

Screening Report for Appropriate Assessment of a proposed variation (No. 6a) to the Limerick City Development Plan 2010 – 2016

prepared by OPENFIELD Ecological Services
for Limerick City and County Council

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1.0 INTRODUCTION

1.1 Protection of biodiversity

Biodiversity is a contraction of the words 'biological diversity' and describes the enormous variability in species, habitats and genes that exist on Earth. It is an integral component of our heritage while also providing food, building materials, fuel and clothing, maintaining clean air, water, soil fertility and pollinating crops. A study by the Department of Environment, Heritage and Local Government placed the economic value of biodiversity to Ireland at €2.6 billion annually (Bullock et al., 2008) for these 'ecosystem services'.

All life depends on biodiversity and its current global decline is a major challenge facing humanity. In 1992, at the Rio Earth Summit, this challenge was recognised by the United Nations through the Convention on Biological Diversity which has since been ratified by 193 countries, including Ireland. Its goal to significantly slow down the rate of biodiversity loss on Earth has been echoed by the European Union, which set a target date of 2010 for *halting* the decline. This target was not met but in 2010 in Nagoya, Japan, governments from around the world set about redoubling their efforts and issued a strategy for 2020 called 'Living in Harmony with Nature'. In 2011 the Irish Government incorporated the goals set out in this strategy, along with its commitments to conservation biodiversity under national and EU law, in the second national biodiversity action plan (Dept. of Arts, Heritage and the Gaeltacht, 2011).

The main policy instruments for arresting the decline in biodiversity have been the Birds Directive of 1979 and the Habitats Directive of 1992. These Directives require member states to designate areas of their territory that contain important bird populations in the case of the former; or a representative sample of important or endangered habitats and species in the case of the latter. These areas are known as Special Protection Areas (SPA) and Special Areas of Conservation (SAC) respectively. Collectively they form a network of sites across the European Union known as Natura 2000. A recent report into the economic benefits of the Natura 2000 network concluded that "there is a new evidence base that conserving and investing in our biodiversity makes sense for climate challenges, for saving money, for jobs, for food, water and physical security, for cultural identity, health, science and learning, and of course for biodiversity itself" (EC, 2013).

Unlike traditional nature reserves or national parks, Natura 2000 sites are not 'fenced-off' from human activity and are frequently in private ownership. It is the responsibility of the competent national authority to ensure that 'favourable conservation status' exists for their SPAs and SACs and specifically that Article 6(3) of the Directive is met. Article 6(3) requires that an 'appropriate assessment' (AA) be carried out for these sites where projects, plans or proposals are likely to have an effect. In some cases this is obvious from the start, for instance where a road is to pass through a designated site. However, where this is not the case, a preliminary screening must first be carried out to determine whether or not a full AA is required.

It must be noted that it is the responsibility of the competent authority, in this case Limerick City and County Council, to carry out the screening for AA, or full AA as required.

1.2 Methodology

The assessment was carried out with reference to the following methodologies and guidelines:

1. 'Assessment of plans and projects significantly affecting Natura 2000 sites. Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC' (Oxford Brookes, 2001).
2. 'Appropriate Assessment of Plans and Projects in Ireland'. (Department of Environment, Heritage and Local Government, 2009)
3. 'Appropriate Assessment of plans' (Scott-Wilson et al., 2009)

Reference is also made to the Circulars from the Department of Environment, Community and Local Government on the transposition of the Habitats Directive and the Strategic Environmental Assessment Directive into Irish law: Letter PSSP 6/2011; Letter PSSP 5/2001; and Circular NPW 1/10 & PSSP 2/10.

In accordance with the above mentioned guidance notes, the following steps are followed:

Step 1: Analysis of the Natura 2000 network

This involves assessing the current status of SACs and SPAs within the zone of influence of the plan and underlying trends affecting them. This is done through a combination of literature review, site survey, and consultation with relevant stakeholders.

Step 2: Analysis of the Proposed Variation to the City Development Plan (henceforth referred to as the CDP)

Identifying aspects of the proposed variation that may affect the Natura 2000 network.

Step 3: Analysis of other plans

Identifying aspects of other plans or projects that may act 'in combination' with the proposed variation to affect the integrity of the Natura 2000 network.

Step 4: Determination of significance

Determination whether any of these effects, either alone or in combination with other plans and projects, will be significant.

Step 5: Avoidance or mitigation

Recommendation of avoidance or mitigation measures to ensure that no significant effects occur to the integrity of the Natura 2000 network.

The AA process is an iterative one where the report actively identifies potential effects, the plan or project is then modified to avoid or mitigate these effects, and then the new plan is re-assessed until such point as no significant effects are predicted to occur. It is also important to note that any final AA, or screening for AA, is made by Limerick City and County Council.

In the event that significant effects remain in the final version of the CDP, then it can only proceed where all alternatives to the plan have been fully examined and there are 'Imperative Reasons of Overriding Public Interest'

(IROPI) as per Article 6(4) of the Habitats Directive. Where there are impacts to priority habitats the development can only proceed for reasons of human health and safety, important environmental reasons or other reasons that have been approved by the European Commission. Compensatory measures must be provided and both the Minister for Environment, Community and Local Government and the European Commission must be informed.

1.3 How the Appropriate Assessment process has influenced the Limerick Regeneration initiative to-date

Introduction

The purpose of AA is to ensure that the final Limerick CDP does not contain any policies or objectives that could lead to negative impacts on the integrity of a European site. The AA process has been undertaken in parallel with the plan-making process and the Strategic Environmental Assessment process. The Limerick Regeneration Framework Implementation Plan was approved by Limerick City & County Council in February 2014. This was accompanied by a Natura Impact Statement and, based upon this, the local authority carried out an AA. This concluded that the implementation of this plan would not result in effects to the integrity of any Natura 2000 area.

The Limerick Regeneration Framework Implementation Plan was not a statutory plan. The purpose of the proposed variation No. 6 to the Limerick CPD is therefore to provide full statutory backing to the plan.

Stage 1 - Screening

The AA process commenced in advance of preparation and publication of the draft proposed variation. The first step in the process is this Stage 1 Screening to determine if Stage 2 Appropriate Assessment will be required for the proposed variation.

This screening is based upon a draft public display document published by Limerick City & County Council entitled *Proposed Variation No. 6 to the Limerick City Development Plan 2010 – 2016 = to incorporate the objectives of the Limerick Regeneration Framework Implementation Plan (Draft Text 1/4/16)*.

It is important to note that this Screening Report for AA relates to this document only. Any future amendments to this text must themselves be screened so that the screening for AA, or full AA, can be carried out on the final adopted variation.

2.0 Step 1 – Analysis of the areas affected by the proposed variation

2.1 Location and extent

The Limerick Regeneration Areas are in four distinct parcels of land within the boundary of Limerick City. Collectively they are shown in figure 1.

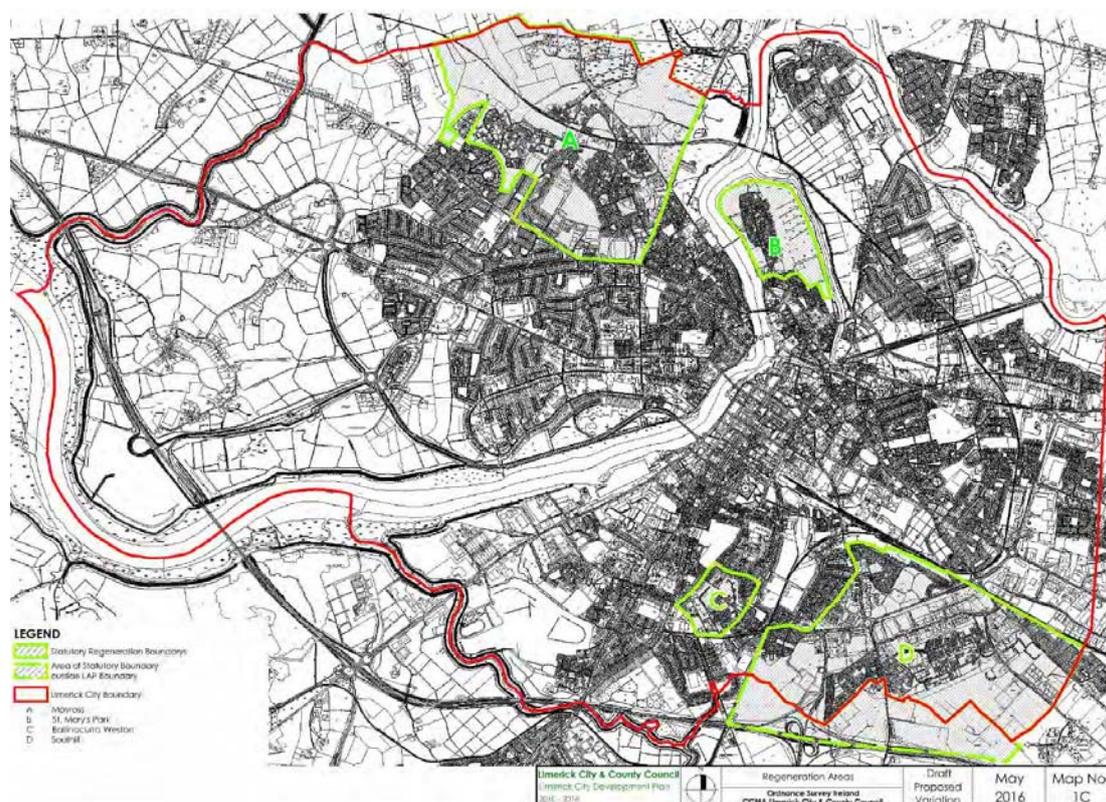


Figure 1 – Boundaries of the four areas within Limerick City that are part of the Regeneration project. A = Moyross; B = St. Mary's Park/King's Island; C = Ballinacorra/Weston; D = Southill

2.1.1 Moyross

The Moyross area is located along the northern fringes of the city. It is bisected by a mainline railway line and is composed of significant areas of urban/built development. It does however contain areas of wetland habitat associated with the River Shannon and which are within the boundary of the Lower River Shannon SAC. A new road route, the Coonagh-Knockalisheen Distributor Road, has been approved by An Bord Pleanála and will pass to the north of developed areas within Moyross. Construction of this project has yet to commence. Figure 2 shows the relationship between the regeneration area and the aforementioned SAC.

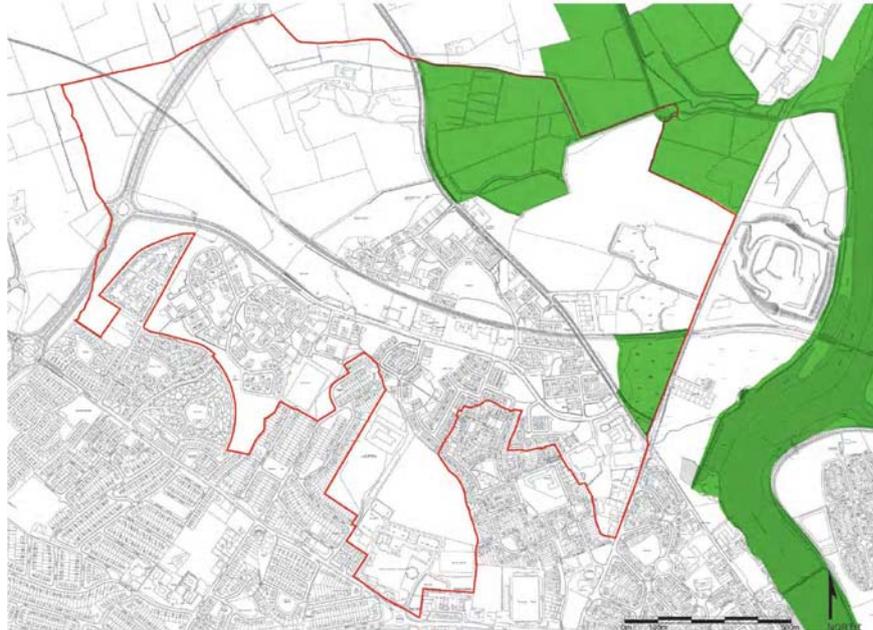


Figure 2 – Moyross Regeneration area (in red line) and the Lower River Shannon SAC (in green) showing overlap of the two areas

2.1.2 St. Mary's park

St. Mary's park is located on the north side of Limerick city centre. It is surrounded to the west and north by the River Shannon, to the east by the Abbey River, and to the south by Limerick city. Habitat mapping has been carried out by OPENFIELD due to the sensitive nature of the natural environment in this area. This is shown in figure 3 along with the boundary of the Regeneration Area and the SAC.

2.1.3 Ballinacurra Weston and Southill

Ballinacurra Weston and Southill are both located to the south of Limerick city centre and are largely enclosed within other suburban areas of the city. Unlike the two previous Regeneration Areas they are not near the Lower River Shannon SAC and no sensitive habitats associated with this SAC have been recorded from within these areas.

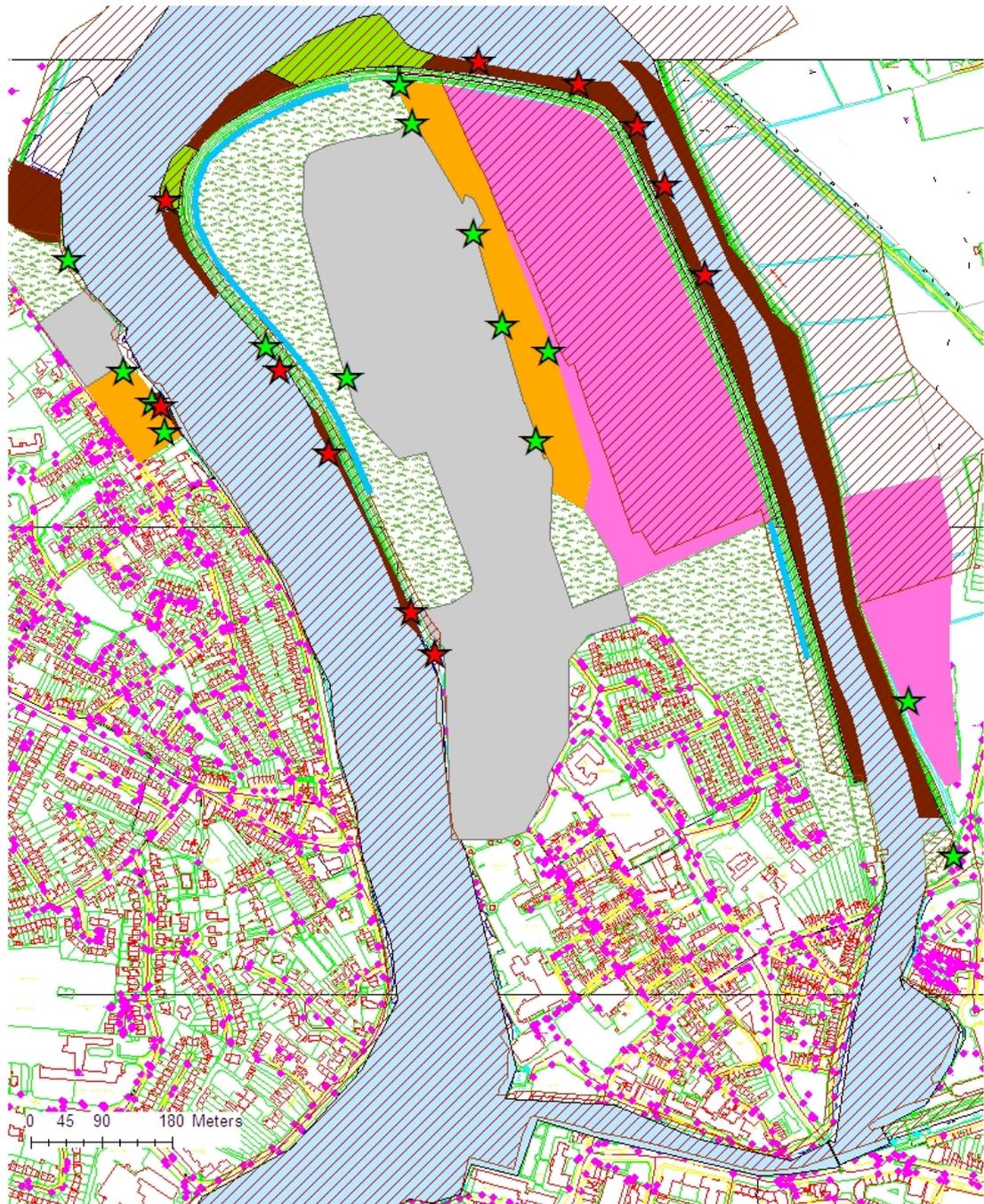


Figure 3 – Overview of St. Mary's park and King's Island showing the boundary of the Lower River Shannon SAC. It also shows the extent of sensitive habitats and known locations of alien invasive species.

