario.</p> <p>However, the orientation of the Rectory offers a poorer view to the island, and this is one of the key design considerations for the visitor centre.</p> <p>The main environmental constraint associated with Site 12,</p>	<p>An assessment of the proposed use of these sites as alternatives to the preferred visitor centre location outlined in the draft plan is provided below.</p> <p>The Old Rectory is an existing structure but would require adaptation and addition of new accommodation given the visitor numbers proposed in the plan. The larger site area could facilitate this additional accommodation. Accessibility from the main street may be an issue together with constraints accessing this location via the Aistear Park as such access may not be as easily facilitated to this location. In turn, this may result in the requirement for additional physical interventions such as additional footpaths through the Aistear or a new footpath between the Aistear and adjacent lands to the west.</p> <p>The Aistear Centre Option would require considerable works and alterations, either through demolition of</p>

	New text	SEA COMMENT	AA COMMENT
		<p>similarly to Sites 4 and 5 relates to accessibility from the main street and there may also be constraints accessing this location via the Aistear Park as such access may not be as easily facilitated to this location. In turn, this may result in the requirement for additional physical interventions such as additional footpaths through the Aistear or a new footpath between the Aistear and adjacent lands to the west. The issue of promoting circulation from the main street via the Aistear Park is not easily realised at this location. Additional physical interventions to enhance access at this site may result in local adverse effects on population and human health, biodiversity and material assets SEOS. Removal or thinning of trees may also be required under this scenario.</p> <p>In summary, this option gives rise to positive effects in relation to re-use of an existing historical building (and Cultural Heritage and Soil and Geology SEOs), as well as avoidance of development on flood risk as it is outside Flood Zones A/B. However this is tempered by potential adverse effects in relation to views to the island (a design and landscape consideration) and transport and accessibility around the site.</p> <p>Site 10 is the current Aistear centre itself. Preliminary assessments viewed this as being too small a footprint (surrounded as it is by the berms and wall of the Aistear maze) to accommodate the scale of building envisaged for the visitor centre. However if one considers a replacement of the current building, possible re structuring of the Aistear maze in part and a design that rises up from the current structure (perhaps to 3 storey), it is possible that an</p>	<p>existing buildings and removal/reorganising of the Aistear Maze. Some removal of trees may be required and additional landscaping to reinstate the maze if necessary. This would require considerable works to accommodate the envisaged visitor numbers and proposed contents of the Visitor Centre.</p> <p>Both alternative sites are located close to the lakeshore and would require construction activity to make them fit for purpose as a visitor centre.</p> <p>The potential risks posed by these alternative options will be similar to those identified for the Plan's proposed visitor centre.</p> <p>As with the Plan's proposed visitor centre the construction and operation phase of a visitor centre at these alternative locations will have the potential to generate contaminated surface water from denuded areas, construction materials such as fuels and cement and parking areas during the operation phase.</p> <p>Wastewater will be generated at these alternative visitor centre locations during the operation phase and the release of any wastewater from the centre to the lake will have the potential to undermine water quality.</p> <p>The Plan includes a range of mitigation measures to ensure that such potential negative affects to the water quality of Lough Derg and the Conservation Objectives of the Lough Derg SPA do not occur during the construction or operation phase. Provided these mitigation measures</p>