2.2 Natura 2000 sites within the Zone of Influence

Best practice guidance (DoE, 2009) recommends that all Natura 2000 sites within 15km of the plan boundary be initially screened for impacts. This is an arbitrary distance and may be modified as this process progresses. Within this radius seven SACs and one SPA have been identified from the NPWS website (www.npws.ie). These are shown in figure 2.

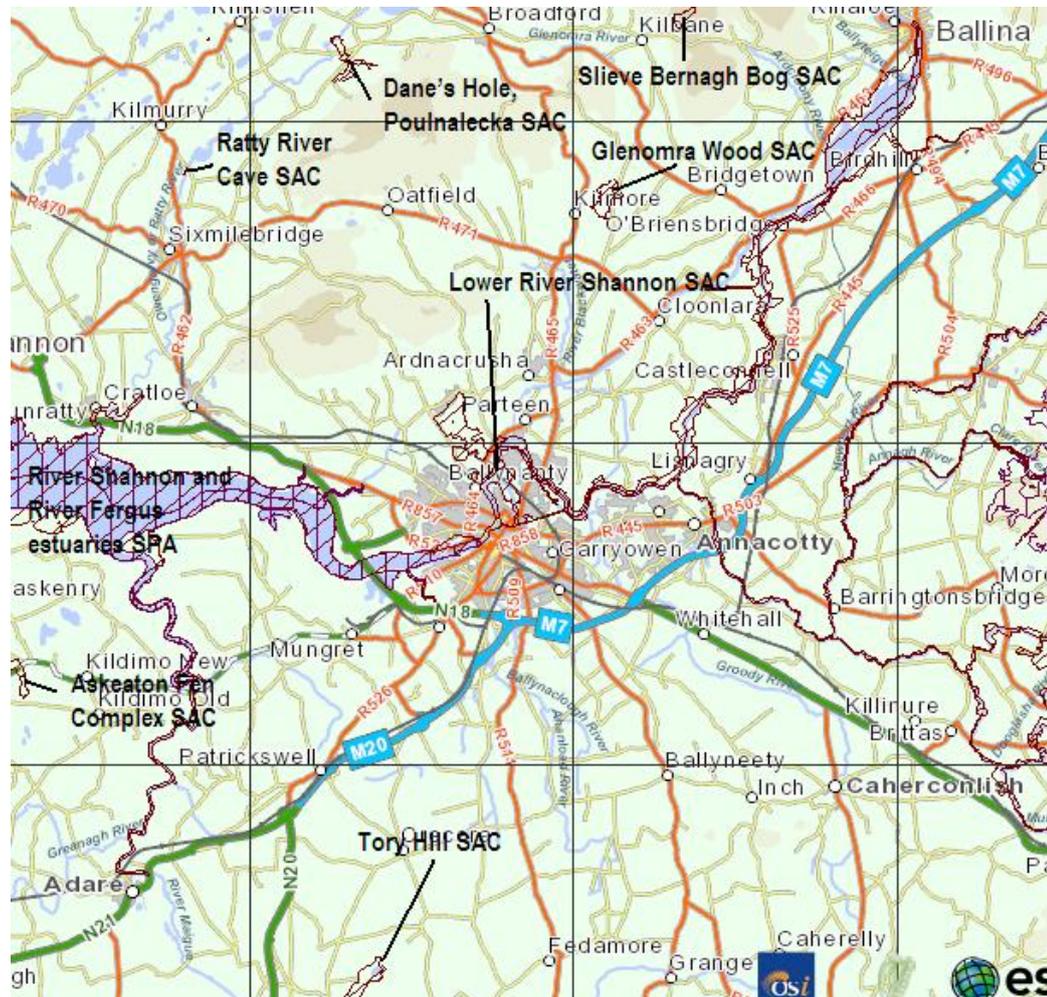


Figure 4 – 15km radius of CDP boundary (from www.npws.ie).

2.2.1 The Lower River Shannon SAC

This is a very large SAC that stretches from Killaloe to Loop head/Kerry head and is over 720 km² in area. The reasons why this area falls under the SAC designation are set out in the site qualifying interests. They are either habitat types listed in Annex I or species listed in Annex II of the Habitats Directive. This information is provided by the National Parks and Wildlife Service (NPWS, 2013a & b) and is shown in table 1 below.

Table 1 – Qualifying interests for the Lower River Shannon SAC (from NPWS)

Code	Habitats	National Status
1130	Estuaries	Intermediate
1140	Mudflats and sandflats not covered by seawater at low tide	Intermediate
1150	Coastal lagoons	Bad
1230	Vegetated sea cliffs of the Atlantic and Baltic coasts	Intermediate
1310	Salicornia and other annuals colonizing mud and sand	Intermediate
1330	Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>)	Intermediate
1410	Mediterranean salt meadows (<i>Juncetalia maritimi</i>)	Intermediate
3260	Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation	Intermediate
1110	Sandbanks which are slightly covered by sea water all the time	Good
1160	Large shallow inlets and bays	Intermediate
1170	Reefs	Bad
1220	Perennial vegetation of stony banks	Intermediate
6410	<i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>)	Bad
91E0	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>)	Bad
1099	<i>Lampetra fluviatilis</i> River lamprey	Good
1096	<i>Lampetra planeri</i> Brook lamprey	Good
1095	<i>Petromyzon marinus</i> Sea lamprey	Bad
1106	<i>Salmo salar</i> Atlantic salmon	Intermediate
1349	<i>Tursiops truncatus</i> Bottle-nosed dolphin	Good
1355	<i>Lutra lutra</i> Otter	Good
1029	<i>Margaritifera margaritifera</i> Freshwater pearl mussel	Bad

- **Sandbanks (1110):** These are marine habitats composed of banks or ridges of soft sediment in less than 20m of water. They are highly dynamic habitats, being subject to continuous wave and tidal actions, and can be home to a diverse assemblage of marine species.
- **Estuary (1130):** This is the portion of a river that is influenced by the tide but retaining a significant freshwater influence. Substrates can range from rocks and boulders, to expanses of fine mud and sand. They are an important resource for birds and other fauna and many estuaries have twin designations (i.e. both SAC and SPA). It considered that the majority of estuary habitat is in good condition however approximately a quarter is negatively affected by excess nutrient input and damaging fishing practices.
- **Tidal mudflats (1140).** This is an intertidal habitat characterised by fine silt and sediment. Most of the area in Ireland is of favourable status however water quality and fishing activity, including aquaculture, are negatively affecting some areas.
- **Coastal lagoons (1150)** and a priority habitat) are brackish water bodies typically separated from the sea by a tidal barrier and with limited tidal range. In Ireland they are defined by their biological communities rather than their morphology. The greatest threat to their integrity is considered to be from nutrient pollution causing eutrophication.
- **Large shallow inlets and bays (1160):** These are marine or intertidal habitats that have reduced freshwater influence (in contrast to estuaries).

They can occur in association with a number of other Annex I habitat types and are of value to marine biodiversity including mammals and seabirds.

- **Vegetated sea cliffs (1230)** These coastal habitats can be composed of hard or soft material which in turn influences the rate at which erosion occurs. Vegetation can be sparse but composed of a variety of specially adapted species.
- **Salicornia mudflats (1310)**: This is a pioneer saltmarsh community and so is associated with intertidal areas. It is dependant upon a supply of fresh, bare mud and can be promoted by damage to other salt marsh habitats. It is chiefly threatened by the advance of the alien invasive Cordgrass *Spartina anglica*. Erosion can be destructive but in many cases this is a natural process.
- **Atlantic and Mediterranean salt meadows (1330 & 1410)**: these are intertidal habitats that differ somewhat in their vegetation composition. They are dynamic habitats that depend upon processes of erosion, sedimentation and colonisation by a typical suite of salt-tolerant organisms. The main pressures are invasion by the non-native *Spartina anglica* and overgrazing by cattle and sheep.
- **Floating river vegetation (3260)**: There is currently no satisfactory definition of this habitat type in Ireland and it is considered broad, encompassing all rivers. The NPWS says that “the main problems for river habitats in Ireland are damage through eutrophication and other processes linked to water pollution, rather than direct habitat loss and destruction.”
- **Molinea meadows (6410)** *Molinea caerulea*, the Purple Moorgrass, is typically associated with upland peatland habitats but this habit type occurs on lowland sites associated with traditional agricultural practices. The main threats that it faces are associated with changes in land use, e.g. land abandonment or intensification.
- **Alluvial Wet Woodland (91E0)**: This is a native woodland type that occurs on heavy soils, periodically inundated by river water but which are otherwise well drained and aerated. The main pressures are identified as alien invasive species, undergrazing and overgrazing. Pollution from agricultural land may also be significant.
- **Freshwater pearl mussel (1029)** This is one of the most threatened species in Ireland and one of a small number that is listed on the International Union for the Conservation of Nature’s (IUCN) red list. Although it is long-lived, its populations have not reproduced in many years. This has been due to over-extractions for their pearls and more recently by dramatic deteriorations in water quality. Freshwater pearl mussels need exceptionally high quality water for breeding and depend upon another threatened species, the Atlantic salmon, for part of its life cycle.
- **Sea lamprey (1095)** This is an anadromous species of jawless fish. Their population densities are considered low in many catchments and are negatively affected by barriers to migration, such as weirs, dams etc. Pollution and drainage works are also identified as threats to its conservation status.
- **Brook and river lamprey (1096 & 1099)**: These species are similar to the sea lamprey although they spend their entire life cycle in freshwater and are considerably smaller. As juveniles they are indistinguishable at the species level and are only differentiated by their size at adults. Since surveys are carried out on the juvenile life stage the two species are jointly assessed. Although threatened by pollution, along with all aquatic life, they are assessed as being of ‘good’ status.
- **Atlantic salmon (1106)** This once abundant fish has suffered a dramatic decline in recent decades. On land they are threatened by pollution and

barriers to migration while at sea mortality may occur through industrial fisheries, parasites from aquaculture operations and climate change. The Habitats Directive only protects the salmon in its freshwater habitat and here specific conservation objectives have been set for water quality. Salmon will only spawn in clean, sediment-free beds of gravel.

- **Otter (1355)** This aquatic mammal lives its entire life in and close to wet places, including rivers, lakes and coastal areas. They will feed on a wide variety of prey items. Despite local threats from severe pollution incidents and illegal fishing, its population is considered stable and healthy, and so is assessed as being of 'good' status.
- **Bottle-nosed dolphin (1349)**. These well recognised mid-sized cetaceans are found through tropical and temperate seas and are well recorded in the waters around Ireland. They can be transient although some populations, such as that in the Shannon estuary, are considered resident.

2.2.2 The River Shannon and River Fergus Estuaries SPA

The estuaries of these two rivers form the largest expanse of intertidal mudflats in Ireland. SPAs are designated for their internationally important species (listed on Annex I of the Birds Directive) or population sizes (>1% of the global population or >20,000 individuals). Most recent available data indicate that a mean of 10,235 birds utilised the area during the winters from 2006-11 (Crowe et al., 2012). This includes internationally important numbers of Mute swan *Cygnus olor* and Whooper swan *C. cygnus* and nationally important numbers of Shelduck *Tadorna tadorna*, Wigeon *Anas penelope*, Teal *A. crecca*, Cormorant *Phalacrocorax carbo*, Dunlin *Charadrius alpina*, Black-tailed godwit *Limosa limosa* and Curlew *Numenius arquata*. The SPA's features of interest (analogous to qualifying interests for SACs) include all these species (with the exception of Mute swan) plus Light-bellied brent goose *Branta bernicula hrota*, Pintail *A. acuta*, Scaup *Aythya marila*, Shoveler *Anas clypeata*, Ringed plover *Charadrius hiaticula*, Golden plover *Pluvialis apricaria*, Grey plover *Pluvialis squatarola*, Lapwing *Vanellus vanellus*, Knot *Calidris canutus*, Bar-tailed godwit *L. lapponica*, Redshank *Tringa totanus*, Greenshank *T. nebularia* and Black-headed gull *Chroicocephalus ridibundus*.

Table 2 – Features of interest for the River Shannon and River Fergus SPA

Species	Status ¹
Light-bellied Brent Goose <i>Branta bernicla hrota</i>	Amber (Wintering)
Pintail <i>Anas acuta</i>	Red (Wintering)
Scaup <i>Aythya marila</i>	Amber (Wintering)
Shoveler <i>Anas clypeata</i>	Red (Wintering)
Ringed Plover <i>Charadrius hiaticula</i>	Green
Golden plover <i>Pluvialis apricaria</i>	Red (Breeding & Wintering)
Grey Plover <i>Pluvialis squatarola</i>	Amber (Wintering)
Lapwing <i>Vanellus vanellus</i>	Red (Breeding & Wintering)

¹ Colhoun & Cummins, 2013. *Birds of Conservation Concern in Ireland 2014-2019*

Knot	<i>Calidris canutus</i>	Amber (Wintering)
Dunlin	<i>Calidris alpina</i>	Red (Breeding & Wintering)
Bar-tailed Godwit	<i>Limosa lapponica</i>	Amber (Wintering)
Black-tailed Godwit	<i>Limosa limosa</i>	Amber (Wintering)
Redshank	<i>Tringa totanus</i>	Red (Breeding & Wintering)
Greenshank	<i>T. nebularia</i>	Green
Black-headed Gull	<i>Croicocephalus ridibundus</i>	Red (Breeding)
Whooper Swan	<i>Cygnus cygnus</i>	Amber (Wintering)
Shelduck	<i>Tadorna tadorna</i>	Amber (Breeding & Wintering)
Wigeon	<i>Anas penelope</i>	Red (Wintering)
Teal	<i>Anas crecca</i>	Amber (Breeding & Wintering)
Cormorant	<i>Phalacrocorax carbo</i>	Amber (Breeding & Wintering)
Curlew	<i>Numenius arquata</i>	Red (Breeding & Wintering)
Wetlands & Waterbirds		

- **Pintail.** Dabbling duck wintering on grazing marshes, river floodplains, sheltered coasts and estuaries. It is a localised species and has suffered a small decline in distribution in Ireland for unknown reasons.
- **Teal.** In winter this duck is widespread throughout the country. Land use change and drainage however have contributed to a massive decline in its breeding range over the past 40 years.
- **Shoveler.** Favoured wintering sites for this duck are inland wetlands and coastal estuaries. While there have been local shifts in population and distribution, overall their status is stable in Ireland.
- **Wigeon.** There is a small unconfirmed breeding population of this duck in Ireland but the bulk of the population arrives to winter in coastal and inland wetlands. Changes in its wintering population have been attributed to climate change.
- **Scaup.** The wintering population of this duck has increased by 54% over 40 years although this masks a significant decline in numbers. It is found predominantly along coastal sites. A large population was also traditionally found on Lough Neagh although this has declined of late.
- **Light-bellied Brent Goose.** There has been a 67% increase in the distribution of this goose which winters throughout the Irish coast. The light-bellied subspecies found in Ireland breeds predominantly in the Canadian Arctic.
- **Dunlin.** Although widespread and stable in number during the winter season, the Irish breeding population has collapsed by nearly 70% in 40 years. Breeding is now confined to just seven sites in the north and west as habitat in former nesting areas has been degraded.
- **Knot.** These small wading birds do not breed in Ireland but gather in coastal wetlands in winter. Their numbers have increased dramatically since the mid-1990s although the reasons for this are unclear.
- **Black-headed Gull.** Widespread and abundant in winter these gulls are nevertheless considered to be in decline. The reasons behind this are unclear

but may relate to the loss of safe nesting sites, drainage, food depletion and increase predation.