	New text	SEA COMMENT	AA COMMENT
		<p>elegant, even iconic solution could emerge. Clearly this would have (at the higher level) good views as well as enjoying the direct connection to both main street and down to the lake front.</p> <p>This option would require considerable works and alterations –either through demolition of existing buildings and removal /reorganising of the Aistear Maze. Some removal of trees may be required and additional landscaping to reinstate the maze if necessary.</p> <p>This would require considerable works to accommodate the envisaged visitor numbers and proposed contents of the Visitor Centre.</p> <p>Depending on detailed design for a number of SEOs; positive as with many of the other options in terms of landscape, cultural heritage and population and human health with connectivity to existing village. However, to facilitate this option a considerable works programme is required to include demolition, ground works, new build, services and landscaping. Given the scale of works required to accommodate a new centre here, including demolition of existing buildings, landscaping and construction of a new building, this option is excluded on these grounds.</p>	<p>are implemented in full there will be no potential for a visitor centre at these alternative locations to result in likely significant effects to the conservation status of the Lough Derg SPA.</p>
2	<p><b><u>Evaluation of 12 VC sites identified in the draft plan.</u></b></p> <p><b>3.3.3</b> In all, 11 sites in the village were identified as having potential and a 12<sup>th</sup> added after public consultation</p>	<p>This additional text summarises each of the above listed sites and have been assessed already in Table 15 of the SEA ER. The preferred alternative was selected through this process and please sees Table 15 of the SEA ER for more detailed commentary on each of the 12 sites.</p>	<p>See SEA Comment. Table 15 of the SEA assessed each of these sites in terms of their environmental implications and identified preferred options for the visitor centre location. A summary of this assessment and the reasons for excluding proposed alternative options is provided in Section 3.3.1.1 of the NIR.</p>

	<b>New text</b>	SEA COMMENT	AA COMMENT
	<p>The sites identified for evaluation (see map in Fig. 16 above) were:</p> <ol style="list-style-type: none"> <li>1. North west stretch of southern boundary (lower road) of Aistear Park</li> <li>2. Middle of southern boundary (lower road) of Aistear Park</li> <li>3. Public open space to lake side of lower road (south east of sailing club)</li> <li>4. Boundary between Aistear Park and the Rectory (along lower road)</li> <li>5. Southern part of rectory site</li> <li>6. Car park for marina/harbour area</li> <li>7. Lake edge park /swimming area near car park</li> <li>8. North east promontory point to lake shore</li> <li>9. Vacant site to main street</li> </ol>		

	New text	SEA COMMENT	AA COMMENT
	<p>(with boundary onto Aistear Park)</p> <p>10. Current Aistear centre- assuming the potential for extending it upwards</p> <p>11. Off-shore, south of harbour wall on/over /floating upon lake</p> <p>12. The Rectory (building and adjacent areas)</p>		
3		<p>The selected sites were carefully assessed for AA, SEA and FRA as well as being evaluated against the six criteria set out above.</p> <p>Site 1 and 2 are similar being located at the north west of the southern boundary of the Aistear park and adjoin the lower (lakefront) road. They enjoy the advantages of potentially excellent views to Inis Cealtra and can, with careful design, negotiate the change in level down to the lake front. A visitor centre in either of these locations would offer both a connection to main street, make available synergies with the Aistear centre and park, could have almost direct access to embarkation and would enjoy the important visual connection to the island itself. In terms of disadvantages, development of a visitor centre in these locations would obstruct the view to the island from the north/eastern areas of the park and may necessitate removal of some trees.</p> <p>Site 3 is on the current open space southeast of the sailing club on the lake front. It has the advantage of having a lakefront location but this is somewhat offset by an inferior view to the island, being more difficult to connect to main street and the Aistear and being challenging in overcoming potential environmental impacts.</p> <p>Sites 4 and 5 are similar in some regard to sites 1 and 2 in that they adjoin or continue on from the southern end of the Aistear park and into the Rectory lands. They enjoy fine views, good access and, particularly for the Rectory (site 5), more space than the previous sites.</p>	<p>SEA and AA comment: This additional text provides more information and context for the proposed 12 locations as considered through the plan preparation process; and comments apply as above.</p>