- **Whooper Swan.** Although some of these swans have been known to breed in Ireland this country is predominantly a wintering ground for the Icelandic population. Its range has increase here by 16% in recent years.
- **Ringed Plover.** This bird is a common sight around the Irish coast where it is resident. They breed on stony beaches but also, more recently, on cut-away bog in the midlands.
- **Bar-tailed Godwit.** These wetland wading birds do not breed in Ireland but are found throughout the littoral zone during winter months. They prefer estuaries where there are areas of soft mud and sediments on which to feed.
- **Black-tailed Godwit.** Breeding in Iceland these waders winter in selected sites around the Irish coast, but predominantly to the east and southern halves. Their range here has increase substantially of late.
- **Curlew.** Still a common sight during winter at coastal and inland areas around the country it breeding population here has effectively collapsed. Their habitat has been affected by the destruction of peat bogs, afforestation, farmland intensification and land abandonment. Their wintering distribution also appears to be in decline.
- **Cormorant.** Wintering populations of this large, fish-eating bird have increased in Ireland since the early 1980s. Breeding also occurs widely along the coast and inland waterways. It is amber-listed due to a moderate decline in numbers.
- **Golden Plover.** In winter these birds are recorded across the midlands and coastal regions. They breed only in suitable upland habitat in the north-west. Wintering abundance in Ireland has changed little in recent years although it is estimated that half of its breeding range has been lost in the last 40 years.
- **Grey Plover.** These birds do not breed in Ireland but winter throughout coastal estuaries and wetlands. Its population and distribution is considered to be stable.
- **Shelduck.** The largest of our ducks, Shelduck both breed and winter around the coasts with some isolate stations inland. Its population and range is considered stable.
- **Greenshank.** These wetland waders do not breed in Ireland but winter along most of the coastal zone. There has been a moderate increase in their distribution over the past 30 years.
- **Redshank.** Once common breeders throughout the peatlands and wet grasslands of the midlands Redshanks have undergone a 55% decline in distribution in the past 40 years. Agricultural intensification, drainage of wetlands and predation are the chief drivers of this change.
- **Lapwing.** Although still one of the most widespread of the breeding waders Lapwing populations have declined by over 50% in the past 40 years. This has been driven by changes in agricultural practices and possibly increased predation.

2.2.3. Glenomra Wood SAC

This is a small area of deciduous woodland with populations of protected mammals (Badger *Meles meles*, Pine marten *Martes martes* and Hare *Lepus timidus hibernicus*) and amphibian (Common frog *Rana temporaria*). It has a single qualifying interest: the priority habitat type 'Old sessile oak woods with Ilex and Blechnum in the British Isles (code: 91A0). At a national level this habitat is assessed as being in 'bad' condition (NPWS, 2013d).

- **Old Oak Woodlands (91A0):** This native woodland type is typified by Sessile Oak *Quercus patrea*, Holly *Ilex aquifolium* and Hard Fern *Blechnum spicant*. Its range is much reduced from historic levels while the principle threats are alien invasive species and overgrazing by deer but also cattle, goats and sheep.

2.2.4. Danes Hole Poulnalecka SAC

This is a small cave that is concealed under a broad-leaved woodland. It is home to an internationally important population of the Annex II (Habitats Directive) listed Lesser Horseshoe bat *Rhinolophus hipposideros*. The SAC contains a winter hibernating roost and a summer maternity roost, as well as vital foraging grounds for this species (NPWS, 2013e).

Table 3 – Qualifying interests for the Danes Hole Poulnalecka SAC

Code	Habitat/Species type	National Status
8310	Caves not open to the public	Good
91A0	Old sessile oak woods with Ilex and Blechnum in British Isles	Bad
1303	<i>Rhinolophus hipposideros</i> Lesser Horseshoe Bat	Good

- **Lesser Horseshoe Bat (1303).** Ireland is considered to be a stronghold for this bat which here is at the western extremity of its range. It roosts in attics and derelict buildings during summer while in winter it hibernates in caves and souterrains.
- **Caves (8310).** In Ireland this habitat is confined to caves not open to the public and which are home to the Lesser Horseshoe Bat. As such this habitat type is restricted to the range of its occupant and found only in Cork, Limerick, Kerry, Clare, Galway and Mayo.

2.2.5. Ratty River Cave SAC

Similar to the Danes Hole Poulnalecka SAC this is an internationally important roost for the Lesser Horseshoe bat, a species only found in some west of Ireland counties (NPWS, 2013f).

Table 4 – Qualifying interests for the Ratty River Cave SAC

Code	Habitat/Species type	National Status
8310	Caves not open to the public	Good
1303	<i>Rhinolophus hipposideros</i> Lesser Horseshoe Bat	Good

2.2.6. Askeaton Fen Complex SAC

This area is a mosaic of wetland habitats from marsh dominated by the Saw Sedge *Cladium mariscum* to wet grassland and scrub. It is of importance for rare water beetles and has two qualifying interests as detailed in table 5 (NPWS, 2013g).

Table 5 – Qualifying interests for the Askeaton Fen SAC

Code	Habitat/Species type	National Status
7210	Cladium fens	Bad
7230	Alkaline fens	Bad

- **Cladium Fens (7210).** This priority habitat is found in base-rich, groundwater fed fens or around the fringes of lakes or turloughs with similar water chemistry. The characteristic features is the Great Fen-sedge *Cladium mariscus*. The habitat is threatened from drainage and wetland infilling and lack of site management.
- **Alkaline Fens (7230):** Threats of ‘high importance’ are groundwater abstractions, land reclamation, diffuse groundwater pollution, land abandonment/under-grazing. These fen systems are often a complex mosaic of habitats, with tall sedge beds, reedbeds, wet grasslands, springs and open-water often co-occurring at a given fen site. Their integrity is reliant upon a stable, high water table; calcareous/low-nutrient water supply; and controlled mowing and/or grazing.

2.2.7 Slieve Bernagh Bog SAC

This is an upland area centred on the peaks of Moylussa and Cragnamurragh and is predominantly composed of upland blanket bog habitat. It is home to distinctive peatland species as well as important birds such the Annex I (Birds Directive) listed Hen Harrier *Circus cyaneus* (NPWS, 2014).

Table 6 – Qualifying interests for Slieve Bernagh Bog SAC

Code	Habitat type
7130	Blanket bog (*active only)
4010	Northern Atlantic wet heaths with <i>Erica tetralix</i>
4030	European dry heaths

- **Active Blanket Bog (7130)** This is a very widespread habitat in Ireland found on uplands and lowlands along the Atlantic seaboard. Active blanket bog is peat forming, principally indicating the presence of *Sphagnum* sp. mosses but also other species. Degraded bog, where there is now forestry or bare peat, are excluded as they are not considered ‘active’.
- **Atlantic wet heath (4010)** This is a heather dominant habitat that is intermediate between dry heath and blanket bog, and is frequently found in association with these two. Grazing and trampling by sheep is identified as the greatest threat to the status of the habitat but non-native invasive species such as *Rhododendron* and the moss *Campylopus introflexus* also impact negatively upon the habitat.
- **Dry heath (4030):** This is a community of heather shrubs that occurs on well-drained, acidic, nutrient-poor mineral or peaty soils. Pressures on this habitat arise from high levels of sheep grazing, as well as afforestation, mining and quarrying. Unregulated burning is also identified as an important threat to the structure of this habitat.

The effects of the proposed variation to the CDP must be measured against the SAC’s/SPA’s conservation objectives. However for most of these SACs only generic conservation objectives are available (NPWS, 2015a-d). The

NPWS does state that the integrity of the area is dependant upon the following generic conservation objective:

“To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected”

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long - term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

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

Specific conservation objectives have been set for the Lower River Shannon SAC and the River Shannon and River Fergus Estuaries SPA. While it is not necessary to reproduce these in full they do discuss each qualifying interest/feature of interest in detail and define objectives in line with the generic objectives cited above (NPWS, 2012a&b).

In the SPA conservation objectives for each feature of interest (i.e. species of bird) is given as:

1. Population trend: long term population trend stable or increasing
2. Distribution: no significant decrease in the range, timing or intensity of use [...] other than that occurring from natural patterns of variation.

Specific objectives for the Slieve Bernagh Bog SAC in Co. Clare have also recently be set (NPWS, 2016). These consist of detailed objectives for habitat area, vegetation composition, ecosystem functioning, physical structure for each of the qualifying interests. The distance between this SAC and the boundary of the Limerick CDP is approximately 15km.

While specific conservation objectives for the Lesser Horseshoe Bat have not be given for the Glenomra Wood, Danes Hole Poulnalecka or Ratty River Cave SACs there are objectives listed for the Glengarriff Harbour & Woodland SAC in County Cork (site code: 0090). It is appropriate therefore to refer to these (NPWS, 2015e).

Lesser Horseshoe Bat

No decline in winter, summer or auxiliary roosts; no significant decline in the extent of potential foraging habitat; no significant loss of linear features within 2.5km of roosts; no significant increase in artificial light intensity within 2.5km of roosts;

The nearest of these SACs lies approximately 8.7km from the boundary of the CDP (at Moyross) is Glenomra Wood SAC, and so well beyond the zone of influence for Lesser Horseshoe Bats.

Figures 2 & 3 show the location of Natura 2000 sites in the immediate vicinity of the Moyross and St. Mary's Park/King's Island areas respectively. As can be seen a significant portion of these areas is located within the SAC boundary in these two Regeneration Areas. The Southill and Ballinacurra Regeneration Areas are not within or adjacent to any Natura 2000 area or associated with habitats or species listed in Annexes I or II of the Habitats Directive respectively.

2.3 Literature review

St. Mary's Park

In 2007 an ecological study was carried out by Mr Roger Goodwillie and this focussed on the portion of King's island within the SAC boundary (Goodwillie, 2007). It found no species of flora protected under the Flora Protection Order (Statutory Instrument No. 94 of 1999. Flora (Protection) Order). This survey delineated the study area into three zones: an upper, dry area (A); a middle, species poor, wet area (B); and a lower, wet, species rich area (C). This delineation is reproduced in figure 5. While the island can be considered within the floodplain of the Shannon, extensive human interference, particularly through drainage and the construction of an embankment encircling the island, has resulted in this degree of variation. Goodwillie concludes that with the exception of the lower zone, the area is of low floristic diversity and so of low ecological value. While a habitat map is not given, the report states that only one habitat type, Alluvial wet woodlands (code: 91E0), is present, and, contrary to the statement in the report, this is a priority habitat type (DG Environment, 2003). The exact location, extent, or condition of this habitat is not given.



Figure 5 – Goodwillie delineation of habitats (Goodwillie, 2007 extract)

The report also notes that the two wet zones are a habitat for a number of wetland bird species, including the Whooper swan *Cygnus cygnus*, a bird listed under Annex I of the Birds Directive. The river is also home to Otter *Lutra lutra* which is listed on Annex II of the Habitats Directive and is among the qualifying interests of the SAC. The report suggests that Otter may use the wet area of land for foraging.

The Status of EU Protected Habitats and Species in Ireland (NPWS, 2013a &b) publishes the status and distribution of Annex I habitats and Annex II species in Ireland. It shows that of the habitats and species listed in table 1, only the following are present within the 10km square around the site:

Habitats:

- Estuaries (code: 1130)
- Tidal mudflats and sandflats (code: 1140)
- Atlantic salt meadows (code: 1330)
- Floating river vegetation (code: 3260)
- Molinia meadows (code: 6410)
- Alluvial forests (code: 91E0)

Species:

- River lamprey (code: 1099)
- Brook lamprey (code: 1096)
- Sea lamprey (code: 1095)
- Atlantic salmon (code: 1106)
- Otter (code: 1355)

This list does not refer to Annex I habitats or Annex II species *not listed* as qualifying interests for the site but may be present within this portion of the SAC.

While Bottle-nosed dolphin (code: 1349) are recorded from this 50 km square, they are not normally associated with the upper reaches of tidal rivers.

The Shannon at this point is known to be tidal and so would not provide suitable habitat for breeding Atlantic salmon. However, all migratory fish that spawn in the catchment, upstream of Limerick, must pass through the river at this point.

The presence of Otter in this area was *not* recorded during the most recent national Otter survey (Bailey et al., 2006) however this does not confirm its absence.

Freshwater pearl mussels are known from the Cloon river in county Clare, downstream of Limerick city (Moorkens, 1999).

All three Lamprey species are known from the lower Shannon catchment and spawn in tributaries upstream of Limerick city (Kurtz & Costello, 1999).

Water quality across Ireland is monitored by the Environmental Protection Agency (EPA). The tidal portion of the lower river Shannon was most recently assessed as 'unpolluted' and of 'good' status under the Water Framework Directive. The nearest freshwater monitoring station, at Athlunkard Bridge, meanwhile was determined to be Q3-4 prior to 2004. This figure is equivalent

to an Ecological Quality Ratio of 0.7, or of 'moderate' status under the Water Framework Directive (data from www.epa.ie). This point has not been monitored since 2004 however.

The NPWS maintain a 'mapviewer' tool on their web site (www.npws.ie) which indicates records of protected species within 10 km squares. St. Mary's park is located within the R55 square and five protected plants are listed. These are given in table 2 but do not indicate the absence of other rare or protected species.

None of these species was recorded during the series of surveys carried out by Goodwillie although as an aquatic plant, the Opposite-leaved pondweed was not within the scope of this report. The Conservation Objectives report from NPWS for the Lower River Shannon indicate the presence of the protected Triangular Clubrush *Schoenoplectus triqueter* to the north-east of King's Island. Meanwhile the *Flora of Limerick* states that the plant was recorded in 1992 on the "west side of King's Island" (Reynolds, 2013).