New text	SEA COMMENT	AA COMMENT
	<p>Development of site 6 would involve replacing the current public parking for the marina/harbour and or building above it. A visitor centre at this location would enjoy good views to Inis Cealtra but would reduce the parking that is a valuable resource for the boating (and to some extent sea eagle watching) activities. It would have no direct connection to main street or the Aistear park and would be more challenging in terms of overcoming environmental impacts than for the above locations.</p> <p>Sites 7 and 8 are on two separate small promontories of land on the lakeshore. A building at either of these two locations would enjoy uninterrupted views of the island and an immediate connection with the water with the opportunity for direct embarkation for visitors. However the sites are limited in size, do not have any tangible connection to main street and both will be extremely challenging from an environment impact perspective.</p> <p>Site 9 is a parcel of land located on main street adjacent to the entrance to the Aistear park. It has the advantages of being located on the main street, reinforcing associations with Mountshannons social and business life, coupled with its direct access to Aistear park which could be used as the route to the lakefront. However, the visitor centre would not enjoy a good view of the island and the site is quite limited in size.</p> <p>Site 10 is the current Aistear centre. Preliminary assessments concluded this was too small a footprint (surrounded as it is by the berms and wall of the Aistear maze) to accommodate the scale of building envisaged for the visitor centre. However, if a replacement of the current building were to be considered, with possible re-structuring of part of the Aistear maze and a building design that rises up from the current structure (perhaps to 3 storey), it is possible that an elegant, even iconic solution could emerge. This would have good views of the island from the higher level of the building and would enjoy direct connection to both main street and to the lake front.</p> <p>Site 11 is on the lake itself. It would make for a remarkable building but by any standards would present a serious challenge from an environmental impact perspective.</p> <p>Site 12 would involve the reuse, and probable extension, of the existing Rectory building. It</p>	

New text	SEA COMMENT	AA COMMENT
	<p>would have the advantage of reusing a fine historic building (a Protected Structure) with strong heritage value, although it would most likely require major adaptation and the addition of new accommodation. It is less limited in terms of site area than other possible locations but it has a more restricted view of the island (obscured by trees, the orientation of the main façade of the building and to some extent by the slope of the land) and is further from the main street than some of the other sites assessed.</p> <p>Following the overall assessment of the sites for the visitor centre it is concluded that the most favourable location for a new visitor centre is site 2 which is located at the southern end of the Aistear park. It is envisaged that the visitor centre will be accessed from the main street which will be the start and end point of the visitor centre experience and that this in turn will encourage increased visitor activity in the village centre by encouraging visitors to stay longer to experience all that the local businesses have to offer. Visitors will then walk through the park past the Aistear centre, reinforcing and developing the close synergies and overlaps between the two facilities. The permanent outdoor exhibition plates on Irish spirituality since pre-history along with the Aistear maze itself are also worthy of incorporation into the interpretive offering of the new visitor centre. These alliances would be mutually beneficial and potentially enhancing local community events and festivals. The community council have created an extremely attractive and well-landscaped park at the lake edge and their co-operation in progressing the development of a new visitor centre at this location will be essential.</p> <p>A number of the sites which have been assessed (sites 1-12 above) are very close in score to that of the preferred option which could present alternative opportunities for development of a visitor centre should the preferred site prove unfeasible.</p>	
<p>Vision: Inis Cealtra, protected for future generations through exemplary conservation management and interventions and through a balanced and sustainable management approach to providing access for visitors and</p>	<p>Minor amendment and no significant effects identified with additional text.</p>	<p>Minor amendment to the text outlining the vision of the Plan. This amendment will not have land use implications and will not have the potential to influence the status of the Lough Derg SPA.</p>

New text	SEA COMMENT	AA COMMENT
<p>the local community. An expansion of the visitor experience, enjoyment and respect for the island`s living and built cultural heritage and that of the greater area <b>will be expanded</b>, and an increase in the long-term, socio-economic benefits to both the local community and the wider region</p>		
<p>Overarching Aim:</p> <ul style="list-style-type: none"> <li>• To ensure a balance is struck between attracting the maximum number of visitors to Inis Cealtra and ensuring that the natural and built heritage of the island, above and below ground, is not negatively impacted by an unsustainable volume of visitors.</li> <li>• <del>In addition, it is critical that the</del> <b>to ensure that the</b> unique ambience and character of the island is not placed at risk through increased visitor numbers.</li> <li>• <del>In conjunction with this</del> to maximise the socio-economic benefits from increased visitor numbers to the island and wider Lough Derg area to support a sustainable rural economy.</li> </ul>	<p>As above, minor additions to text, no significant effects identified for this change.</p>	<p>Minor amendment to the text outlining the overarching aims of the Plan. This amendment will not have land use implications and will not have the potential to influence the status of the Lough Derg SPA.</p>