Table 7 – Records of protected species from the R55 square

Species	Habitat (Parnell et al., 2012)	Record status (Preston et al., 2002)
<i>Colchicum autumnale</i> Autumn crocus	Meadows and river banks	pre-1970
<i>Groenlandia densa</i> Opposite-leaved pondweed	Ditches, streams and canals [aquatic]	Current
<i>Hordeum secalinum</i> Meadow barley	Damp places, chiefly near the sea	Current
<i>Mentha pulegium</i> Penny royal	Damp sandy places	pre-1970
<i>Schoenoplectus triqueter</i> Triangular club rush	Tidal mud	Present

An indicative habitat map of the St. Mary's Park area is shown in figure 3. It shows that seven Fossitt habitats are present. This is based on field work, principally from 2010, but augmented by additional visits in 2012, 2013 and 2014. The main habitats are **buildings and artificial surfaces – BL3** and **amenity grassland – GA2**. These are low in species diversity and consequently are of minimal biodiversity value. For this reason these areas are not included within the SAC boundary.

To the east of the St. Mary's park estate and also on the western banks of the Shannon there are strips of **recolonising bare ground – ED3**. This area has been subject to grazing, dumping and infill and is higher in elevation than the adjacent wet area. While this habitat can be species rich it is mostly colonised by opportunistic plants that are common and widespread. This area is associated with foraging birds and, during the summer, is likely to attract butterflies and other insects. The habitats and species here are of moderate biodiversity value and are not associated with the SAC or its qualifying interests. It is adjacent to, but outside the SAC boundary. As can be seen in figure 3 a number of stands of the invasive Japanese Knotweed are located in this area.

The stretches of the Shannon and Abbey rivers surrounding King's island are **lowland/depositing river – FW2** and constitute the primary feature of the SAC. An Otter *Lutra lutra* was observed swimming in the river in 2010 along with Mute swan *Cygnus olor*, Moorhen *Gallinula chloropus*, Greylag goose

Anser anser, Grey heron *Ardea cinerea*, Cormorant *Phalacrocorax carbo* and Little grebe *Tachybaptus ruficollis*. The Otter is listed on Annex II of the Habitats Directive and is one of the SAC's qualifying interests.

Along the river banks, and fringing almost the entire island, there is a strip of **riparian woodland – WN5**. It is dominated with Willow *Salix sp.* with occasional Alder *Alnus glutinosa* and Ash *Fraxinus excelsior*. On the island's western shore this fringe is narrow and in some places there is open grassland (with Creeping buttercup *Ranunculus repens* and Reed canary grass *Phalaris arundinacea*). This area is **wet grassland – GS4** and is a part of the rivers' floodplain. However on the eastern shore it is much more developed and uninterrupted. This habitat is an example of the Annex I priority type Alluvial forests (91E0) and is one of the rarest native woodland types in Ireland (Little et al., unknown year). It is of high biodiversity value and home to a range of woodland species as well as being vital for the preservation of water quality and the prevention of bank erosion. During the survey it had been reported that a pair of Kingfisher *Alcedo atthis* were foraging along the river (passerby, personal communication.). The Kingfisher is listed on Annex I of the Birds Directive.

The raised embankment circling the island separates the main channel of the river from the land within. A series of **drainage ditches – FW4** connect the drier land to the north and west with the wet fields in the east. It would appear that these drains feed water into the wet area rather than away from it and are connected to the river via an outlet pipe on the western side. This is a one-way valve which would indicate that the wetland is not directly connected to the floodplain of the river. However, consultation with the OPW and Limerick city council suggests that some interaction is likely due to the large volume of water that is seen during flood events. It was their opinion that this is certainly happening and is due either to the valve being occasionally faulty or water flowing over the top of the embankment at high tides. It must therefore be assumed that the wetland is part of the river's flood plain and provides storage of water during flood events. The nature of the drainage ditches vary from open trenches with Reed canary grass, to stretches with open water and abundant overhanging Willow. This habitat is connected to the SAC via the area's hydrology.

The large area of wet fields to the east is approximately 11.7 hectares in extent and is entirely within the SAC boundary. At the time of the survey it was not possible to walk through this area due to the depth of water and nature of the soft mud. Apart from the abundance of Yellow iris *Iris pseudacorus* and occasional Bulrush *Typha sp.* in the wetter margins, it was not possible to identify many of the species. Goodwillie surveyed this area thoroughly during his surveys in 2007. He delineated two zones in this area with a wet, species rich area to the west and a drier area to the east with lower species diversity (see figure 5). This distinction was not visible during the winter months. From Goodwillie's description of this area it is tentatively deduced that it is an example of **tall-herb swamps – FS2**. This is due to the presence of standing water (which distinguishes it from marsh) and the presence of species such as Brooklime *Veronica beccabunga*, Water forget-me-not *Myosotis scorpioides*, Water plantain *Alisma plantago-aquatica*, Fool's water-cress *Apium nodiflorum*, and Reed sweet grass *Glyceria maxima*. This habitat type is not listed among the SAC's qualifying interests however it is associated with the Annex I listed habitat 'Hydrophilous tall herb' (6430). In addition to their important habitat function wetlands such as these perform

important tasks such as flood alleviation, water purification, the prevention of erosion and the cycling of carbon (Otte, 2003).

This area contains abundant bird life with flocks of Mute swan, Whooper swan *Cygnus cygnus* (numbering around 22 individuals), Lapwing *Vanellus vanellus*, Mallard *Anas platyrhynchos*, Black headed gull *Larus ridibundus*, Snipe *Gallinago gallinago*, Teal *Anas crecca*, and Redshank *Tringa totanus*. The Whooper swan is listed under Annex I of the Birds Directive. A national census of Whooper swan that took place in January 2015 showed that the wintering population of this bird had declined by 0.2% since the previous count in 2010 (Crowe et al., 2015). The birds utilise a variety of habitats and the St. Mary's Park population is not sufficiently large to be of national importance. Around the fringes there were Robin *Erithacus rubecula*, Rook *Corvus frugilegus*, Treecreeper *Certhia familiaris*, Wren *Troglodytes troglodytes*, Grey wagtail *Motacilla cinerea*, Blue tit *Parus caeruleus*, Dunnock *Prunella modularis*, Starling *Sturnus vulgaris*, Linnet *Carduelis cannabina*, Red wing *Turdus iliacus*, Chaffinch *Fringilla coelops*, Pied wagtail *Motacilla alba*, Great tit *Parus major*, Blackbird *Turdus merula*, House sparrow *Passer domesticus*, Hooded crow *Corvus corone*, and Magpie *Pica pica*.

In summary it can be seen that the area designated as SAC is important for qualifying interests such as freshwater fish, Otter and riparian woodland, but also for features outside the qualifying interests – particularly wintering wetland birds, but also Kingfisher and possibly an Annex I wetland habitat (hydrophilous tall herbs). These habitats perform important functions in the regulation of water flow and the moderation of water quality as well as being valuable for the maintenance of biodiversity in general.

It should be noted that the southern portion of King's Island was not included in this survey however from aerial photography it can be concluded that this area is made up of buildings and artificial surfaces.

In April 2013 additional survey work was carried out on lands across the Shannon River from St. Mary's Park. This showed that the lands here are composed of recolonising bare ground and amenity grassland. Historic mapping shows that the former area is reclaimed land and evidence of this infill can still be seen today. While the river margin has been colonised with a single line of trees, *Salix purpurea*, some of which are large, it cannot be considered alluvial woodland because of its structure and function (or rather lack thereof). To the rear of this line there has been extensive colonisation of the alien invasive Japanese Knotweed *Fallopia japonica* and occasional stands of the Giant Hogweed *Heracleum mantegazzianum*. It is understood that a programme of eradication of Japanese Knotweed has been under way. Further upstream an area of amenity grassland and buildings affords no margin of riparian vegetation whatever. Further still the land enters the boundary of the SAC and here there are areas of high value riparian woodland.

Moyross

The Knockalisheen Marsh is composed of two distinct land parcels: one large area to the north lying in county Clare; and the smaller area to the south. These areas are described in a site synopsis report for the associated proposed Natural Heritage Area (NPWS, 1997). The larger area is composed of species rich wet grassland and fen and is notable for important flora such

as Marsh Helleborine *Epipactis palustris* and Skullcap *Scutellaria galericulata*. The southern land parcel is briefly described as “a reedbed of Common Reed *Phragmites australis* and Bulrush *Typha sp.*”

A brief ‘ecological overview’ of the Moyross Regeneration Area was produced in April 2008 by EirEco. It described the development site as “isolated open water with reed swamp” and suggests that there is “potential to appeal at least part of the cSAC” (EirEco, 2008). No further details are given as part of this assessment.

2.4 Preliminary Consultation

2.4.1 NPWS

Written requests for consultation observations have been submitted to the NPWS on a number of occasions since early 2010 in relation to previous iterations of the Regeneration Plans and the Limerick Regeneration Framework Implementation Plan as well specific projects within the various Regeneration Areas. While it is not necessary to detail all of this the most recent correspondence was received in March 2012 in relation to the then Framework Implementation Masterplan for St. Mary’s Park.

It states that “given the scale of the development, the provision for three new river bridge crossings, a marina, a flood defence system and extensive demolition and reconstruction of the area, there are likely to be significant effects on the cSAC in the absence of mitigation (siltation, pollution, disturbance, change in flood regime, etc.), and an appropriate assessment is very probably necessary.”

It goes on to pose the following questions:

- (1) Will there be direct or indirect loss of habitats for Annex I or II habitat types or species?
- (2) Will there be direct or indirect effects on water quality as a result of the demolition or construction associated with the plan?
- (3) Are there any contaminated or hazardous waste sites in the area of the plan, which could cause deterioration in water quality if disturbed during demolition or construction?
- (4) What will be hydrological impacts of implementing the plan be? Will there be changes in flood regime?
- (5) What will the effects in combination with other plans and projects in the Limerick City area?
- (6) Are there breeding otters in or near the area which would be susceptible to disturbance as a result of the implementation of the plan?
- (7) What guidance for siltation, pollution and invasive species control will be followed in implementing the plan?
- (8) To what extent will the principles of SUDS be adopted in the plan? The wording used for SUDS in the draft South Hill/Ballinacurra Masterplan (September 2008) should be used in this plan, but sufficient spaces must be allowed to ensure SUDS is feasible.

It also went to say that “particular attention should be given to the following:

- (a) Opposite leaved pondweed (*Groenlandia densa*) (listed on the Flora Protection Order under the Wildlife Acts of 1976-2010) occurs in the Limerick Canal;
- (b) Whooper swans (listed on Annex I of the Birds Directive) are known to use the area;
- (c) Kingfisher (listed on annex I of the Birds Directive) are very likely to use the area;
- (d) Bat species (all bat species are protected by the Wildlife Acts of 1976-2010 and are listed on Annex IV of the Habitats Directive). Daubenton's bats are very likely to use the area and have been recorded less than 1km from the plan area.

On January 29th 2010, as part of consultation for a previous iteration of the Framework Implementation Plan, there was an on-site meeting with the regional NPWS ranger Ms Elaine Keegan. The area was walked and the status of the various habitats was discussed. It was agreed that the riparian woodland that fringes the north of the island is a priority Annex I habitat. The connection between the wetland and the river was discussed and while an outfall pipe was noted on the western shore this was likely to contain a one-way valve. It was not possible to conclude whether the wetland was directly part of the rivers' floodplain. The importance of the wetland to wintering birds was also discussed despite the fact that this group is not included in the SAC's qualifying interests.

In April 2013 nature conservation observations were sought in light of the latest revisions to the plan and a meeting requested with NPWS personnel. On July 2nd 2013 a meeting was held with NPWS personnel, Mr Jervis Good and Ms Elaine Keegan, at City Hall, Limerick. This focussed on the St. Mary's Park/King's Island area as this is where impacts to sensitive habitats and species are most likely to occur. NPWS was keen that the options for bridge crossings to/from the island be explored in terms of the potential impacts arising from the Plan. Following a site visit it was confirmed that woodland areas fringing the Abbey river are priority alluvial woodland habitat and that any loss of this habitat would require an application to the Department of Arts, Heritage and the Gaeltacht and the European Commission under Article 6(4) of the Habitats Directive. This provision allows projects to proceed under 'Imperative Reasons of Overriding Public Interest' within certain constraints – including that all alternative options have been explored and that compensatory habitat be developed.

The Development Applications Unit of the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs was sent the draft variation to the CDP which is the subject of this AA screening on August 3rd 2016 (their reference G Pre00262/2016). A response to this was not received at the time of writing.

2.4.2 Shannon Regional Fisheries Board (ShRFB)

In a brief telephone conversation in 2010 Mr Michael Fitzsimmons of the SRFB (now Inland Fisheries Ireland) confirmed the importance of the lower Shannon river as a passing through point for migratory fish including Atlantic salmon and Lamprey species. He also emphasised that it is an important estuary for breeding Allis shad *Alosa alosa*, which, although not among the SAC's qualifying interests, are listed on Annex II and V of the Habitats Directive.

He stated that river water quality is likely to have improved in recent years as a result of the Limerick main drainage scheme which has prevented much untreated, or undertreated wastewater from entering the Shannon.

2.4.3 The Office of Public Works (OPW)

Mr Michael Collins, regional engineer with the OPW in Limerick was familiar with the St. Mary's Park area. The outflow pipe and valve to the west of the island is not maintained by the OPW however he felt certain that during flood events, which are mostly driven by the tides, the wetland area is inundated with river water. This may be happening either through the outfall pipe (if the valve was faulty) or by flowing over the top of the embankment.

2.4.4 Limerick County Council

Mr John O'Saughnessy, engineer with Limerick City and County Council confirmed in 2010 that the aforementioned outflow pipe is regularly maintained by his offices. He also stated that during flood events, such as that in November 2009, water is known to spill over the embankment in this area.

2.5 Consultation with Environmental Authorities

The Screening Report for Appropriate Assessment was issued to the environmental authorities for comments in January 2017. Two responses were received including one from the Development Applications Unit of the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs (DAU) on the 14th February 2017 and one from the Environmental Protection Agency (EPA) on the 16th February 2017.

2.5.1 Development Applications Unit of the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs

The DAU raised issue with:

- The wording of Objective 3 of the Moyross Framework Strategy which seeks the completion of the Northern Distributor Road and the expectation of significant effects on the cSAC; and
- Objective 1 of the St. Mary's Park and King's Island Framework Strategy which seeks to "promote the development of waterways, subject to detailed environmental considerations and requirements" and the need for a change to the wording of the objective in order to avoid potential negative effects.

In terms of Objective 3 of the Moyross Framework Strategy, the Coonagh to Knockalisheen Road which comprises part of the Northern Distributor Road within Limerick City and to which Objective 3 of the Moyross Framework Strategy seeks to implement, was granted planning permission by An Bord Pleanála in 2011 and the application was the subject of an EIS and AA.

As clearly stated in this report (pp.31) *"the Coonagh to Knockalisheen bypass is a permitted development, approved by An Bord Pleanála in September 2011 and so its completion is not contingent upon the implementation of this plan"*. In practice, all works proposed within the LRFIP, and directly proposed

as part of this Variation, are subject to ecological assessment and AA screening and full NIS where appropriate. These assessments extend to site investigation works and are carried out as a matter of course with all findings incorporated into work programmes. This ensures that all development, including the Northern Distributor Road, will be subject to the complete range of ecological assessment, based on both the content of the Habitats Directive and domestic wildlife legislation.