New text	SEA COMMENT	AA COMMENT
<p>Section 2.1.1</p> <p>On the basis of this research two fundamental conclusions emerged which form the key principles on which this Plan is based which are:</p> <p>a) that, in accordance with best international practice, there should be little or no physical intervention on the island itself, this being the most fundamental key objective;</p> <p>b) that, in order to attract greater numbers of visitors to Inis Cealtra and the wider area, while also improving access and ensuring a quality and authentic experience at both, it is critical that appropriate new visitor facilities are provided. Failure to provide formal, safe and easy access to the island, coupled with an increase in visitor information, services and facilities, will limit the potential for the sustainable growth in</p>	<p>This key principles are articulated clearly through the additional text and reflect and state the principles underlying the plan preparation.</p> <p>As such, the ethos of minimal intervention is in line with international best practice as it relates to built heritage in particular.</p> <p>Positive effects are also identified for this in relation to biodiversity, soil and water SEOs. Section b has significant positive long term effects relating to cultural heritage, landscape and population in particular.</p>	<p>As noted in the SEA comment opposite this additional text sets out the Plan’s aims to ensure that the use of Holy Island as a visitor destination does not undermine the cultural and natural heritage of the island and surrounding area.</p> <p>The commitment outlined in this additional text to minimise physical infrastructure on the island and implement mechanisms to control visitor access and usage of the island is considered to be positive in terms of avoiding significant effects to the wetland habitats and special conservation interest bird species supported by Lough Derg SPA.</p>

	New text	SEA COMMENT	AA COMMENT
	<p>visitor numbers and therefore in realising the full tourism potential to the local economy. Similarly, any potential increase in visitor numbers to the island, without a comprehensive visitor management and development plan in place, addressing visitor access, provision of appropriate modern visitor facilities, etc. is likely to have a detrimental impact on the built heritage and natural environment of Inis Cealtra</p>		
	<p>Objective 5. To develop the new visitor centre for Inis Cealtra at the south end of the community park in Mountshannon, (Site 2) with views to the island and access from the main street via the Aistear park. Alternative options assessed for the development of a visitor centre, including the Old Rectory and the Aistear Centre, can be</p>	<p>Minor amendment in the first sentence. The Old Rectory (site 12) and Aistear Centre (site 10) are already assessed in Table 15 of the SEA ER and the commentary is repeated in the preceding section of this table.</p>	<p>Minor amendment to the text relating to access to the Old Rectory and the Aistear Centre. The potential implications of access to these sites is considered above with respect to the SEA and Appropriate Assessment of the use of these two site options as a visitor centre.</p>

New text	SEA COMMENT	AA COMMENT
explored further should the new build option prove unfeasible.		
Objective 23: To commission a Conservation Management Plan focussing on Inis Cealtra’s archaeology and monuments prior to any works being <del>advanced</del> <b>initiated on or</b> for the island	Minor amendment to text –no significant effects identified with this change.	Minor amendment to text that will not result in any land use implications.
Objective 27: To create a dedicated website for Inis Cealtra visitor along with a social media presence so as to provide information about the island and <b>the visitor</b> centre <b>and to promote the use of Inis Cealtra as the island’s name.</b>	As above	Minor amendment to text that will not result in any land use implications.
Objective 28: To carry out urgent stabilisation, maintenance or conservation work as set out in this Plan to monuments on Inis Cealtra, as soon as possible <del>but</del> <b>and</b> prior to any increase in visitor numbers or other development work being initiated	As above	Minor amendment to text that will not result in any land use implications.
Traffic Management and Parking (above <i>Design Brief</i> )	No site identified at this stage and would be subject to more detailed site identification.	The construction of additional car parking infrastructure and the potential for hydrological emissions during both

New text	SEA COMMENT	AA COMMENT
<p>The issue of carparking in terms of both quantum and location will be examined as part of the project level assessment of the visitor centre. The nature of the assessment will assess whether it be car or bus generated traffic which will inform the preparation of any plans for the visitor centre. Similarly the feasibility of potential traffic calming and shared surface along part of the lakefront road will be considered as part of the overall project. The over-riding principle however, will be the development of a sustainable tourism product.</p>	<p>Enhancing accessibility to the lakefront from the park would give rise to moderate positive effects for pedestrians in and around the visitor centre and to the lake. Subject to the adherence to the full range of mitigation measures presented in the Plan significant adverse environmental effects are not identified for this proposal.</p>	<p>the construction and operation phase to the Lough Derg SPA were identified as potential risks to the conservation status of the SPA. A range of mitigation measures have been outlined in the Plan to ensure that any emissions arising from the car park during the construction or operation phase do not result in adverse effects to the water quality of Lough Derg or likely significant effects to the conservation status of the SPA</p>
<p><b>Pilgrims Path</b> its potential for further investigation to develop as a walking route.</p> <p><b>4.9.4 Add (above National Linkages include)</b> Of these the most easily realisable is the potential creation of a pilgrim trail with Inis Ceatra as the terminus or a principle stop on the route. The visitor centre will provide facilities for such an activity. It is recommended that such a</p>	<p>Support for walking /pilgrim paths is provided for in the Clare CDP 2017-2023 for example through CDP9.22 Tourism in East Clare.</p> <p>New trails would require project level assessment and be subject to detailed design and compliance with existing provisions of the above CDP 2017-2023 as well as those developed for the VMSTP as appropriate. At this stage no proposed pilgrim path route is identified and would require more detailed assessment during route identification and appraisal.</p>	<p>The route the proposed Pilgrim Path has yet to be identified. Where this route traverses European Sites, is linked to European Sites via potential impact pathways, or has the potential to disturb qualifying species of surrounding European Sites, then a Stage 2 Appropriate Assessment will be required. Screening for Appropriate Assessment of a proposed Pilgrims Path will be required to determine if any of the above criteria apply and whether a Stage 2 Appropriate Assessment is needed</p>

	New text	SEA COMMENT	AA COMMENT
	pilgrim path initiative could be undertaken in parallel with the implementation of the objectives of this plan.		

**Table 2 Schedule 2 a SEA Screening Assessment.**

<b>Criteria for determining whether the proposed additional text to the VMSTDP is likely to have significant effects on the environment</b>
<b>1. The characteristics of the plan having regard, in particular, to:</b>
<b><i>the degree to which the additional text sets a framework for projects and other activities, either with regard to the location, nature, size and operating conditions or by allocating resources,</i></b>
<p>The additional elements of the Plan relate to the inclusion of additional visitor centre location options, the provisions of associated car parking for the final visitor centre and the Plan’s support for the establishment of a Pilgrims Path.</p> <p>The additional visitor centre options and associated car parking are identified as giving rise to similar environmental effects as those previously identified for the preferred location of the visitor centre. To address these effects, the VMSTDP as well as the SEA and NIR of same outline a comprehensive suite of measures to ensure that any construction associated with the final visitor centre and car park location do not result in likely significant adverse environmental effects. These changes have been assessed against the SEOs and are not identified as given rise to significant adverse effects as any projects arising will be subject to the existing provisions of both the Clare CDP 2017-2023 and the mitigation measures identified through the SEA and AA process of the VMSTDP.</p> <p>The Plan’s support of Pilgrims Path will not, at this stage, have the potential to result in likely significant effects to European Sites or give rise to other environmental effects as its route is not known at this point. It is reiterated that once a final route for this path is selected it will be Screened for Appropriate Assessment and where necessary an Appropriate Assessment will be completed of the path’s development. The Pilgrims Paths will only be supported by the objectives of the Plan where it can be shown that it will not result in likely significant effects to the conservation status and</p>