There is also relevant text, already contained in the City Development Plan (pp.11.7) where *“It is an objective to maintain the conservation value of the River Shannon and Shannon Estuary European sites (Special Areas of Conservation, Special Protection Areas, or lands notified for inclusion in such sites), during the lifetime of this plan, and to ensure that an appropriate assessment is carried out where a development project is likely to have a significant effect on one or more of these sites. Development projects and local development plans (either individually or in combination with other plans or projects) will only be approved or adopted where they comply with Article 6 procedure of the Habitats Directive. Where plans or strategies, yet to be completed, will be implemented, facilitated or supported under this City Development plan, then they will also be subject to the Habitats Directive Article 6 procedure”*.

This policy on its own and in combination with other policies and objectives in the development plan and this proposed variation, will ensure that all projects, including the Northern Distributor Road and those projects promoted on the waterways will be subject to adequate assessment as required by the Habitats Directive.

The DAU recommended a change in wording to Objective 1 of the St. Mary’s Park and King’s Island Framework Strategy and specifically sought the inclusion of wording to ensure that development would only be promoted on the waterways *“subject to the development having no adverse effects on the Special Area of Conservation”*. The objective as detailed in the preceding paragraph is considered to address this issue and clarifies that no project can proceed if it is deemed to have an adverse impact on the cSAC. This Screening Report has been amended (see pp.34) such that the assessment now clarifies that although the objective has the potential to negatively affect the Lower River Shannon SAC, this is unlikely given the explicit requirement that it should not have a negative impact on the SAC.

Policy LBR.8 of the City Development Plan also states that, *“it is the policy of Limerick City Council to apply the precautionary principle in relation to proposed development in environmentally sensitive areas to ensure all potential adverse impacts on any designated natural heritage area and any NATURA 2000 sites arising from any proposed development or land use activity are avoided, remedied or mitigated”*.

2.5.2 Environmental Protection Agency

There were no specific comments raised by the EPA in respect of this screening assessment.

2.6 Trends affecting the Lower River Shannon SAC

The greater proportion of the Lower River Shannon SAC is water dependant and recent trends have seen an improvement in water quality. The Limerick main drainage scheme, which upgraded wastewater treatment facilities in the city, is likely to have been a significant contributor to this trend. This is corroborated by EPA data which show that the intertidal zone of the Shannon estuary, which starts upstream of the Regeneration Area, is of unpolluted status.

Nationally the status of all Habitats Directive habitats and species have been assessed as per Article 17 of the Directive. This assessment (NPWS, 2013a & b) is the second of its type and was based on a number of parameters (range; area/population; structure & function/area of suitable habitat; future prospects) and makes a final judgement in term of current status of good, poor, or intermediate). A summary of the status of the relevant qualifying interests is given below.

Habitats:

Estuaries (code: 1130). Status: Intermediate

Area and range are good but there was insufficient knowledge on structure and function to assign 'good' status.

Tidal mudflats and sandflats (code: 1140). Status: Intermediate

Area and range are good but structure and function were considered poor with the most serious threats arising from 'aquaculture, fishing, bait digging, removal of fauna, reclamation of land, coastal protection works, and invasive species particularly cord-grass'.

Atlantic salt meadows (code: 1330). Status: Intermediate

While the range was good both area and structure & function were poor. The most common impacts were over-grazing by sheep or cattle and erosion.

Floating river vegetation (code: 3260). Status: Intermediate

Range and area are 'good' but structure & function are 'bad'. This is primarily related to the poor pollution status of many of Ireland's river systems.

Molinia meadows (code: 6410). Status: Bad

While range is 'good', both area and structure & function are 'bad' due to agricultural intensification, drainage and land abandonment.

Alluvial forests (code: 91E0). Status: Bad

Range is 'good' but both area and structure & function are bad due to drainage, alien invasive species and fragmentation.

Species:

River lamprey (code: 1099) and Brook lamprey (code: 1096). Status: Good.

These species are not as impacted by weir construction and so all parameters were considered 'good'.

Sea lamprey (code: 1095). Status: Bad

All parameters were assessed as 'poor' due to weir construction and 'channel maintenance' i.e. removal of silt.

Allis shad (code: 1102). Status: Not assessed

Its range is considered good but little is known about its population, habitat or future prospects.

Atlantic salmon (code: 1106). Status: Intermediate

While range was 'good' population was 'bad' and habitat was 'poor'. The salmon is undergoing a long term decline and while improving water quality and the ending of drift netting at sea are positive developments, the overall future prospects are 'poor'.

Otter (code: 1355). Status: Good

Both range and habitat are 'good' but population is 'poor' due to recent declines of up to 24% nationally.

As can be seen, of the 11 qualifying interests, only three (Otter and the River and Brook lampreys) have 'good ecological status', while the remaining nine are either 'poor' or 'bad'.

A number of alien invasive species (AIS) have been recorded from the study area including Japanese knotweed *Fallopia japonica*, Indian balsam *Impatiens glandulifera* and Giant hogweed *Heracleum mantegazzianum*. In the St. Mary's Park region these are highlighted in figure 3. Other records from the area are on the database of the National Biodiversity Data Centre however this cannot be seen as comprehensive. Since these surveys were undertaken work has commenced on an eradication programme.

In recent years extensive scientific studies have been carried out on the species and habitats in the Lower River Shannon. These data are presented in conservation objective 'supporting documents' for marine, coastal, lagoon, water course and woodland habitats. For marine habitats the individual status is not given (NPWS, 2012c). Coastal habitats are not located in the vicinity of Limerick city (NPWS, 2012d). Four lagoons are identified in the SAC, none in the vicinity of Limerick City, and all with an 'unfavourable' conservation assessment (NPWS, 2012e). The Limerick City environs are important for the 'floating river vegetation' habitat which is associated with the canals and waterways which flow through the city, and in particular those associated with the Opposite-leaved Pondweed *Groenlandia densa* and Triangular Club-rush *Schoenoplectus triqueter*. These habitats are sensitive to eutrophication (too much nutrient in the water) and rely on the continual supply of fine sediment which is associated with the depositing phase of a river's life. This document gives the location of Triangular Club-rush on King's Island as the north-west corner of the island near St. Mary's Park (NPWS, 2012f). Five areas of priority alluvial woodland have been surveyed within the SAC but none of these is within Limerick city. Threats to the conservation status include changes to hydrology, alien invasive species, grazing, forest management, agriculture, urban development and discharges (e.g. sewage or slurry) (NPWS, 2012g).

Supporting documents have also been prepared for the SPA which details wintering bird count numbers and assesses individual pressures. It lists Whooper Swan as 'favourable' and Wigeon as 'highly unfavourable' while the remaining species (features of interest) are 'undetermined'. It should be noted that the boundary of the SPA begins to the west of Shannon bridge and so does not approach any of the regeneration areas. Nevertheless count data show that the area to the west of King's Island is important to roosting birds, especially Black-headed gull, Herring gull and Mute swan (NPWS, 2012h).

3.0 Step 2 – Analysis of the Proposed Variation

The proposed variations to the CDP for the four Regeneration Areas is part of a wider strategy to redevelop areas of north and south Limerick to address issues of social exclusion that have been on-going since June 2007. This process was steered by the Limerick Regeneration Agencies up to 2012 when these functions were taken into the Office of Regeneration of Limerick City and County Council. In February 2014 the Limerick Regeneration Framework Implementation Plan (LRFIP) was approved by the local authority to guide the process and monitoring of the regeneration programme. The LRFIP set out a basis for the economic, social and physical redevelopment of the areas and is presented in three volumes plus appendices. Since 2010 the planning phases have been accompanied by AA and SEA to ensure compliance with conservation legislation as well as ensuring that protection of the unique biodiversity of Limerick city was central to the development process. The final LRFIP in 2014 was subject to AA by the local authority and was accompanied by a Natura Impact Statement.

The proposed variation (No. 6) to the CDP is presented as a draft document which aims to give context to the regeneration process to-date as well as identifying the changes that will occur to the text. It does not reproduce the text of the CDP in its entirety, only those areas where amendments are proposed. This may include existing text that is not to be changed, text to be removed (shown in red with a line through the centre), and text to be added (shown in blue).

Part 1

Part 1 of the draft proposed variation provides background information and context for the reader. It does not include any actual changes to the CDP and so can have no effect to Natura 2000 areas.

Part 2 – Schedule of Proposed Variation

Part 2 sets out the proposed changes to the text of the CDP. This includes changes to the CDP Introduction, Strategic Context (chapter 2), Economic Development Strategy (chapter 3), Retail (chapter 4) and Housing (chapter 6). These are mostly minor changes to the narrative and do not refer directly to land uses in the regeneration areas. As such these changes do not have an effect on Natura 2000 areas.

Chapter 7 of the CDP relates to Regeneration and substantial changes are envisaged to this text. This includes the removal of narrative text under the headings of 'The Regeneration Programme', 'Social Regeneration', 'Economic Regeneration' and 'Physical Regeneration'. It proposed to remove:

Policy RG.1: It is the policy of Limerick City Council to zone the regeneration areas in a flexible manner to facilitate the delivery of the master plans.

No changes are proposed to the 'key local principles' for the Moyross areas. In St. Mary's Island the following 'local objective' is to be removed:

- To examine the potential of improved/new multi modal connections to the adjacent area.

In Ballinacurragh/Weston two 'local objectives' are to be removed:

- That a new connection be made between the Childers Road and Hyde Avenue.
- That a neighbourhood centre be developed along the frontage of Childers Road and Ballinacurra Road.

In Southill the following 'local objectives' are to be removed:

- The re-establishment of the N7/N20 Rosbrien interchange into Southill to establish Southill as a gateway to the city centre.
- To develop the Roxboro Shopping Centre and adjacent lands as a mixed use district centre in accordance with the Retail Strategy
- To develop the existing commercial and industrial lands along the south boundary of the Childers Road for mixed use employment related development.
- To develop a mobility strategy for the area connecting the residential zones to the district centre and employment zones and amenity area.
- To develop a new educational campus to serve the needs of the entire area.
- To develop an amenity strategy for the area.
- To establish the need for additional local shopping facilities throughout the area.
- To identify strategic sites for the construction of landmark/gateway buildings.

The following text is also to be removed: "The framework plans shall be approved by the City Council and they shall form the basis of a variation to the zoning proposals contained in this plan."

The removal of this text will not affect Natura 2000 areas

The removed text is to be replaced with a new introduction. There will be a new **Policy RG2**: 'It is the policy of Limerick City and County Council to improve the tenure diversity within the regeneration areas'. There will be a new section entitled 'The Sectoral Pillars of the Framework Implementation Plan' and objectives under a Social, Economic, and Physical 'Framework Strategies'. These are to be based on eight themes:

1. Education and learning - initiatives appropriate to each life stage;
2. Health and well-being - with age-appropriate provision;
3. Ageing Well , Health and Well-being of Older People - neighbourhoods to reflect changing demographics and respond to the particular needs of older residents;
4. Employability and Work - interventions for people currently detached from the labour market;
5. Families and Youth At Risk - Targeted support for families with difficulties and youth at risk;
6. Community development and participation- empowerment and capacity building;

7. Policing, Justice & Community Safety;
8. The Government/public sector reform agenda and a “whole of government” approach.

Objectives of the Economic Framework Strategy:

- Promotion of sectoral training, work experience and work placements and job creation initiatives;
- Delivery of an economic engagement platform bringing together all stakeholders and focused on regeneration areas;
- Delivery of social innovation/social enterprise hubs with supports for start-ups;
- Development of niche economic activities that can develop in line with national opportunity sectors such as green technologies;
- Development of a ‘knowledge economy’ sub-sector in community development and enterprise as skills are built locally;
- Inward investment to be incentivised with long term revolving loan financing for new public, social and educational infrastructure;
- Development of ICT infrastructure, skills training and usage projects to support economic and social development.

Strategic objectives of the Physical Framework Strategy:

- build a strong competitive economy
- promote healthy communities
- require good design
- promote sustainable movement
- deliver a wide choice of high quality homes
- support high quality communications infrastructure
- meet the challenge of climate change and flooding
- conserve and enhance the natural environment
- conserve and enhance the historic environment

There will be a new policies for the implementation of these strategies:

Policy RG3: It is the policy of Limerick City and County Council to secure the objectives as set out in the Social Framework Strategy of the adopted Limerick Regeneration Framework Implementation Plan.

Policy RG4: It is the policy of Limerick City and County Council to secure the objectives as set out in the Economic Framework Strategy of the adopted Limerick Regeneration Framework Implementation Plan.

Policy RG.5: It is the objective of Limerick City and County Council to actively support the implementation of the objectives contained within the Physical Framework Strategy for each of the regeneration areas.

The addition of this text will not affect Natura 2000 areas

New text will then focus on each of the regeneration areas in turn. Because these involve the promotion of specific projects or land use zoning changes, it is here that potential effects to the natural environment and Natura 2000 areas are most likely to arise. These are detailed in the 'key local objectives' for each area. It is important to note that this document assesses only the proposed new key objectives as existing ones are already part of the CDP and so do not fall within the scope of this AA screening. Each section includes new narrative text which, for the sake of brevity, is not reproduced here.

Moyross Framework Strategy

The following are the proposed new objectives for the Moyross area (numbers reflect those in the CDP and so may be out of sequence):

2. To provide for active playspace facilities, based on the existing and expected child population projections generated by the existing and future need.

No connection to Natura 2000 areas

3. To complete the northern distributor road and to support the construction of the Coonagh - Knockalisheen bypass, providing a new western entrance to Moyross.

Note that the Coonagh to Knockalisheen bypass is a permitted development, approved by An Bord Pleanála in September 2011 and so its completion is not contingent upon the implementation of this plan. Effects arising from this project are therefore not considered to fall within the scope of this analysis.

4. To upgrade the existing Moyross Avenue from a route that is predominantly designed for the movement of vehicles to a traffic calmed street where the needs of pedestrians, cyclists and public transport users are prioritised.

No connection to Natura 2000 areas

5. To protect and enhance the special landscape character and setting of Delmege Estate.

No connection to Natura 2000 areas

8. To promote the redevelopment of the 'Bays' site to add additional local capacity and contribute to the formation of a natural training cluster.

No connection to Natura 2000 areas

10. To protect and enhance existing desire lines within Moyross and integrate as part of public realm improvements within the area.