Conservation Objectives of European Sites.
<b><i>the degree to which the additional text influences other plans, including those in a hierarchy,</i></b>
The additional text as presented in Table 1 above does not influence other plans.
<b><i>the relevance of the additional text in the integration of environmental considerations in particular with a view to promoting sustainable development,</i></b>
In terms of proposals associated with the additional text the existing mitigation measures which aim to integrate and promote a sustainable development approach to implementing the VMSTDP.
<b><i>Environmental problems relevant to the additional text</i></b>
No particular environmental problems are relevant to the additional text.
<b><i>the relevance of the additional text in the implementation of European Union legislation on the environment (e.g. plans linked to waste-management or water protection).</i></b>
The additional text is not relevant to the implementation of EU legislation and environment, being relatively minor in nature and extent at this point.
<b>2. Characteristics of the effects and of the area likely to be affected, having regard, in particular, to:</b>
<b><i>the probability, duration, frequency and reversibility of the effects,</i></b>
Effects are not identified as significant in terms of the above criteria, subject to full implementation of mitigation measures in the Clare CDP 2017 -2023 and those measures developed for the VMSTDP.
<b><i>the cumulative nature of the effects,</i></b>
As above
<b><i>the transboundary nature of the effects</i></b>
As above
<b><i>the risks to human health or the environment (e.g. due to accidents),</i></b>
As above

<b><i>the magnitude and spatial extent of the effects (geographical area and size of the population likely to be affected).</i></b>
As above
<b><i>the value and vulnerability of the area likely to be affected due to:</i></b>
<p><b>(a) special natural characteristics or cultural heritage</b></p> <p>Visitor centre locations – these have been assessed and the locations that are identified as giving rise to most adverse environmental effects (eg on the lake) have been excluded. At SEA level, the remaining options for consideration are not identified as being highly vulnerable and existing mitigation measures, subject to their full implementation will not give rise to significant effects on the special natural or cultural heritage characteristics of the Lough Derg SPA or archaeological resources of Holy Island.</p>
<p><b>(b) exceeded environmental quality standards or limit values,</b></p> <p>Not identified as relevant in relation to the additional text proposed. Both the SEA and AA have identified wastewater treatment and capacity as an issue that will require measures in advance of the visitor centre and this approach is line with key provisions of the Clare CDP 2017-2023.</p>
<p><b>(b) intensive land-use,</b></p> <p>not identified as relevant in relation to the additional text as proposed.</p>
<p><b>(d) the effects on areas or landscapes which have a recognised national, European Union or international protection status..</b></p> <p>It is noted that once identified, a Pilgrims Path may have the potential to influence other European Sites in the vicinity of the path’s route. However, as this path has yet to be identified it is not possible to list the European Sites that could occur within the zone of influence of this additional element</p> <p>The other additional text will not give rise to significant effects on areas or landscapes subject to full implementation of the mitigation measures in the Clare CDP 2017-2023 and the VMSTDP.</p>

**Table 3 Habitat Directive Assessment Criteria.**

Criteria	Commentary
Brief description of the project or plan	<p>The proposed additions to the Plan include the following elements that have the potential to result in changes to land use within the Plan area:</p> <ul style="list-style-type: none"> <li>the listing of additional alternative options for the proposed visitor centre;</li> <li>a commitment to providing car parking infrastructure for the proposed visitor centre; and</li> <li>an objective to support an initiative to establish a Pilgrims Path terminating at Inis Cealtra.</li> </ul>
Brief description of the Natura 2000 site	<p>The European Sites occurring within the zone of influence of these additional elements to the Plan is restricted to the Lough Derg SPA. It is noted that once identified, a Pilgrims Path may have the potential to influence other European Sites in the vicinity of the path's route. However, as this path has yet to be identified it is not possible to list the European Sites that could occur within the zone of influence of this additional element</p>
Assessment criteria	
Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site	<p>The additional elements of the Plan will have the potential to pose risks to the conservation status of the Lough Derg SPA during the construction and operation phase.</p> <p>These risks are restricted to the potential disturbance of special conservation interest bird species of the SPA and the release of potentially polluting substances to Lough Derg, with consequent negative effects to the water quality and status of the lake upon which special conservation interest bird species rely.</p>
Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the Natura 2000 site	