No connection to Natura 2000 areas

12. To reinforce existing Employment & Enterprise Uses at Moyross Enterprise Centre.

No connection to Natura 2000 areas

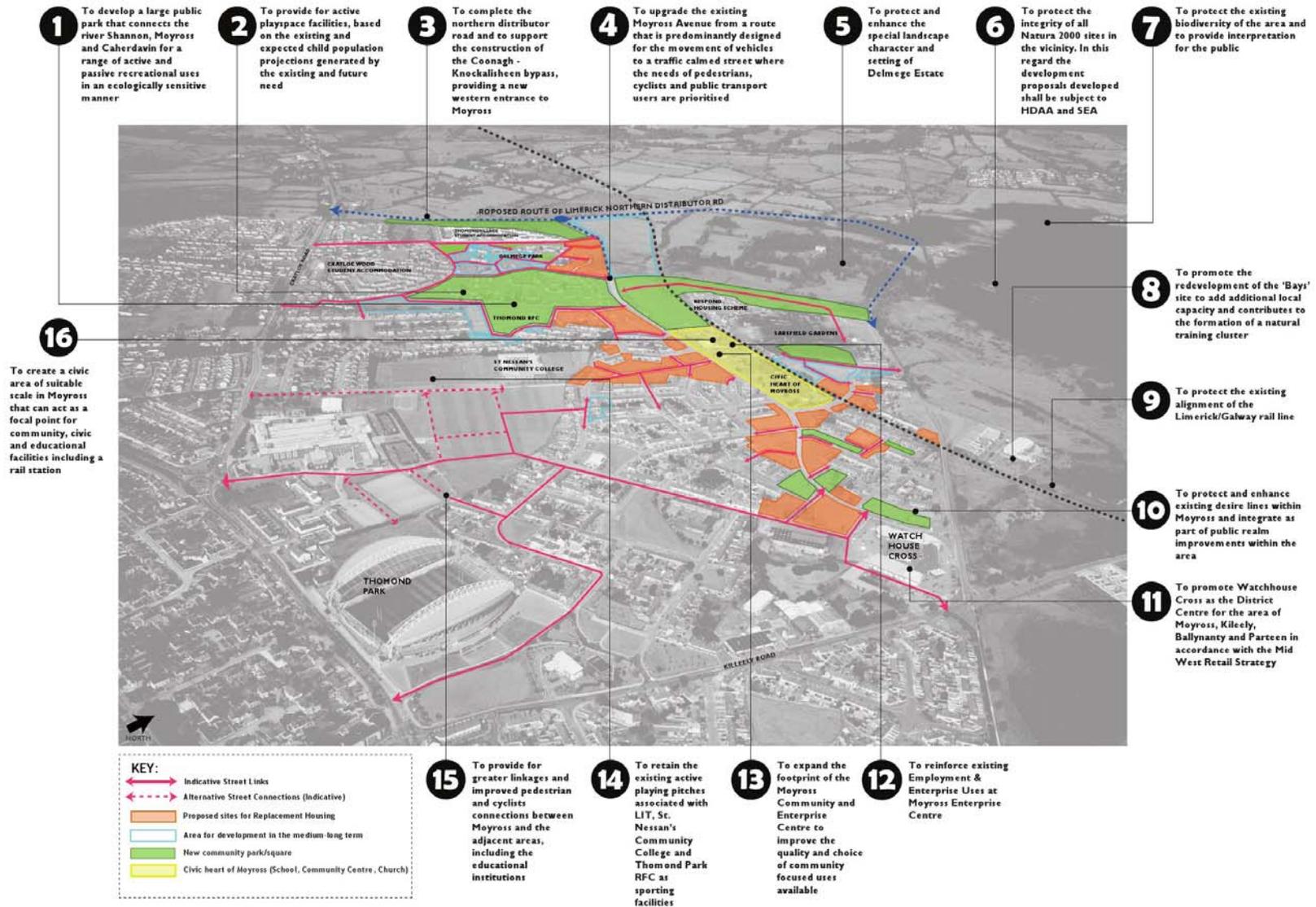
13. To expand the footprint of the Moyross Community and Enterprise Centre to improve the quality and choice of community focused uses available.

No connection to Natura 2000 areas

14. To retain the existing active playing pitches associated with LIT, St. Nessan's Community College and Thomond Park RFC as sporting facilities.

No connection to Natura 2000 areas

These objectives are displayed graphically within the draft variation document and this is reproduced as figure 6. Note that the Coonagh to Knockalisheen bypass is a permitted development and so its completion is not contingent upon the approval of the variation. Also this diagram shows the amended version which includes objectives which are not changing from the existing CDP.



MOYROSS: Key Objectives

Figure 6 – Location and description of objectives in the physical realm in Moyross. A small area of SAC can be seen near the Watch House Cross, remaining areas of SAC are outside this view

St. Mary's Park and King's Island Framework Strategy

Changes to the text include new narrative and a section on 'key challenges' and a paragraph on tenure diversity which do not directly affect land use or Natura areas.

The following are changes to the key local objectives for St. Mary's Park and Kings Island (objectives which are not changing are excluded and so the numbers are not in sequence):

1. To promote the development of the waterways, subject to detailed environmental considerations and requirements to include St. Mary's Park, Moyross to Grove Island and the city as a flagship project with training, employment and tourism potential.

This objective has the potential to negatively affect the Lower River Shannon SAC however this is unlikely given the explicit requirement that it should not have a negative impact on the SAC.

2. To environmentally improve the existing street network of St. Mary's Park to provide a safe, attractive, accessible and well-designed network of streets in tandem with the upgrade to the existing water network and refurbishment works to existing houses.

No connection to Natura 2000 areas

3. To provide for active play space facilities for a range of ages up to 15 years with good natural surveillance to maximise the safety of these areas, based on the existing and expected child population projections generated by the existing and future need.

No connection to Natura 2000 areas

5. To provide opportunities to maximise the educational value of the passive open space surrounding St. Mary's Park.

No connection to Natura 2000 areas

8. To return the eastern side of St. Munchin's Street to parkland once demolition of the area has taken place.

This area is close to the SAC boundary and so there is potential for negative effects to occur.

9. To restrict development on the strip of land east of St. Munchin's Street which was used as a landfill site and filled with domestic refuse.

No connection to Natura 2000 areas

10. To provide crossings for pedestrians and cyclists which will provide direct and convenient access between local amenities at the following locations:

- a) At Star Rovers Football Club;
- b) At the Primary Health Care facility at Island Road;
- c) At St. Mary's Community Centre, Verdant Place.

No connection to Natura 2000 areas

11. To examine options to improve connectivity at Island Road from St. Mary's Park to the Medieval Quarter by transforming from a route that is predominantly designed for the movement of vehicles to a traffic calmed street where the needs of pedestrians, cyclists and public transport users are prioritised; whilst ensuring protection of the integrity of the environmentally designated sites.

No connection to Natura 2000 areas

12. To promote the development of key strategic sites within Nicholas Street and Bridge Street for potential enterprise development attracting further inward investment.

No connection to Natura 2000 areas

13. To promote employment growth in King's Island and St. Mary's Park through the re-use of underutilised sites, derelict buildings and the upgrading of sites already in employment uses.

No connection to Natura 2000 areas

14. To promote the development of a National Social Innovation hub within Nicholas Street to attract a mix of social innovation and social enterprise.

No connection to Natura 2000 areas

15. To improve local connections converging on the existing St. Mary's Park Community Centre at the following locations:

- a) A one-way link road from the Toll House to Verdant Place. This proposal recognises the restricted dimension between the Toll House and the Bridge and the lack of pedestrian footpaths in the area;
- b) A new street, at Island Gate, from Verdant Place to Dominick Street.

No connection to Natura 2000 areas

16. To support the provision of an extended multi-use community centre at St. Mary's Park Community Centre to provide flexible and accessible spaces adaptable to the communities' needs. The provision of an extended centre at this location, within easy access to the city core will ensure that the centre is used not only by residents of St. Mary's Park but the wider community also.

No connection to Natura 2000 areas

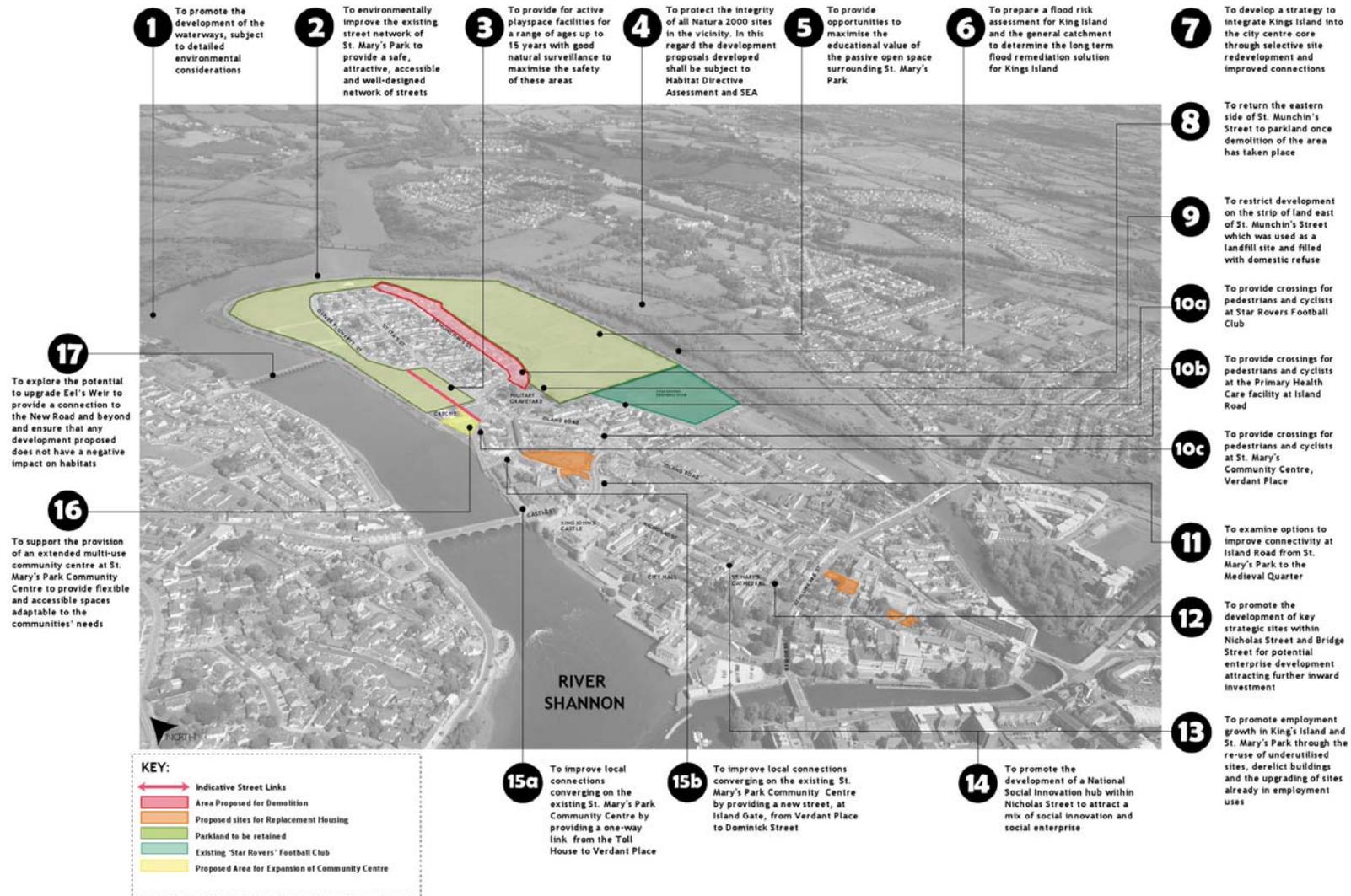
17. To explore the potential to upgrade Eel's Weir to provide a connection to the New Road and beyond and ensure that any development proposed does not have a negative impact on habitats.

This objective has the potential to negatively affect the Lower River Shannon SAC however this is unlikely given the explicit requirement that it should not have a negative impact upon habitats.

18. To support the redevelopment of the Opera Centre site, adjacent to King's Island/St. Mary's Park, which is seen as an economic catalyst for the area, city and region

This location is entirely composed of buildings and built surfaces, and separated by roads from the banks of the Shannon. No connection to Natura 2000 areas

Figure 10 includes a land use map for connectivity which indicated potential connections at the north-west and the south-east of the island.



ST. MARY'S PARK AND KING'S ISLAND: Key Objectives

Figure 7 – Location and description of objectives in the physical realm in St. Mary's Park/King's Island

Ballinacurra Weston Framework Strategy

Changes to the text include new narrative and a section on 'key challenges' and a paragraph on tenure diversity which do not directly affect land use or Natura areas.

The following are the proposed new key local objectives for Ballinacurra Weston:

1. To improve permeability and connections from Ballinacurra Weston to its wider context at the following locations in the short-medium term:

a) Provide a new vehicular connection from Clarina Avenue to Byrne Avenue. The lack of permeability at this location has resulted in high incidences of anti-social behaviour and crime;

b) Provide a new vehicular connection from Clarina Park to Lenihan Avenue.

c) Upgrade the existing laneway (Alley Lane) to allow greater access to Prospect Hill and Rosbrien Road to the north;

d) New street from Beechgrove Avenue to Crecora Avenue.

2. To support the provision of multifunctional spaces at Our Lady of Lourdes Community Centre to provide flexible and accessible spaces adaptable to communities' needs.

3. To provide new and improved crossings for pedestrians and cyclists which will provide direct and convenient access between local amenities at the following locations:

a) At Rosbrien Road, to the west of Our Lady of Lourdes Community Centre;

b) At Childers Road, north of Our Lady of Lourdes Primary School;

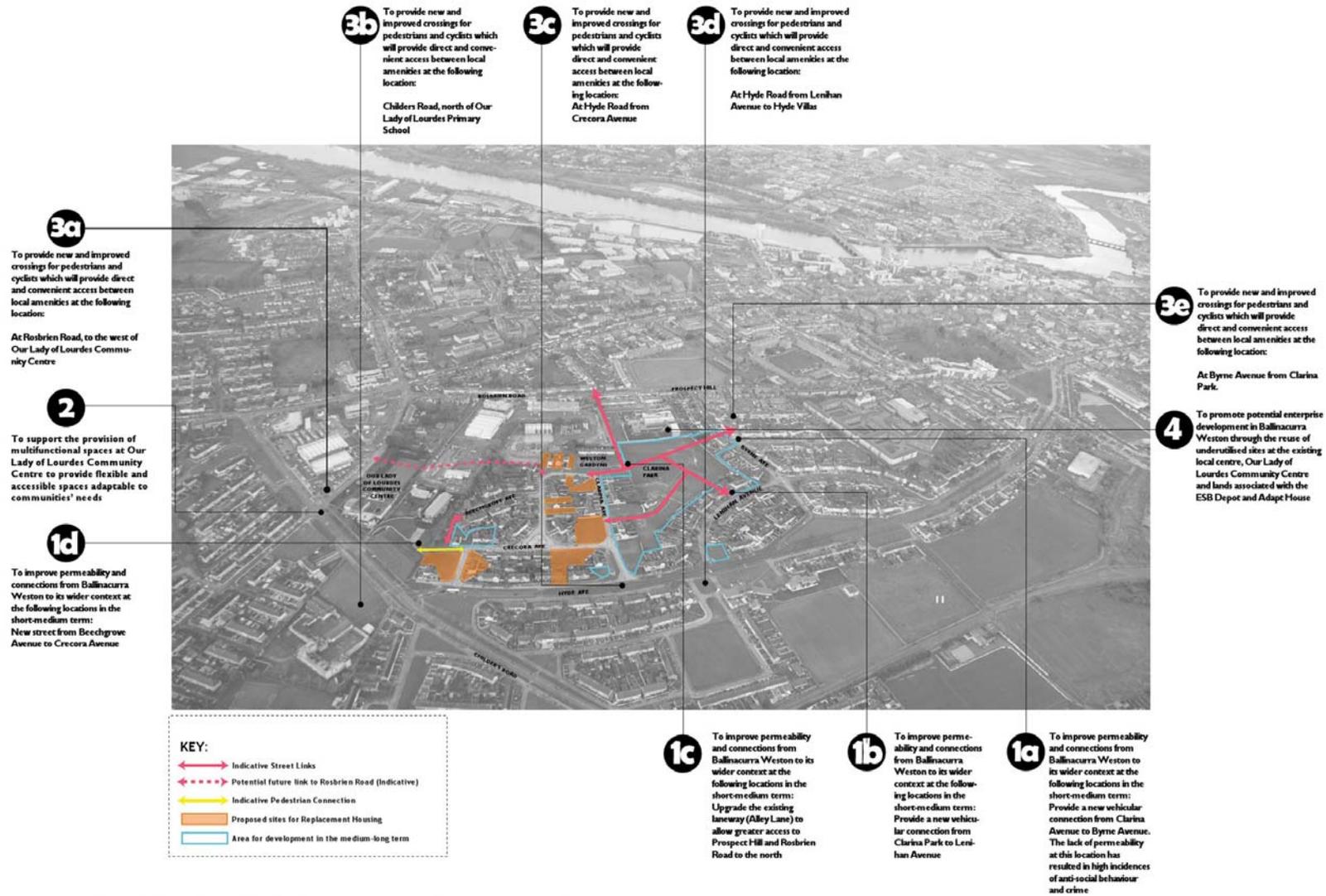
c) At Hyde Road from Crecora Avenue;

d) At Hyde Road from Lenihan Avenue to Hyde Villas;

e) At Byrne Avenue from Clarina Park.

3. To promote potential enterprise development in Ballinacurra Weston through the reuse of underutilised sites at the existing local centre, Our Lady of Lourdes Community Centre and lands associated with the ESB Depot and Adapt House.

None of these areas is close to the Lower River Shannon SAC and so there are no direct effects upon sensitive habitats.



BALLINACURRA WESTON: Key Physical Objectives

Figure 8 - Location and description of actions in the physical realm in Ballinacurra Weston

Southill Framework Strategy

Changes to the text include new narrative and a section on 'key challenges' and a paragraph on tenure diversity which do not directly affect land use or Natura areas.

The following are changes to the key local objectives for Southill (objectives which are not changing are excluded and so the numbers are not in sequence):

O Malley Park and Keyes Park:

1. To investigate the provision of a more direct access from the M7 and N20 into Southill (subject to a feasibility study examining potential options).

No connection to Natura 2000 areas

2. To promote the Galvone Industrial Estate as a hub for green sector focused development.

No connection to Natura 2000 areas

3. To consider alternative uses (further education and training)for Southill Junior School.

No connection to Natura 2000 areas

4. To expand the footprint of the Southill Area Centre to improve the quality and choice of community focused uses available.

No connection to Natura 2000 areas

5. To promote the following local connections within O'Malley and Keyes Park Southill:

a) A new street at eastern boundary of Churchfields site to the Church;

b) A new street through the centre of the Churchfields site to the Southill Area Centre;

c) A new east-west connection, south of Rose Court, Keyes Park from the Roxborough Road to the community hub;

d) A new north-south connection from Childers Road to O'Malley Park through the Fulflex site;

e) A new north-south connection from O'Malley Park to the Childers Road;

f) A new east-west connection from Pike Rovers Football Club to Kilmallock Road;

g) A new connection from Kennedy Park, adjacent to proposed Integrated Educational Campus at St Kieran's, to the Roxboro Road;

No connection to Natura 2000 areas

6. To provide crossings for pedestrians and cyclists which will provide direct and convenient access between local amenities at the following locations:

- a) At Childers Road: from O'Malley Park to Kennedy Park and the new Integrated Educational Campus at St. Kieran's;
- b) At Roxboro Cross: From Roxborough Road to the District Centre (Roxborough Shopping Centre).

No connection to Natura 2000 areas

7. To create a direct connection from Roxboro roundabout (through the 'Galvone Arms' site) to the heart of Southill – the community hub containing the Church, Health Centre and Southill Area Centre.

No connection to Natura 2000 areas

8. To enhance the junction of Childers Road and Roxboro Road as a District Centre in order to fulfil its role as the commercial and retail hub serving Southill and the wider area.

No connection to Natura 2000 areas

9. To develop a new integrated educational campus to serve the needs of the entire area.

No connection to Natura 2000 areas

10. To strengthen the opportunities for vocational sports development at 'the Factory' which currently occupies the existing Fulflex building.

No connection to Natura 2000 areas

11. To promote the development of strategic sites within Southill for the construction of landmark/gateway buildings, subject to urban design and built form parameters.

No connection to Natura 2000 areas

12. To promote mixed and employment generating uses along key strategic routes, allowing for a higher efficiency of existing land resources.

No connection to Natura 2000 areas

13. To explore the potential to re-establish and environmentally improve the west-east link through the Galvone Industrial Estate from the Roxborough Road to the Kilmallock Road subject to securing an alternative location for the Traveller halting site currently located at Clonlong.

No connection to Natura 2000 areas

14. To create a new community park at the centre of the community hub to provide recreation and play facilities in a safe, overlooked location and provide a focus for local events and celebrations.

No connection to Natura 2000 areas

15. To consider the reuse of St. Enda's complex as a focal point for education and sports related projects.

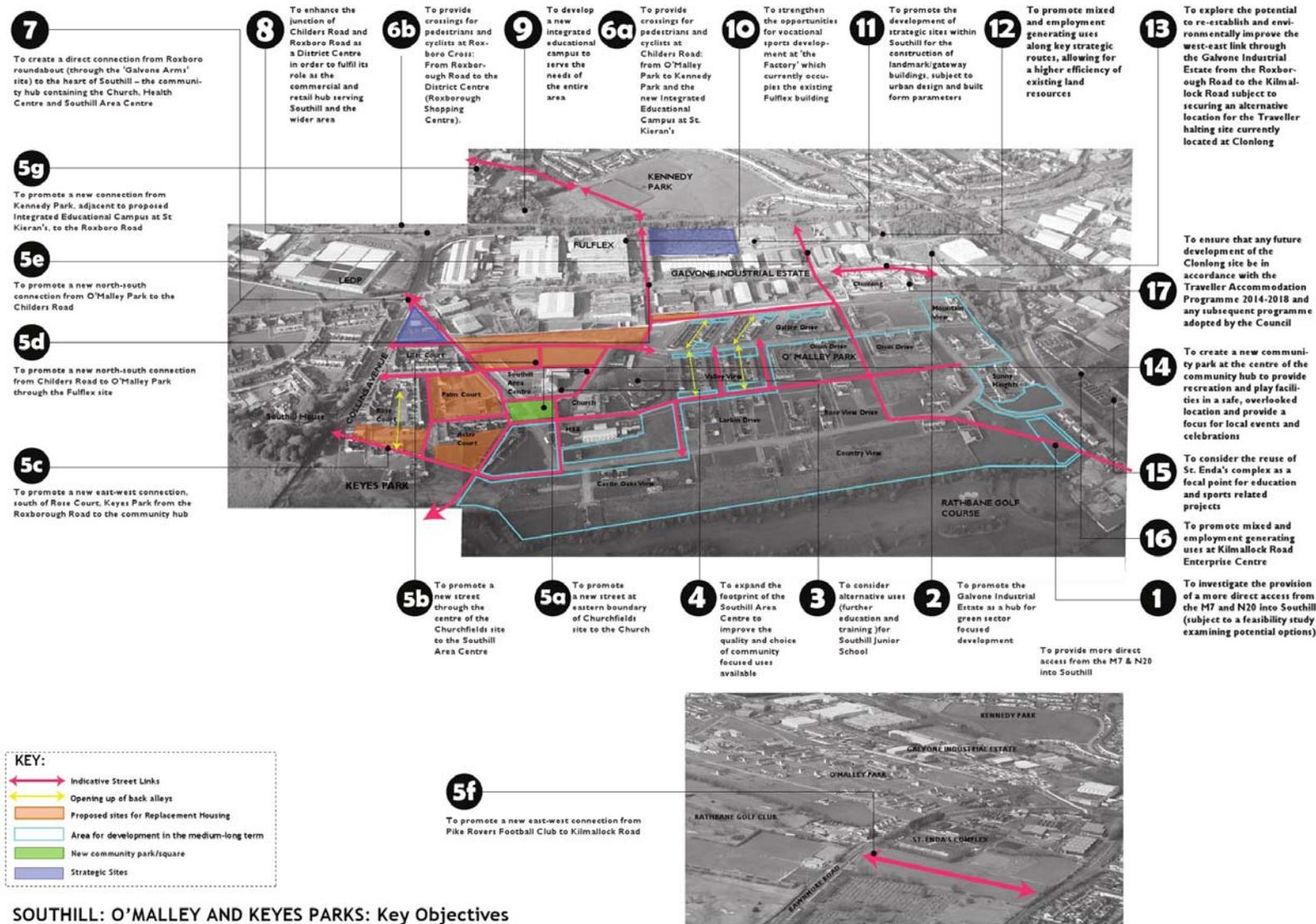
No connection to Natura 2000 areas

16. To promote mixed and employment generating uses at Kilmallock Road Enterprise Centre

No connection to Natura 2000 areas

17. To ensure any future development of the Clonlong site be in accordance with the Traveller Accommodation Programme 2014-2018 and any subsequent programme adopted by the Council.

No connection to Natura 2000 areas



SOUTHILL: O'MALLEY AND KEYES PARKS: Key Objectives

Figure 8 - Location and description of actions in the physical realm in O'Malley and Keyes Parks area of Southill

Kincora and Carew Parks

1. To transform the Roxborough Road, the main access road dividing O'Malley Park and Keyes Park from Kincora and Carew Parks, from a route that is predominantly designed for the movement of vehicles to a traffic calmed street where the needs of pedestrians, cyclists and public transport users are prioritised;

No connection to Natura 2000 areas

2. To protect and enhance the special landscape character and setting of Southill House;

No connection to Natura 2000 areas

3. To promote the development of Barry's Field as a large scale community garden/orchard to facilitate horticulture training and community garden enterprise;

No connection to Natura 2000 areas

4. To promote the following local connections within Carew and Kincora Parks Southill:

- a) To create a new east-west connection from John Carew Park to Yeats Avenue;
- b) To create a new north-south connection through the green at Carew Park to improve accessibility;
- c) Create a new east-west connection from Elm Place, Rathbane to John Carew Park Links Road;
- d) To create a new north-south connection from Childers Road through the LEDP site and the Aldi Discount Store to connect with Kincora and Carew Park;
- e) To create a pedestrian link from Markiewicz Drive across Collins Avenue to the community hub;

No connection to Natura 2000 areas

5. To provide crossings for pedestrians and cyclists which will provide direct and convenient access between local amenities at the following locations:

- a) At Collins Ave from Keyes Park to Southill House;
- b) At Collins Ave from Lilac Court in Keyes Park to Markiewicz Drive in Kincora Park.

No connection to Natura 2000 areas

6. To provide new traffic-calming measures at O'Higgins Drive in Carew Park to improve safety for pedestrians and cyclists and slow traffic speeds.

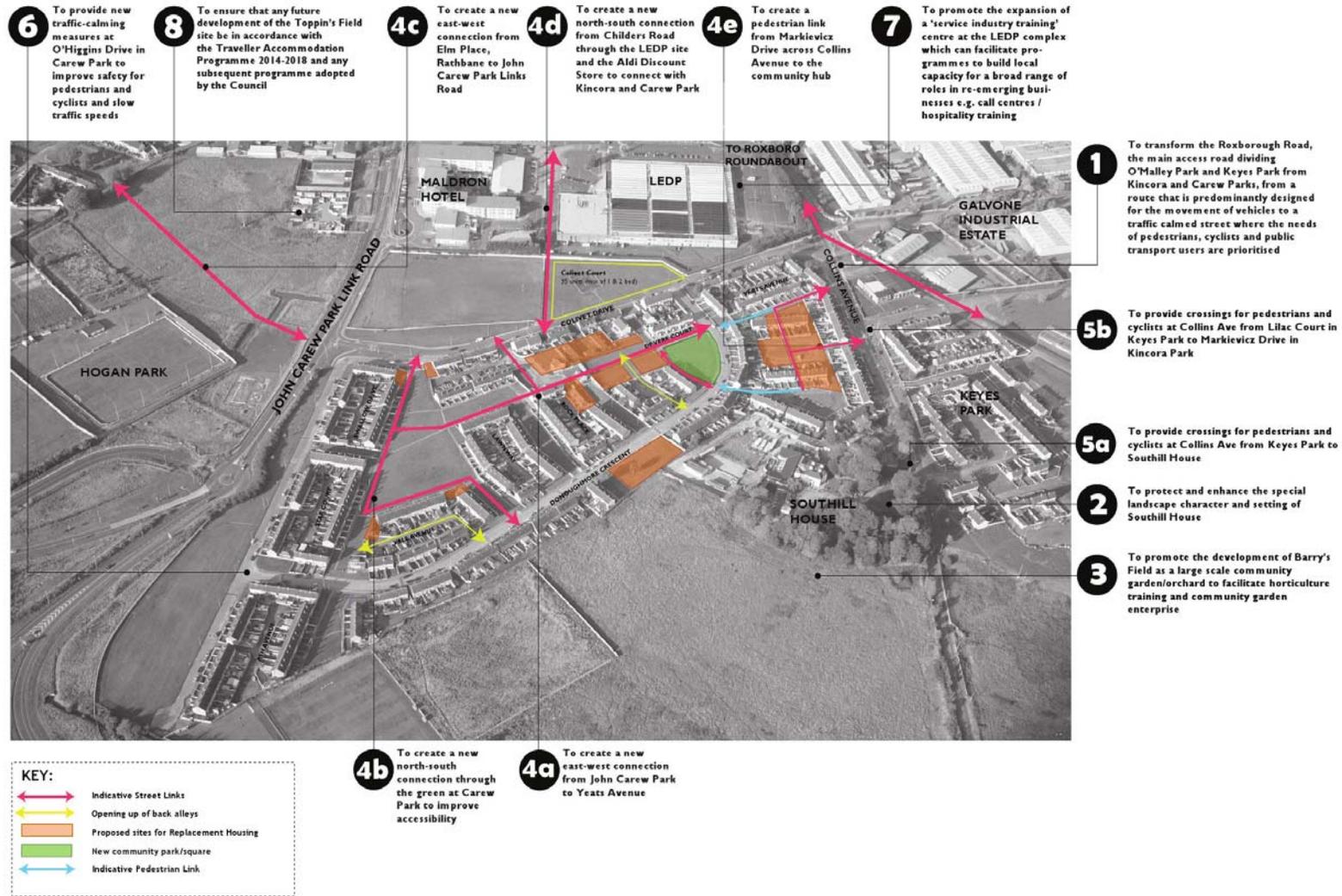
No connection to Natura 2000 areas

7. To promote the expansion of a 'service industry training' centre at the LEDP complex which can facilitate programmes to build local capacity for a broad range of roles in re-emerging businesses e.g. call centres / hospitality training.

No connection to Natura 2000 areas

8. To ensure any future development of the Toppin's Field site be in accordance with the Traveller Accommodation Programme 2014-2018 and any subsequent programme adopted by the Council.