by virtue of:	
<ul style="list-style-type: none"> <li>■ size and scale</li> </ul>	<p>The scale of the alternative visitor centre options will be reduced from that identified for the preferred visitor centre location due to the fact that the alternative locations are existing structures that will require internal refitting and external extensions to accommodate the visitor centre.</p> <p>The car parking required for the visitor centre will be the same in scale as that assessed in the NIR of the draft Plan.</p> <p>The scale of the Pilgrims Path is as yet unknown, but is likely to be at least regional geographic scale, taking into account a number of surrounding counties.</p>
<ul style="list-style-type: none"> <li>■ land-take;</li> </ul>	<p>No land take of European Sites will be associated with any of the alternative visitor centre options or the associated car parking facilities.</p> <p>The Pilgrims Path is as yet unidentified and its land take on European Sites cannot be assessed at this stage. However it is noted, in line with the approach to the Plan and its mitigation measures as well as the Policies and Objectives of the Clare County Development Plan, the final Pilgrims Paths will be developed to ensure no significant effects to qualifying feature of interest of European Sites arise during its establishment.</p>
<ul style="list-style-type: none"> <li>■ distance from the Natura 2000 site or key features of the site</li> </ul>	<p>All visitor centre options and the car park are within a 500m radius of the Lough Derg SPA.</p> <p>The terminus of the Pilgrims Path will be located adjacent to the Lough Derg SPA.</p>
<ul style="list-style-type: none"> <li>■ resource requirements (water abstraction etc</li> </ul>	<p>No resources associated with European Sites are required for the proposed additional elements of the Plan.</p>
<ul style="list-style-type: none"> <li>■ emissions (disposal to land, water or air);</li> </ul>	<p>As noted above the provision of a visitor centre and car park will have the potential to result the the potential for hydrological emissions during both the construction and operation phase to the Lough Derg SPA.</p> <p>Inadequate construction management practices; inadequate treatment of surface water draining from construction footprints and the surface of the finished car park; and the inadequate treatment of waste water generated during the construction and operation phase of the visitor centre will have the potential to result in the emission of potentially</p>

	<p>polluting material to Lough Derg.</p> <p>However the Draft Plan, and the NIR and SEA of the Draft Plan outlined a suite of comprehensive mitigation measures that aim to ensure the construction and operation phase of the visitor centre and car park do not result in the release of emissions that will have the potential to undermine water quality at Lough Derg.</p> <p>Provided these measures are implemented the additional visitor centre options or the car park will not have the potential to result in likely significant effects to the conservation status of the Lough Derg SPA.</p> <p>It is noted that the Pilgrims Path route is as yet unidentified. The terminus at Mountshannon and Inis Cealtra is likely to utilise existing pathways, thus avoiding the need for the installation of new paths and associated construction works. Potential emissions associated with this proposed element will require Habitats Directive Assessment once the route becomes finalised.</p>
■ excavation requirements	No excavation works will be undertaken within European Sites.
■ transportation requirements	The proposed additional elements will not result in any changes to transportation requirements from that identified in the Draft Plan and associated NIR.
■ duration of construction, operation, decommissioning, etc.;	The proposed additional elements will not result in any significant changes to duration of construction or operation from that identified in the Draft Plan and associated NIR.
■ other.	n/a
Describe any likely changes to the site arising as a result of:	
■ reduction of habitat area	The proposed additional elements are all located outside the boundary of the Lough Derg SPA and will be managed in line with the Draft Plan's environmental safeguards to ensure significant indirect impacts are avoided. As such they will not result in any reduction in habitat area within the Lough Derg SPA.

<p>■ disturbance to key species</p>	<p>The proposed additional elements are all located outside the boundary of the Lough Derg SPA and will be managed in line with the Draft Plan’s environmental safeguards to ensure significant indirect impacts are avoided. These safeguards include a number of measures that specifically aim to ensure disturbance to special conservation interest bird species of the SPA are avoided. As such they will not result in any reduction in habitat area within the Lough Derg SPA.</p>
<p>■ habitat or species fragmentation</p>	<p>The proposed additional elements are all located outside the boundary of the Lough Derg SPA and will not have the potential to fragment the wetland habitats or distribution of special conservation interest bird species of the SPA.</p>
<p>■ reduction in species density;</p>	<p>The implementation of all environmental safeguards and mitigation measures outlined in the Draft Plan will ensure that these additional elements of the Plan do not have the potential to result in a reduction in the densities of special conservation interest bird species of the SPA.</p>
<p>■ changes in key indicators of conservation value (water quality etc.);</p>	<p>Water quality of Lough Derg as well as the extent of wetland habitats and distribution of special conservation interest bird species within the SPA is key indicators of conservation status for Lough Derg SPA. For reasons outlined above the additional elements to the Plan will not have the potential to result in adverse effects to these key indicators of conservation status.</p>
<p>■ climate change</p>	<p>None identified</p>
<p>Describe any likely impacts on the Natura 2000 site as a whole in terms of</p>	
<p>■ interference with the key relationships that define the structure of the site</p>	<p>None identified: see reasons outlined for “Changes in key indicators of conservation value (water quality etc.)” above.</p>
<p>■ interference with key relationships that define the function of the site</p>	<p>None identified: see reasons outlined for “Changes in key indicators of conservation value (water quality etc.)” above.</p>
<p>Provide indicators of significance as a result of the identification of effects set out above in terms of</p>	

■ loss;	No loss identified
■ fragmentation	No fragmentation identified
■ disruption	No disruption identified
■ disturbance	No disturbance identified
■ change to key elements of the site (e.g. water quality etc.).	No changes at this juncture can be identified.
Describe from the above those elements of the project or plan, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known	<p>The additional elements of the Plan relate to the inclusion of additional visitor centre location options, the provisions of associated car parking for the final visitor centre and the Plan’s support for the establishment of a Pilgrims Path.</p> <p>The additional visitor centre options and associated car parking will pose similar issues to Lough Derg as those identified for the preferred visitor centre location and associated car park. These issues relate to the potential release of polluting substances to the lake and the disturbance of special conservation interest bird species during construction activities.</p> <p>The Draft Plan as well as the NIR and SEA of the draft Plan outline a comprehensive suite of measures to ensure that any construction associated with the final visitor centre and car park location do not result in likely significant effects to the sc of the SPA.</p> <p>Provided these measures are implemented in full during the construction and operation of the visitor centre and car park, these additional elements of the Plan will not have the potential to result in likely significant effects to the conservation status of the Lough Derg SPA or undermine the Conservation Objectives for the special conservation interests of this SPA.</p> <p>The Plan’s support of Pilgrims Path will not, at this stage, have the potential to result in likely significant effects to European Sites. It is reiterated that once a final route for this path is selected it will be Screened for Appropriate Assessment and where necessary an Appropriate Assessment will be completed of the path’s development. The Pilgrims Paths will only be supported by the objectives of the Plan where it can be shown that it will not result in likely significant</p>

	effects to the conservation status and Conservation Objectives of European Sites.
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## B.2 Conclusion

Section 9 (1) of the (2004) Regulations (S.I. No. 435) states “*subject to sub-article (2), an environmental assessment shall be carried out for all plans and programmes*

*(a) which are prepared for agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications and tourism, and which set the framework for future development consent of projects listed in Annexes I and II to the Environmental Impact Assessment Directive, or*

*(b) which are not directly connected with or necessary to the management of a European site but, either individually or in combination with other plans, are likely to have a significant effect on any such site.”*

The VMSTDP was subject both full SEA and Appropriate Assessment under the Habitats Directive. The above additional text proposed for inclusion in the plan has now being screened for likely significant effects on the environment and on the conservation management objectives of Lough Derg SPA. These have concluded that subject to the adherence to and implementation of relevant mitigation measures developed for the VMSTDP as well as existing environmental protection objectives in the Clare CDP 2017-2023 likely significant environmental effects are not identified.



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