No connection to Natura 2000 areas



SOUTHILL: CAREW AND KINCORA PARKS: Key Objectives

Figure 9 - Location and description of actions in the physical realm in Carew and Kincora Parks area of Southill

Thereafter follows new section of text entitled 'Implementation and Delivery'. It includes a new policy for the CDP:

Policy RG6: It is the policy of Limerick City and County Council to undertake an annual Monitoring Report of the adopted Limerick Regeneration Framework Implementation plan to establish key trends emerging and measure progress. This has no effect upon Natura 2000 areas.

Proposed changes to chapter 8 (social and community) and chapter 9 (landscape, biodiversity and recreation), as well as the main text to chapter 15 (land use zoning objectives) are limited to changing references to the 'regeneration master plans' to the 'Limerick Framework Implementation Plan' and so have no effect upon Natura 2000 areas.

Part 3: Amendments to Maps

Changes to maps in the existing CDP are proposed in three areas:

1. Map No. 1 (zoning map);
2. Replace Map 1C to correct the regeneration boundaries
3. Amendments to map 3

In Ballinacurra Weston there are two proposed zoning changes, one from 'public open space' (an existing area of amenity grassland) to 'residential', and another from 'residential' to 'education, community and cultural'.

In Southill there are 10 proposed changes: 4 from 'public open space' to residential', 1 from 'light industrial' to 'mixed use', 1 from 'residential to mixed use', 1 from 'residential' to 'education, community and cultural', 1 from 'light industrial' to 'residential', 1 from 'public open space' to 'education, community and cultural' and 1 from 'educational, community and cultural' to 'residential'.

In Moyross there are 7 proposed changes: 2 from 'public open space' to 'residential', 2 from 'residential' to 'public open space', 1 from 'sports grounds' to 'public open space', 1 from 'sports grounds' to 'residential', and 1 from 'agricultural' to 'public open space'.

Site visits were carried out in September 2016 to identify habitat types in these areas. All areas described above low biodiversity value, i.e. either amenity grassland or buildings and artificial surfaces. Each of these changes are physically remote from the boundaries of Natura 2000 areas but any objective which could increase the resident population of Limerick will add pressure to municipal wastewater treatment facilities. Across the four regeneration areas there will be a net reduction in the area zoned for 'residential' by 8.48 hectares.

In Moyross one zoning change from 'agricultural' to 'public open space' involves land close to the boundary of the Lower River Shannon SAC. This extract from the proposed variation document is reproduced as figure 10. Although the areas are in close proximity they are separated by a public road (New Road). The area of SAC meanwhile is known to be of importance as part of the Shannon's floodplain so maintaining the current hydrological regime is of paramount importance. The site itself was found to contain

wetland areas, including wet Willow woodland, wet grassland and tall reed swamps. With wise planning these features can be retained within any proposed openspace. This change of zoning is unlikely to have any effect upon the SAC.



Figure 10 – Proposed change in land use zoning in Moyross from ‘agricultural’ to ‘public open space’. This area is separated from the SAC (located in the top right hand corner of the frames to the left and centre) by New Road.

In St. Mary’s Park 3 zoning changes are proposed – 1 from residential to ‘public open space’, 1 from ‘public open space’ to ‘education, community and cultural’ and 1 from ‘residential’ to ‘education, community and cultural’. The latter two will see no land use change as a result of the zoning. The first of these is required to implement a key objective of the St. Mary’s Park King’s Island strategy and is shown in figure 11. This area is directly adjacent to an area of the Lower River Shannon SAC and has been described earlier in this report as an important wetland for wintering birds.



Figure 11 – Proposed change of land use zoning in St. Mary’s Park from ‘residential’ to ‘public open space’. This area directly adjoins the Lower River Shannon SAC to the west (see also figure 3).

Volume 3

Volume 3 of the LRFIP describes the implementation and delivery of the objectives that were described in Volume 2. It sets evaluation indicators so that the implementation of the plan can be objectively evaluated. In this way it does not add anything new to the plan and does not affect the Natura 2000 network directly.

4.0 Step 3 – Analysis of Other Plans

Individual impacts from one-off developments or plans may not in themselves be significant. However, these may become significant when combined with similar, multiple impacts elsewhere. These are sometimes known as cumulative impacts but in AA terminology are referred to as ‘in combination’ effects.

The lower river Shannon SAC is a very large site, mostly aquatic or marine in nature, that stretches from upstream of Limerick city towards the Atlantic ocean as far as a line between Loop head in county Clare and Kerry head in county Kerry.

In terms of the conservation objectives of the site identified in section 2.2, maintaining good water quality throughout the catchment is of prime importance. In this context, the SAC is a part of the Shannon river basin, the largest river basin in Ireland and draining a significant portion of the island.

The following known plans or proposed projects have been considered for this assessment:

4.1 River Basin Management Plan for the Shannon International River Basin District.

The overriding purpose of this plan is to achieve ‘good ecological status’ of all waters by 2015 in accordance with the EU Water Framework Directive. The plan identifies bodies of water that do not meet satisfactory standards and proposes a ‘programme of measures’ to improve this status. The implementation of this plan will result in the long-term improvement of water quality (as well as addressing artificial modifications to the river and barriers to fish passage) and consequently the conservation status of SAC’s qualifying interests.

4.2 Limerick City Development Plan 2010 – 2016

The latest Development Plan for the city gave full backing to the Regeneration Agencies upon its publication. The functions of the Regeneration Agencies were transferred to the Office of Regeneration in Limerick City Council in June 2012. The Plan supports the aims of the Framework Plans for each of the Regeneration Areas.

The Plan emphasises the importance of Natura 2000 sites for the city’s natural heritage and states that an ‘appropriate assessment’ will be required where a project or plan is likely to result in a significant effect upon the integrity of any SAC or SPA.

4.3 Limerick Regeneration Framework Implementation Plan (LRFIP)

The LRFIP was approved by Limerick City & County Council in February 2014. This plan brought together the four regeneration plans and was modified to take account of the radically different economic circumstances which have evolved since 2008. This plan detailed changes to the physical environment in each of the four areas. This plan was subject to screening for

AA, and ultimately a Natura Impact Statement was prepared to accompany the final document and concluded that:

“...there are a number of aspects of the plan which, either alone or in combination with other plans and developments, may result in significant effects to the integrity of the Lower River Shannon SAC. These include: the reconfiguration of land to the north of the island, disturbance to birds as a result of potential amenity use of lands within the SAC; the potential loss and fragmentation of habitat resulting from the construction of connecting bridges; and the spread of alien invasive species.

In each case it is considered that the impacts can be mitigated through avoidance by careful plan and design of the final projects as well as site treatment in the case of alien invasive species”

This allowed Limerick City & County Council to carry out a full AA, concluding that the plan could proceed without negatively affecting the integrity of the Lower River Shannon SAC or any other Natura 2000 area.

The current proposal to vary the Limerick CDP will integrate most, but not all of, the objectives and zoning alterations set out in the LRFIP.

4.4 Limerick City Biodiversity Plan

In January 2012 Limerick City published its first biodiversity plan. It emphasises the importance of locally important habitats and highlights actions to preserve wetlands and control invasive species (among others).

4.5 Other activities

It should also be noted that impacts from activities such as increasing loadings on wastewater treatment plants, extraction of water for drinking and other uses, conversion of ‘green’ land to sealed concrete (thereby affecting the quality and quantity of surface water run-off) and the spread of alien invasive species can all act in a cumulative manner to result in potentially significant effects to the Natura 2000 network.

5.0 Step 4: Determination of Significance

5.1 Impact prediction

The scope of this AA screening report considers the impacts to the Natura 2000 network and not necessarily to biodiversity in general. Under Article 6 of the Habitats Directive the term 'significance' is taken to mean an effect on the integrity of the SAC. Unlike Environmental Impact Assessment for instance, there are no degrees of significance, and where an effect is determined to be significant, mitigation or avoidance measures must be considered.

It must also be noted that this is a strategic document. This AA screening report does not negate the need for further studies under Article 6 of the Habitats Directive at the project planning stage.

When assessing whether an effect from the proposed variation is likely to effect a Natura 2000 site it is important to establish the pathway between the source and receptor. Where a pathway does not exist an effect cannot occur.

This assessment has found that there are seven SACs and one SPA within 15km of the Plan boundary. The majority of these are physically remote from the Regeneration Areas. It was found that pathways for impacts to occur only exist for the Lower River Shannon SAC and the River Fergus Estuary SPA. All other SACs can be screened out at this stage.

The following impacts are considered:

5.1.1 **Impacts to habitats and species within the Lower River Shannon SAC and River Shannon and River Fergus Estuaries SPA from the potential upgrade of Eel's Weir**

Eel's Weir is a popular roosting site for Black-headed Gulls, a feature of interest of the SPA. However the weir is approximately 1.7km from the SPA boundary. Upgrading the weir for a new transport corridor will not see changes to hydrology or loss of habitat give the extent of the structure already there. The vicinity is already affected by levels of noise and artificial lighting associated with this city centre location. The proposed strategy explicitly refers to the need to protected habitats.

Any project to upgrade the weir will be screening for AA and, if required, a full AA will be carried out. It is therefore not considered that this will result in significance effects to the SAC or SPA.

5.1.2 **The return to parkland of the eastern side of St. Munchin's Street (reflected in the rezoning of land along the eastern fringe of St. Mary's Park to 'open space' from 'residential').**

The wetland within the SAC boundary to the east of St. Mary's Park is maintained due to an artificial enclosure with the embankment on one side and a combination of housing and heaped spoil on the other. This area functions within the SAC as part of the Shannon's floodplain and this function will be maintained. The wetland habitat exists because of the current

hydrological regime while the presence of wetland birds in the area is due to a combination of available food and a lack of disturbance. Introducing disturbance from human activity therefore can have a direct effect upon the availability of habitat. This wetland habitat is important in the SAC context as part of the Shannon's floodplain, the preservation of which is a conservation objective.

This development will be subject to project level AA screening which will ensure that negative effects to the SAC will not occur. In principle they are not likely to affect the local hydrological regime.

It is therefore not considered that this will result in significance effects to the SAC or SPA

5.1.2 **Construction impacts to habitats within the Lower River Shannon SAC from new housing and other built developments.**

All proposed housing projects are well away from the SAC with the exception of those on St. Mary's Park. Any construction project **will comply with the Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites** published by the Inland Fisheries Ireland. This is considered standard practice and intrinsic to each project design.

1. Fuels, oils, greases and hydraulic fluids must be stored in bunded compounds well away from the watercourse. Refuelling of machinery, etc., should be carried out in bunded areas.
2. Runoff from machine service and concrete mixing areas must not enter the watercourse.
3. Stockpile areas for sands and gravel should be kept to minimum size, well away from the watercourse.
4. Runoff from the above should only be routed to the watercourse via suitably designed and sited settlement ponds/filter channels.
5. Settlement ponds should be inspected daily and maintained regularly.
6. Temporary crossings should be designed to the criteria laid down for permanent works [not relevant in this case].
7. Watercourse banks should be left intact if possible. If they have to be disturbed, all practicable measures should be taken to prevent soils from entering the watercourses. [not relevant as riparian habitat is to be retained].

Impacts to water bodies are of a temporary nature and can be avoided through good site management practices as described.

This impact is therefore **not significant**.

5.1.3 **Impacts arising from the disturbance of alien invasive species (AIS)**

Japanese Knotweed and Giant Hogweed have been recorded from throughout the St. Mary's Park/King's Island area. AIS can affect the conservation of habitats within the Lower River Shannon by impacting upon the structure and function of these habitats. Their spread is facilitated by disturbance as small fragments can regenerate into new plants. This was identified as a potentially significant impact in the LRFIP and, as mitigation, a programme of treatment was recommended, to commence well in advance of

any works in affected areas taking place. In approving the plan Limerick City and County Council has committed to implementing this measure and it is understood that a programme of eradication has commenced. It is therefore considered that the changes to CDP objectives and zoning will not result in additional effects to Natura areas.

5.1.4 Impacts to water quality from the operation phase of the amended CDP

A. Foul sewage will be piped to the main Limerick wastewater treatment facility at Bunlicky. The municipal wastewater treatment plant at Bunlicky is operated by Irish Water and is licenced by the EPA (register no.: D0013-01) to discharge treated effluent to the River Shannon. The Annual Environmental Report from the plant for 2014 (the most recent available and published in March 2015) indicated that there were no exceedences of licence limits for that year. Analysis of water quality in the vicinity of the outfall pipe showed that there was no observable negative impact of the discharge on the receiving environment. The plant has a design capacity of 130,000 population equivalent (P.E.) while the mean loading in 2014 was 280,451 P.E. This indicates that mean organic loading is in excess of the design capacity. The mean hydraulic loading (i.e. the total volume) however is lower than the capacity while emission limit values are being met.

The current status of water quality in the Shannon Estuary is currently 'good' and so it is considered that this effect is **not significant**.

B. The CDP envisages that Sustainable Drainage System (SUDS) will be incorporated into all built developments. This will reduce pollution entering the Shannon as well as helping to alleviate flooding. This effect is **not significant**.

Because of these factors there can be no impact to the Lower River Shannon SAC or the River Shannon and River Fergus Estuaries SPA.

5.1.5 Proposed change in land use in Moyross from 'agricultural' to 'public open space'.

Under the Planning and Development Act all developments must be screened for 'appropriate assessment' Any proposal for a linear park linking Moyross with the River Shannon and on to Caherdavin or other projects that may impact upon the River Shannon will be screened for Appropriate Assessment and be accompanied by a detailed survey of the affected area. For this reason it is considered that these impacts are **not significant**.

6.0 Avoidance or Mitigation

Potential significant effects must be avoided or mitigated in order to maintain the integrity of the Lower River Shannon SAC and the River Fergus Estuary SPA. Where this is not possible, development can only proceed for Imperative Reasons of Overriding Public Interest (IROPI). This must be done

in consultation with the Minister for the Environment, Heritage and Local Government, be accompanied by compensatory measures to maintain the overall coherence of the Natura 2000 network, and can only proceed with the approval of the European Commission. In addition, it must be demonstrated that all alternative options have been considered – including not proceeding with a plan at all.

In the case where significant effects are likely to occur to a priority habitat, the plan can only proceed for reasons of human health and safety, where there are important environmental benefits, or other IROPI. Again, compensatory measures will be required and the Commission must be informed.

A screening report for AA cannot recommend mitigation measures as this would imply that effects to a Natura area may occur, thereby triggering a full AA. In this instance no significant effects have been predicted to occur and so recommendations for mitigation are not proposed.

7.0 Conclusion and finding of no significant effects

The draft proposed variations were assessed as per Article 6 of the Habitats Directive. This study found that there are a number of aspects of the plan were analysed for their potential effects to the Lower River Shannon SAC. These include: the reconfiguration of land to the north of the island, disturbance to birds as a result of potential amenity use of lands within the SAC; the potential loss and fragmentation of habitat resulting from the construction of connecting bridges; and the spread of alien invasive species.

In each case it is considered that the impacts will not be significant due to the requirement for careful planning and design of the final projects as well as site treatment in the case of alien invasive species. It is therefore considered that the proposed variations to the Limerick City Development Plan can be implemented without resulting in significant effects to the Natura 2000 network, either alone or in combination with other plans or projects.

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